



# Evaluation Report and Forms **MATHEMATICS**

**APPENDIX**  
**Fainal Report**  
January 2012

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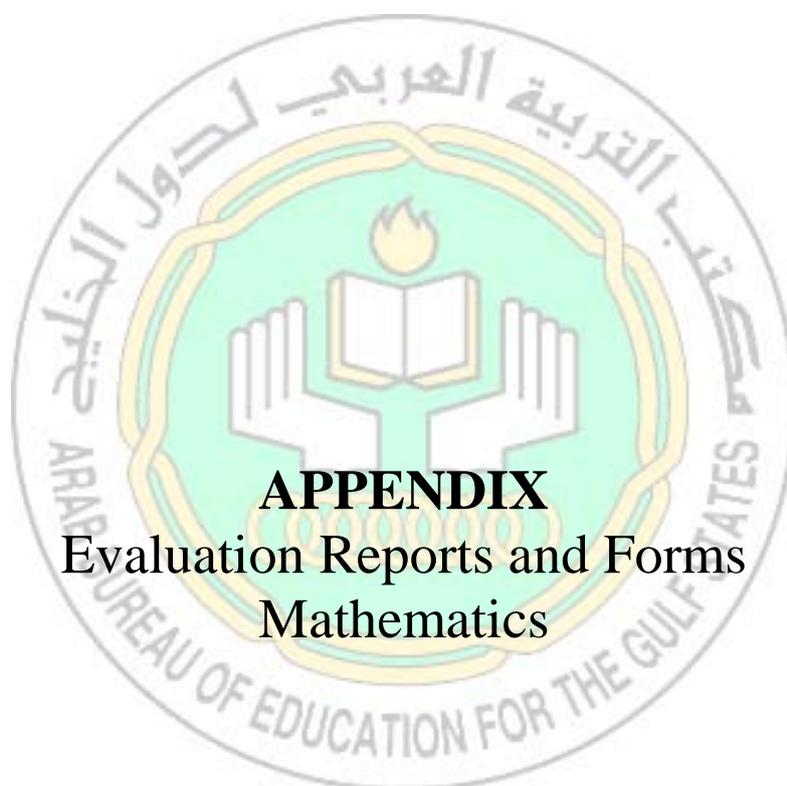


# **Evaluation of the Gulf States Math and Science**

## **Textbooks**

### **Final Report**

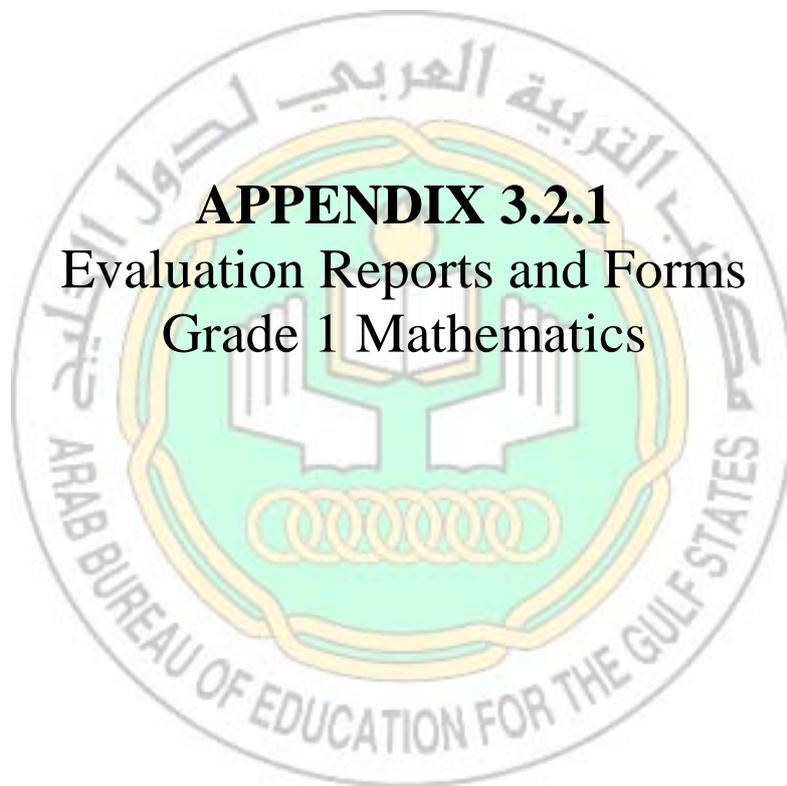
**January, 2012**



## **APPENDIX**

### **Evaluation Reports and Forms**

### **Mathematics**



## **APPENDIX 3.2.1**

### **Evaluation Reports and Forms Grade 1 Mathematics**

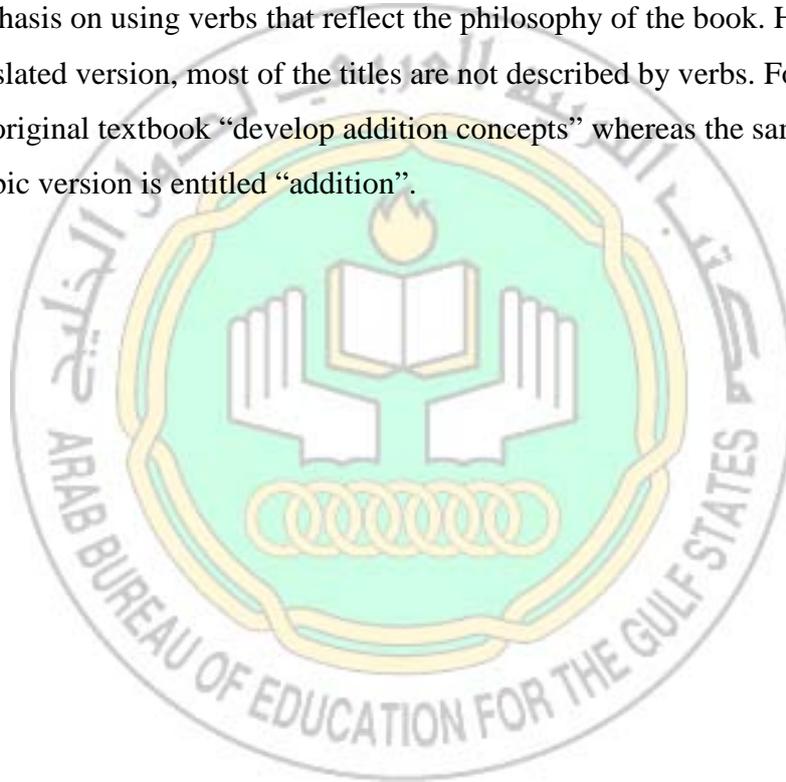


## Grade 1 – Math connects 1

### Tables of content

The tables of contents of the original book and the translated book indicate:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “organize and use data”, “solve addition and subtraction problems”, and “solve two-digit addition and subtraction problems” are chapters that appear only in the original textbook. There might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook.
- Titles in some of the chapters are not the same. In the original textbook there is emphasis on using verbs that reflect the philosophy of the book. However, in the translated version, most of the titles are not described by verbs. For example, in the original textbook “develop addition concepts” whereas the same chapter in the Arabic version is entitled “addition”.





<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 1		Semester: 1		
	Textbook Title: Math Connects 1				
	Chapter Title: Develop Addition Concepts				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>1. Agreement of the translated Arabic book with that of the English book</b>					
1.1. Definitions and explanations in the chapter					
1.2. Activities included in the chapter					
1.3. Learning objectives					
1.4. Practice exercises					
1.5. Assessment exercises					
1.6 Figures, pictures and illustrations					
<b>2. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
2.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

1.1 Definitions and explanations in the chapter

The analysis of the chapter in both textbooks showed that the Arabic version does not introduce definitions and explanations in written texts whereas the explanation in the original version is clearly introduced to the students in written sentences.

1.2 Activities included in the chapter

Although most of the activities in both books are similar, the analysis of the chapter in both textbooks has showed “large difference” in the activities included in the chapter. This is due to the existence of several important activities and sections in the original textbook that are absent in the Arabic version. For example, “talk about it” activities, H.O.T. problems, and “writing in math” activities appear only in the original textbook. Also, “problem solving strategy: write a number sentence” and “Problem solving in Health” sections appear only in the original textbook.

Note that although most of the activities are similar, the activities in the original version have clear instruction whereas the Arabic version does not include instruction.

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.



### 1.3 Learning objectives

Although the lessons in this chapter involve students in similar activities, the objectives are clearly stated in the original version but they are not stated in the Arabic version.

### 1.4 Practice exercises

Little difference is found between the “practice exercises” due to (1) existence of some exercises that are only found in the original textbook. For example, on page 56 “write the addition sentence” exercise is not found in the practice section of the translated textbook.

On the other hand, the exercises in students’ practice textbook are different from those introduced in the original textbook.

### 1.5 Assessment

Even though some of the assessment activities in the “chapter test” are similar, large difference in the assessment exercises appeared in both textbooks due to the presence of more assessment exercises in the original textbook that are not found in the translated version.

Also, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 5” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 5. This section is not found in the translated textbook. Also, in several lessons in the original textbook there is a section entitled “test practice” section and spiral review section. Also, “Spiral Review” section which contains review activities about chapters 1 and 2 appears only in the original textbook.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that the differences between the figures and illustrations were due to cultural reasons.



<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 1		Semester: 2		
	Textbook Title: Math connects 1				
	Chapter Title: Develop Addition Strategies				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>3. Agreement of the translated Arabic book with that of the English book</b>					
3.1. Definitions and explanations in the chapter					
3.2. Activities included in the chapter					
3.3. Learning objectives					
3.4. Practice exercises					
3.5. Assessment exercises					
1.6 Figures, pictures and illustrations					
<b>4. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
4.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

**Guidelines for filling this form (Item 1 only):**

1. One form is to be filled for each of the three books (student, practice, teacher) for each semester
2. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
3. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference
  - c. '3' for little difference
  - d. '4' difference due only to cultural context
  - e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

- Check the appropriate box in the rubric based on the frequency of each value
4. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.



### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Develop Addition Strategies” in both textbooks showed that there is no difference between the definitions and explanations in the chapter.

### 1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed little difference in the activities included in the chapter. This is due to the existence of two lessons in the original textbook that are absent in the Arabic version: “add 1, 2, or 3” and “problem solving investigation” which includes “Problem solving in social studies”.

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in lessons that are only introduced in the original textbook. For example, in lesson: “Add 1, 2 or 3” the objective states that students “will add 1, 2, or 3”. This lesson does not appear in the translated version.

### 1.4 Practice exercises

There is little difference between the practice exercises due to the existence of one lesson the original textbook that is absent in the Arabic version: “add 1, 2, or 3”. Also, this chapter is associated with practice exercises in the practice textbook in the translated version. However, in the original version, there are no practice exercises related to this chapter at the end of the book.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar (differences due to culture), large difference is scaled due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there are two sections: (1) “Mid-Chapter Check lessons 1 through 5” that appears in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 5 and the section; (2) “Spiral review” section. These sections are not found in the translated textbook. Also, at the end of the chapter, there is a “test practice chapters 1-5” which covers chapters 1 to 5. This cumulative test is not found in the translated book.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that there are differences between the figures and illustrations were due to cultural reasons.



## Report about mathematics textbooks in grade 1 first semester

The following report is an evaluation of math books in grade 1, 1<sup>st</sup> semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books is divided into five chapters. Two chapters were analyzed: (1) Chapter 3: numbers until 20; (2) Chapter 4: addition.

One evaluation form was filled out for each chapter. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy focuses on several points. These points are discussed in the following paragraphs according to the analysis of the books:

(1) Building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, in chapter 3, most of the lessons involve students in counting objects (e.g. an apple, a cup) by using ten-frame-cards. There is no context for the problems.*

(2) Showing the content of the books in a motivating way - *the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way since there are no illustrations in the practice book.*

(3) Developing different types of skills including high level thinking and justifying or looking backwards - *Little evidence of high level thinking and little evidence of justification or looking backwards. Most activities in the chapters can be solved in routine ways. For example, most of the activities in chapter 3 involve students in counting items that are grouped together and that are of the same type. These activities are direct applications to the procedures introduced at the beginning of each lesson. Most of the activities involve the students in counting two sets of objects and then writing the number of items and then adding the two numbers.*

(4) Using different strategies to solve the mathematical activities and exercises - *Although several strategies are introduced throughout the chapter, one strategy is used in each lesson in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve the math problems. For example, in lesson 5 - in chapter 3 - which involves counting the numbers 18, 19 and 20, the same type of fruit is given in 2 ten frame cards and the student has to count the number of items. The same way of counting is used throughout the lesson.*

(5) Using technology in solving mathematical exercises - *The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).*



(6) Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - *Most of the assessment exercises are of low-level, not related to real life context, and can be solved in a routine way. Also, students are not asked to solve the assessment exercises using more than one strategy. For example, in chapter 3, the assessment exercises involve the students in counting items of the same type that are listed next to each other or in a ten-frame card(s).*

(7) *The central and active role of the student in the learning process* – The definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. For example, to teach students the meaning of 16 or 17 associated figures containing 16 (or 17) items are introduced at the beginning of the lesson.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** The rubric contains eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts.

The analysis showed that (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; and (4) redundancy of terms and sentences with no educational benefit cannot be evaluated due to the absence of sentences. Thus, “not applicable”.

The rubrics (1) reuse of technical terms in subsequent lessons and (2) clarity of definitions of technical words showed “little evidence”. Each lesson introduced different numbers (for example, lesson 2 introduced 13, 14, and 15 while lesson 3 introduced 16 and 17). Only, the last two lessons (lessons 6 and 7) involve students in comparing the numbers between 10 and 20 (by counting two sets of items or by using number line). The numbers are not defined. Each number is associated with a figure containing similar items. For example, in chapter number 16 is associated with 16 basketballs.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, the other indicators: practice exercises; assessment exercises and skills showed little evidence. The reasons which showed little evidence for those indicators may be due to several reasons:

(1) Most of The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises).

**For example,** most of the exercises request the student to count the items represented in a ten-frame card or next to each other. Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

(2) Most of the assessment activities are of low level and can be solved in a routine way. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. **For example,** items of the same type are listed next to each other or in a ten-frame card(s) and the student has to count and write the corresponding number.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, in chapter 3, most of the activities



involve the student in counting items of the same type and that are grouped together in a similar way

**Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.





### Report about mathematics textbooks in grade 1 second semester

The following report is an evaluation of math books in grade 1, 2<sup>nd</sup> semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books is divided into five chapters. Three chapters were analyzed: (1) Chapter 6: methods of adding; (2) Chapter 7: methods of subtracting; and (3) Chapter 9: place value.

One evaluation form was filled out for each chapter. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy focuses on several points. These points are discussed in the following paragraphs according to the analysis of the books:

(1) Building connections between the content of mathematics and real-life situations - *most of the tasks are not connected to real-life situations. For example, in lesson 2 (adding numbers by counting upwards) most of the activities involve students in adding two numbers (e.g.  $3+9=...$ ) without any connection to real-life contexts.*

(2) Showing the content of the books in a motivating way – *the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way since there are no illustrations in the practice book.*

(3) Developing different types of skills including high level thinking and justifying or looking backwards – *Little evidence of high level thinking and little evidence of justification or looking backwards. Most activities in the chapters can be solved in routine ways. These activities are direct applications to the procedures introduced at the beginning of each lesson.*

(4) Using different strategies to solve the mathematical activities and exercises – *Although several strategies are introduced throughout the chapter, one strategy is used in each lesson in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve the math problems. For example, in one lesson in chapter 6, students learn how to use number line to add while in another lesson students add by counting upwards.*

(5) Using technology in solving mathematical exercises - *The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).*

(6) Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - *Most of the assessment exercises are of low-level, not related to real life context, and can be solved in a routine way. Also, students are not asked to solve the assessment exercises using more than one strategy.***For**



*example*, in chapter 3, the assessment exercises involve the students in counting items of the same type that are listed next to each other or in a ten-frame card(s).

(7) *The central and active role of the student in the learning process* – The definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. For example, to teach students the meaning of 16 or 17 associated figures containing 16 (or 17) items are introduced at the beginning of the lesson.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:**

In two chapter, the analysis showed “almost satisfactory evidence” for all the indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts. However, in chapter 7, only one indicator (diversity of language structures) showed little evidence while the other indicators showed “almost satisfactory evidence”. For example, in lesson 2 there is repetition of the same question: How many items are left? (“In the shop there are 8 milk bottles and Bader bought 5 bottles. How many are left?”)

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed “almost satisfactory evidence”. However, the other indicators: practice exercises; assessment exercises and skills showed little evidence. The reasons which showed little evidence for those indicators may be due to several reasons:

(1) Most of The practice exercises are direct applications and can be solved in a routine way. Furthermore, most of the practice exercises are not connected to real-life. **For example**, most of the exercises in lesson 5 (adding the number to itself) request the student to add the same number twice (e.g.  $4+4=...$ ). Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student.

(2) Most of the assessment activities are of low level and can be solved in a routine way. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. For example, one of the assessment exercises asks the student to calculate  $7-3=...$  by counting downwards. This activity is similar to activities introduced in the chapter.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson.

**Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 1(semester 1 )			
	Textbook Title:			
	Chapter Title: Chapter 3 numbers until 20			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<i><b>Criterion/Indicator</b></i>				
<b>5. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>5.1. Content of the Chapter</i>		✓		
<i>5.2. Activities included in the chapter</i>		✓		
<i>5.3. Learning objectives</i>		✓		
<i>5.4. Practice exercises</i>		✓		
<i>5.5. Assessment exercises</i>		✓		
<i>5.6. Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u><i>1.1 and 1.2 Content of the Chapter and activities included in the chapter</i></u>            For each lesson, in this chapter, one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, in lesson 5 (counting the numbers 18, 19 and 20) same type of fruit is given in 2 ten frame cards and the student has to count the number of items. The same way of counting is used throughout the lesson.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in routine ways and the activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 2 (the numbers 13, 14 and 15): items of the same type are given in 2 ten-frame cards and the student has to count the number of items in both cards. This is a prototype of the activities in this lesson.</p> <p>Students are rarely asked to justify or explain their response or to cooperate with others.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The ideas to be learned during the lessons are modeled at the beginning each lesson. For example, to teach students how the meaning of 16 or 17 associated figures containing 16 (or 17) items</p>				



are introduced at the beginning of the lesson.

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, items representing real-life objects (e.g. an apple, a cup) are presented in ten-frame-cards and the student has to count the objects.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives of this chapter is to count numbers up to 20, represent these numbers, write these numbers, etc.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, most of the exercises request the student to count the items represented in a ten-frame card or next to each other.

Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, items of the same type are listed next to each other or in a ten-frame card(s) and the student has to count and write the corresponding number.

### 1.6 Skills

Little to no evidence to the skills that are mentioned in the philosophy of the book: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. Most of the activities in this lesson involve the student in counting items of the same type and that are grouped together in a similar way.

**No evidence of High level thinking questions.** Most of the activities involve the student in counting items of the same type and that are grouped together in a similar way.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups.



**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>2. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
2.1. Length of sentences				
2.2. Complexity of sentences				
2.3. Diversity of language structures				
2.4. Number of concepts per chapter			✓	
2.5. Reuse of technical terms in subsequent lessons and chapters		✓		
2.6. Clarity of definitions of technical terms		✓		
2.7. Using concrete examples to illustrate concepts			✓	
2.8. Redundancy of terms and sentences with no educational benefit.				

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

2.1. Length of sentences, 2.2. Complexity of sentences, 2.3. Diversity of language structures & 2.8. "Redundancy of terms and sentences with no educational benefit".

*Not applicable in grade 6 since the majority of tasks do not contain word problems. For example, in lesson 3 (counting and writing the numbers 16, 17, students are introduced with figures and they are requested to fill the 2 ten-frame cards with similar items.*

2.5. Reuse of technical terms in subsequent lessons and chapters

Each lesson introduced different numbers (for example, lesson 2 introduced 13, 14, and 15 while lesson 3 introduced 16 and 17). Only, the last two lessons (lessons 6 and 7) involve students in comparing the numbers between 10 and 20 (by counting two sets of items or by using number line)

2.6. Clarity of definitions of technical terms

The numbers are not defined. Each number is associated with a figure containing similar items. For example, number 16 is associated with 16 basketballs.



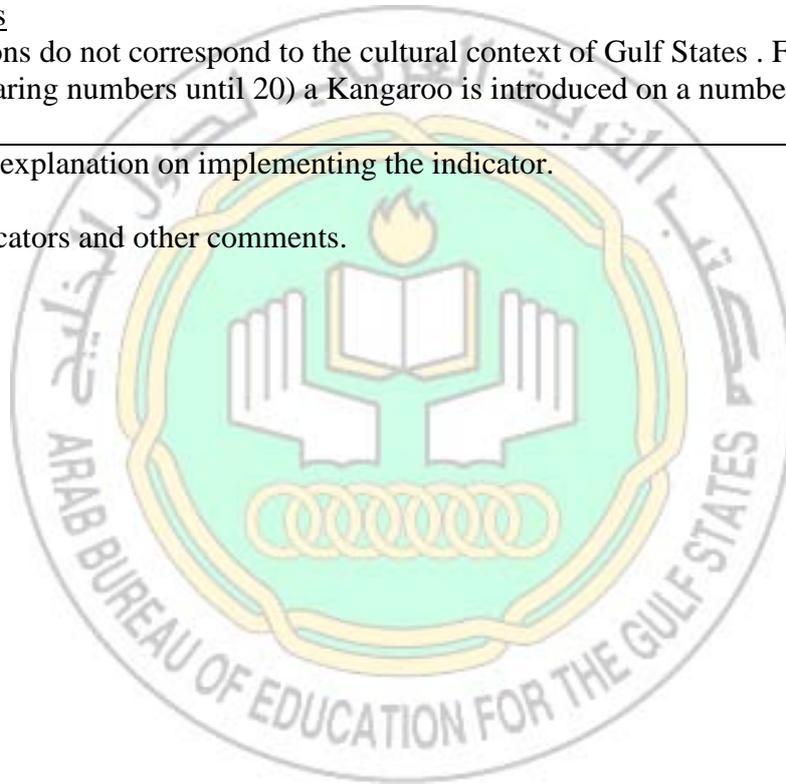
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>3. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>3.1. Illustrations</i>			✓	
<i>3.2. Content</i>			✓	
<i>3.3. Activities</i>			✓	
<i>3.4. Practice Exercises</i>		✓		
<i>3.5. Assessment exercises</i>		✓		
<i>3.6. Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p> <p><u><i>3.4 Practice exercises</i></u>            Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). <b>For example</b>, most of the exercises request the student to count the items represented in a ten-frame card or next to each other.            Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises.</p> <p><u><i>3.5 Assessment exercises</i></u>            Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. <b>For example</b>, items of the same type are listed next to each other or in a ten-frame card(s) and the student has to count and write the corresponding number.</p> <p><u><i>3.6 Skills</i></u>            Little to no evidence to the following skills: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. Most of the activities in this lesson involve the student in counting items of the same type and that are grouped together in a similar way.</p>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>4. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
<i>4.1. Illustrations</i>			✓	
<i>4.2. Content</i>				✓
<i>4.3. Activities</i>				✓
<i>4.4. Practice Exercises</i>				✓
<i>4.5. Assessment exercises</i>				✓
<p>Illustrate by at last one example any indicator of criterion 4 given a score of less than 3</p> <p><u>4.1. illustrations</u> Some illustrations do not correspond to the cultural context of Gulf States . For example, in lesson 7 (comparing numbers until 20) a Kangaroo is introduced on a number line.</p>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 1(semester 1 )			
	Textbook Title:			
	Chapter Title: Chapter 4 Addition			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>6. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>6.1. Content of the Chapter</i>				
<i>6.2. Activities included in the chapter</i>				
<i>6.3. Learning objectives</i>				
<i>6.4. Practice exercises</i>				
<i>6.5. Assessment exercises</i>				
<i>6.6. Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u><i>1.1 and 1.2 Content of the Chapter and activities included in the chapter</i></u>            For each lesson, in this chapter, one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, in lesson 3 (expressions representing additions) 2 groups of items of same type but of different colors are represented and the student has to count the number of items in each group then to add the two numbers.</p> <p>No evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, all the activities in lesson 4(adding 0) involve the student in adding a number and a zero. Also, students are rarely asked to justify or explain or justify their solution or to cooperate with others.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each section by presenting to the students solved activities. For example, in lesson 4 (adding 0) two prototype activities are presented with the solution at the beginning of the lesson.</p>				



Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, items representing real-life objects (e.g. apples, cups) are presented in two groups and the student has to count and write the corresponding number and then add.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives states that the student will learn how to write addition expressions.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. For example, one of the prototype exercises involves the students in counting and then writing the number of items represented on the paper and then add the two numbers.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, two groups of the same type of items are given and the student has to count the items in each group and write the corresponding number and then add the two numbers. Another type of activity involves the student in adding directly two numbers. These activities are similar to the ones given in the lessons.

### 1.6 Skills

Little to no evidence to the skills that are mentioned in the philosophy of the book: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**No evidence of High level thinking questions.** Most of the activities involve the students in counting and then writing the number of items represented on the paper and then add the two numbers.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. However, some of the activities that are the student should do at home involve the student with his/her parents.



**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>3. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
3.1. Length of sentences				
3.2. Complexity of sentences				
3.3. Diversity of language structures				
3.4. Number of concepts per chapter			✓	
3.5. Reuse of technical terms in subsequent lessons and chapters			✓	
3.6. Clarity of definitions of technical terms		✓		
3.7. Using concrete examples to illustrate concepts			✓	
3.8. Redundancy of terms and sentences with no educational benefit.				

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

2.1. Length of sentences, 2.2. Complexity of sentences, 2.3. Diversity of language structures & 2.8. "Redundancy of terms and sentences with no educational benefit".

Not applicable in grade 6 since the majority of tasks do not contain word problems. For example, in lesson 3 (counting and writing the numbers 16, 17, students are introduced with figures and they are requested to fill the 2 ten-frame cards with similar items.

2.6. Clarity of definitions of technical terms

Although four categories of problem structure for additive situations are known in the education (Join, separate, part-part-whole, compare), only one category (part-part-whole) is introduced to the students.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>5. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
5.1. Illustrations			✓	
5.2. Content			✓	
5.3. Activities			✓	
5.4. Practice Exercises		✓		
5.5. Assessment exercises		✓		
5.6. Skills		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

3.4 Practice exercises



Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. **For example**, one of the prototype exercises involves the students in counting and then writing the number of items represented on the paper and then add the two numbers.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, two groups of the same type of items are given and the student has to count the items in each group and write the corresponding number and then add the two numbers. Another type of activity involves the student in adding directly two numbers.

### 3.6 Skills

Little to no evidence to the following skills: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**No evidence of High level thinking questions.** Most of the activities involve the students in counting and then writing the number of items represented on the paper and then adding the two numbers.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. However, some of the activities in the homework involve the student with his/her parents.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>6. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
6.1. Illustrations			✓	
6.2. Content				✓
6.3. Activities				✓
6.4. Practice Exercises				✓
6.5. Assessment exercises				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 1(semester 2 )			
	Textbook Title:			
	Chapter Title: Chapter 6 Methods of adding			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>7. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>7.1. Content of the Chapter</i>		✓		
<i>7.2. Activities included in the chapter</i>		✓		
<i>7.3. Learning objectives</i>		✓		
<i>7.4. Practice exercises</i>		✓		
<i>7.5. Assessment exercises</i>		✓		
<i>7.6. Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><i>1.1 and 1.2 Content of the Chapter and activities included in the chapter</i>            Several strategies are used to solve the activities in this chapter in alignment to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. However, each strategy is introduced in a separate lesson. For example, in one lesson students learn how to use number line to add while in another lesson students add by counting upwards.</p> <p>No evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in each lesson can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. <b>For example</b>, in lesson 1 (commutative property of addition) similar activities are given. One of the prototype activities presented at the beginning of the lesson involve students in adding 3+6 and then adding 6+3. Also, students are rarely asked to justify or explain their response or to cooperate with others.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each</p>				



section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. **For example**, in lesson 1 (commutative property of addition) similar activities are given. One of the prototype activities presented at the beginning of the lesson involve students in adding  $3+6$  and then adding  $6+3$ .

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In lesson 2 (adding numbers by counting upwards) most of the activities involve students in adding two numbers (e.g.  $3+9=...$ )

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives of this chapter is that students will learn how to use counting upwards in order to add.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises).

Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. **For example**, most of the exercises in less 5 (adding the number to itself) request the student to add the same number twice (e.g.  $4+4=...$ )

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, two numbers are given (either horizontally:  $3+2=...$  or vertically:  $5+5 = ...$ ) and the student has to add them.

### 1.6 Skills

Little to no evidence to the skills that are mentioned in the philosophy of the book: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. Most of the activities in this lesson involve the student in adding two numbers.

**Little evidence of High level thinking questions.** Most of the activities involve the student in solving routine activities. However, there is a small number of questions entitled high level thinking questions. Not all these activities are of high level. For example, in lesson 5 (adding the number to itself) the following activity was given:  $3+...=6$  and the student had to find the



appropriate number to fill in the blank.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>4. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
4.1. Length of sentences			✓	
4.2. Complexity of sentences			✓	
4.3. Diversity of language structures			✓	
4.4. Number of concepts per chapter			✓	
4.5. Reuse of technical terms in subsequent lessons and chapters			✓	
4.6. Clarity of definitions of technical terms			✓	
4.7. Using concrete examples to illustrate concepts			✓	
4.8. Redundancy of terms and sentences with no educational benefit.			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>7. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
7.1. Illustrations			✓	
7.2. Content			✓	
7.3. Activities			✓	
7.4. Practice Exercises		✓		
7.5. Assessment exercises		✓		
7.6. Skills		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<u>3.4 Practice exercises</u>				
Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts.				



The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. **For example**, most of the exercises in less 5 (adding the number to itself) request the student to add the same number twice (e.g.  $4+4=...$ )

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, two numbers are given (either horizontally:  $3+2=...$  or vertically:  $5+5 = ...$ ) and the student has to add them.

### 3.6 Skills

Little to no evidence to the following skills: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence of High level thinking questions.** Most of the activities involve the student in solving routine activities. However, there is a small number of questions entitled high level thinking questions. Some of the activities that are entitled "high level" is in fact low level. For example, in lesson 5 (adding the number to itself) the following activity was given:  $3+....= 6$  and the student had to find the appropriate number to fill in the blank.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>8. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
8.1. Illustrations			✓	
8.2. Content				✓
8.3. Activities				✓
8.4. Practice Exercises				✓
8.5. Assessment exercises				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 1(semester 2 )			
	Textbook Title:			
	Chapter Title: Chapter 7 Methods of subtracting			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>8. Alignment of the translated texts to the philosophy of the original textbook</b>				
8.1. Content of the Chapter		✓		
8.2. Activities included in the chapter		✓		
8.3. Learning objectives		✓		
8.4. Practice exercises		✓		
8.5. Assessment exercises		✓		
8.6. Skills		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u>            Several strategies are used to solve the activities in this chapter in alignment to the philosophy of the book which emphasizes on the usage of different strategies to solve problems (subtracting by counting downwards, subtracting by using number-line, facts between addition and subtraction). However, each strategy is introduced in a separate lesson. For example, in one lesson students learn how to use number line to subtract while in another lesson students subtract by counting downwards.</p> <p>No evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in each lesson can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. A very small number of activities involve students in high level thinking. However, these activities are not always of high level. For example, in lesson 7, students are involved in finding an unknown number when added to 7 it gives 12. Also, students are rarely asked to justify or explain their response or to cooperate with others.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The</p>				



definitions and procedures to be learned during the lessons are modeled at the beginning each section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. **For example**, to teach students how to subtract by using the number line, they are given a solved activity at the beginning of the lesson  $9-3=6$ .

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. For example, in lesson 8, most of the activities involve students in adding or subtracting two numbers (e.g.  $8+1$  and  $9-8$ )

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives of this chapter is that students will learn how to use counting downwards in order to subtract.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life in 5 out of 7 lessons. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. **For example**, all the exercises in lesson 4 request the student to provide the answer. For example, exercise 3 in this lesson is as follows: "Jamal needs 10 pens. If he had 6 pens, how many pens does he still need? .... pens."

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Almost all the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, most of the assessment activities can be solved in a routine way and no high-level thinking questions are asked. **For example**, one of the assessment exercises ask the student to calculate  $7-3=...$  by counting downwards.

### 1.6 Skills

Little evidence to the skills that are mentioned in the philosophy of the book: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. Most of the activities in this lesson involve the student in subtracting two numbers.

**Little evidence of High level thinking questions.** Most of the activities involve the student in solving routine activities. Only, in one lesson (lesson 7), one activity is considered as "high level thinking question": "I am a number; when I am added to 7 the result will be 12. Whom am I?". This activity is not of high level since it involves the students in subtracting without



connections to concepts or procedures other than the ones introduced in the chapter.

**Little evidence to skills of communication.** A very small number of activities involve the students in writing about or talking about. For example, in lesson 7, students should talk about the facts that could be used to have numbers: 2, 8 and 6.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on looking backward when solving a problem, except in lesson 2: writing a numeric expression to solve a problem lesson 4: selecting the suitable strategy to solve a problem. Also, the emphasis in these two lessons on checking the answer is at the beginning of the lesson where a solved activity is presented to the students. In the other activities, there is no request to solve the problems and check the answers or to look backwards.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>5. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
5.1. Length of sentences			✓	
5.2. Complexity of sentences			✓	
5.3. Diversity of language structures		✓		
5.4. Number of concepts per chapter			✓	
5.5. Reuse of technical terms in subsequent lessons and chapters			✓	
5.6. Clarity of definitions of technical terms			✓	
5.7. Using concrete examples to illustrate concepts			✓	
5.8. Redundancy of terms and sentences with no educational benefit.			✓	

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

In lesson 2 there is repetition of the same question: How many items are left? For example, in lesson 2 one of the activities is as follows: "In the shop there are 8 milk bottles and Bader bought 5 bottles. How many are left?"



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>9. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
9.1. Illustrations			✓	
9.2. Content			✓	
9.3. Activities			✓	
9.4. Practice Exercises		✓		
9.5. Assessment exercises		✓		
9.6. Skills		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life in 5 out of 7 lessons. Also in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. For example, all the exercises in lesson 4 request the student to provide the answer. For example, exercise 3 in this lesson is as follows: “Jamal needs 10 pens. If he had 6 pens, how many pens does he still need? .... pens.”

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students’ textbook. Almost all the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, most of the assessment activities can be solved in a routine way and no high-level thinking questions are asked. For example, one of the assessment exercises ask the student to calculate  $7-3=...$  by counting downwards.

### 3.6 Skills

Little to no evidence to the following skills: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence of High level thinking questions.** Most of the activities involve the student in solving routine activities. Only, in one lesson (lesson 7), one activity is considered as “high level thinking question”: “I am a number; when I am added to 7 the result will be 12. Whom am I?”. This activity is not of high level since it involves the students in subtracting without connections to concepts or procedures other than the ones introduced in the chapter.

**Little evidence to skills of communication.** A very small number of activities involve the students in writing about or talking about. For example, in lesson 7, students should talk about the facts that could be used to have numbers: 2, 8 and 6.



**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on looking backward when solving a problem, except in lesson 2: writing a numeric expression to solve a problem lesson 4: selecting the suitable strategy to solve a problem. Also, the emphasis in these two lessons on checking the answer is at the beginning of the lesson where a solved activity is presented to the students. In the other activities, there is no request to solve the problems and check the answers or to look backwards.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>10. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
10.1. Illustrations				✓
10.2. Content				✓
10.3. Activities				✓
10.4. Practice Exercises				✓
10.5. Assessment exercises				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 1(semester 2 )			
	Textbook Title:			
	Chapter Title: Chapter 9 Place Value			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>9. Alignment of the translated texts to the philosophy of the original textbook</b>				
9.1. Content of the Chapter		✓		
9.2. Activities included in the chapter		✓		
9.3. Learning objectives		✓		
9.4. Practice exercises		✓		
9.5. Assessment exercises		✓		
9.6. Skills		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u>            Several strategies (using number lines, cubes, and a table containing numbers arranged from 1 to 100, estimating then checking the answer) are used to solve the activities in this chapter in alignment to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. However, each strategy is introduced in a separate lesson and in the majority of lessons students are involved in using cubes to count.</p> <p>No evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in each lesson can be solved in a routine way. Furthermore, these activities are direct applications to the procedure learned at the beginning of each section. <b>For example</b>, in lesson 4 most activities involve students in counting till 50 by using cubes. Also, students are rarely asked to justify or explain their response or to cooperate with others.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each section by presenting to the students solved activities. <b>For example</b>, in lesson 2 students are presented with activities similar to the one given at the beginning of the lesson.</p>				



Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. For example, in lesson 2 all the activities involve students in finding the number of tens and the number of ones by counting the cubes.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives of this chapter is that students will learn how to count, read and write numbers till 100.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way. Furthermore, most of the practice exercises are not connected to real-life. Also, in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. **For example**, most of the exercises in lesson 5 involve the student in counting the number of tens and the number of ones of number from 1 till 100.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. Most of the assessment exercises (written at the end of the chapter in students' textbook) are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, most of the assessment activities can be solved in a routine way and no high-level thinking questions are requested. **For example**, finding two even numbers after 4 by using the number line.

### 1.6 Skills

Little to no evidence to the skills that are mentioned in the philosophy of the book: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence of High level thinking questions.** Almost all the activities involve the student in solving routine activities.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups.

**No evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>6. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
6.1. Length of sentences			✓	
6.2. Complexity of sentences			✓	
6.3. Diversity of language structures			✓	
6.4. Number of concepts per chapter			✓	
6.5. Reuse of technical terms in subsequent lessons and chapters			✓	
6.6. Clarity of definitions of technical terms			✓	
6.7. Using concrete examples to illustrate concepts			✓	
6.8. Redundancy of terms and sentences with no educational benefit.			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>11. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
11.1. Illustrations			✓	
11.2. Content			✓	
11.3. Activities			✓	
11.4. Practice Exercises		✓		
11.5. Assessment exercises		✓		
11.6. Skills		✓		
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p> <p><u>3.4 Practice exercises</u>            Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way. Furthermore, most of the practice exercises are not connected to real-life. Also, in contrast to the philosophy of the book, no explanation or justification is required from the student and one space is given to write the answer in almost all the practice exercises. <b>For example</b>, most of the exercises in lesson 5 involve the student in counting the number of tens and the number of ones of number from 1 till 100.</p> <p><u>3.5 Assessment exercises</u>            Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in</p>				



students' textbook. Most of the assessment exercises (written at the end of the chapter in students' textbook) are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, most of the assessment activities can be solved in a routine way and no high-level thinking questions are requested. **For example**, finding two even numbers after 4 by using the number line.

### 3.6 Skills

Little to no evidence to the following skills: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence of High level thinking questions.** Almost all the activities involve the student in solving routine activities.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups.

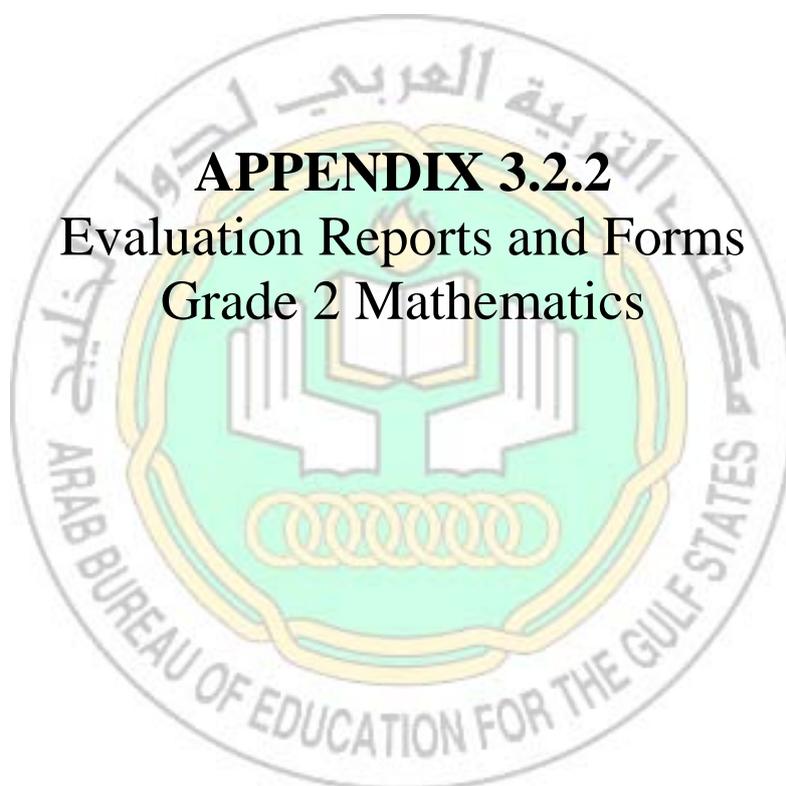
**No evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>12. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
12.1. Illustrations				✓
12.2. Content				✓
12.3. Activities				✓
12.4. Practice Exercises				✓
12.5. Assessment exercises				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



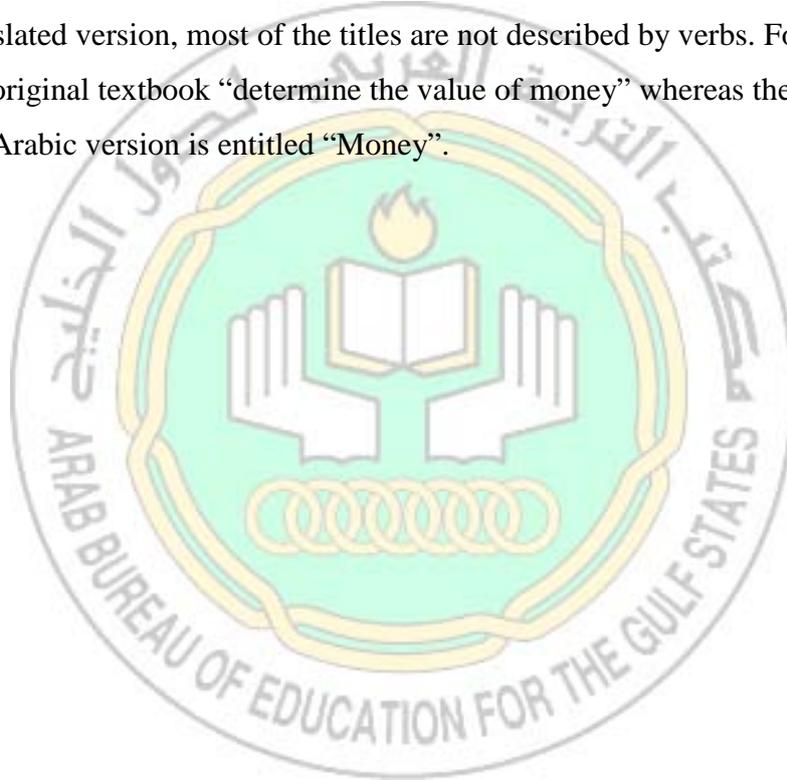


## Grade 2 – Math connects 2

### Tables of content

The tables of contents of the original book and the translated book indicate:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “Model multiplication and division”, “Measure Temperature”, Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook. These chapters might be introduced in the translated version in another grade level.
- Titles in some of the chapters are not the same. In the original textbook there is emphasis on using verbs that reflect the philosophy of the book. However, in the translated version, most of the titles are not described by verbs. For example, in the original textbook “determine the value of money” whereas the same chapter in the Arabic version is entitled “Money”.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 2		Semester: 1		
		Textbook Title:				
		Chapter Title: Methods of subtraction				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>10. Agreement of the translated Arabic book with that of the English book</b>						
10.1. <i>Definitions and explanations in the chapter</i>						✓
10.2. <i>Activities included in the chapter</i>				✓		
10.3. <i>Learning objectives</i>						✓
10.4. <i>Practice exercises</i>				✓		
10.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>11. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
11.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

5. One form is to be filled for each of the three books (student, practice, teacher) for each semester
6. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
7. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

8. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Methods of subtraction” in both textbooks showed that there is no difference between the definitions and explanations in the chapter.

### 1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed little difference in the activities included in the chapter. This is due to the existence of an important section in the original textbook that is absent in the Arabic version: “Problem solving investigation – Problem solving in language arts”. On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons. Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

### 1.3 Learning objectives

The objectives are the same except one difference due to the introduction of one lesson: “Problem solving investigation” in the original book. This lesson does not appear in the translated version. The objective stated in this lesson: “I will choose a strategy to solve the problem”.

### 1.4 Practice exercises (Need to photocopy practice exercises from the English version)

The analysis of the practice-exercises in both versions showed that little difference. This is due to the difference in the context of the exercises in students’ practice textbook. Note that the practice exercises in both versions involve students in low-level tasks.

### 1.5 Assessment

Large difference in the assessment exercises appeared in both textbooks due to the presence of some assessment exercises and sections in the original textbook that are not found in the translated version. Several assessment activities in the summative assessment appear only in the original textbook. Also, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in the original textbook there is a section entitled “Spiral review” (formative assessment) that does not appear in the translated version.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that there are no differences between the figures and illustrations; however, some figures appear only in the original textbook since these figures belong to sections that are only introduced in the original textbook.



**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 2		Semester: 2		
		Textbook Title:				
		Chapter Title: Fractions				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>12. Agreement of the translated Arabic book with that of the English book</b>						
12.1. <i>Definitions and explanations in the chapter</i>						✓
12.2. <i>Activities included in the chapter</i>			✓			
12.3. <i>Learning objectives</i>				✓		
12.4. <i>Practice exercises</i>				✓		
12.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>13. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
13.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

9. One form is to be filled for each of the three books (student, practice, teacher) for each semester
10. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
11. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

12. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter in both textbooks showed that there is no difference between the definitions and explanations in the chapter.

### 1.2 Activities included in the chapter

Although the activities that are found in the translated version are similar to the ones in the original textbook, the analysis of the chapter in both textbooks has showed large difference in the activities included in the chapter. This is due to the existence of several sections in the original textbook that are absent in the Arabic version. For example, “problem solving in social studies”; “other fractions of a group”; “fraction puzzles” are sections that appear only in the original textbook. Also, the lesson “compare fractions” is not the same in both textbooks. In the English version, the objective indicates that the students will “use models to determine if a fraction is closer to 0,  $\frac{1}{2}$  or 1 whereas the objective in the Arabic version states that students will learn how to compare fractions.

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

### 1.3 Learning objectives

The objectives are the same except for one lesson “compare fractions” where the objectives are not the same in both textbooks. In the English version, the objective indicates that the students will “use models to determine if a fraction is closer to 0,  $\frac{1}{2}$  or 1 whereas the objective in the Arabic version states that students will learn how to compare fractions.

### 1.4 Practice exercises (Need to photocopy practice exercises from the English version)

The analysis of the practice-exercises in both versions showed little difference. This is due to introducing practice exercises in the students’ practice textbook in the translated version whereas at the end of the original textbook there are no practice exercises that are listed concerning this chapter. Also, the lesson “compare fractions” introduces practice exercises that are not listed in the translated textbook.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar (differences due to culture), large difference in the assessment exercises appeared in both textbooks due to the due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in several lessons in the original textbook there is a section entitled “test practice” section and spiral review section. Also, at the end of the chapter, there is a



“**test practice**” **cumulative test** which covers chapters 1 and 2. This cumulative test is not found in the translated book. These sections are not found in the translated textbook. Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that there are differences between the figures and illustrations were due to cultural reasons.





### Report about mathematics textbooks in grade 2 first semester

The following report is an evaluation of math books in grade 2, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 2 – 1<sup>st</sup> semester – is divided into seven chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 1: place value; (2) Chapter 2: Methods of Addition; (3) chapter 3: Methods of subtraction.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is little evidence that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy is based on: (1) building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, in chapter 1 - lesson 2 (place value of numbers less than 100), the focus in most of the activities is on knowing the place value (given a two digit number) and the students are not involved in word-problems or real-life situations;* (2) showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book;* (3) developing different types of skills including high level thinking and collecting and organizing data – *the analysis showed that in some lessons in student textbook there is a section entitled "high level task" that contains around 3 activities (less than 15% of the activities in the textbook) which may be of high level; however some of these tasks can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). The analysis also showed that a small number of activities request the student to "talk about" or "write about". For example, in lesson 4 (reading and writing numbers): the student is requested to write about the numbers that are used when writing the number 23; Also, the analysis showed that there is no emphasis on justification or looking backward when solving a problem;* (4) using different strategies to solve the mathematical activities and exercises - *the analysis showed that students are involved in different strategies throughout the chapter, one strategy is used in each lesson. For example in lesson 2 (adding by counting upwards) of chapter 2, the number line or basic facts of addition are used to solve the activities;* (5) using technology in solving mathematical exercises - *The usage of technology is limited to a reference of website to do more practice:*



[www.obeikaneducation.com](http://www.obeikaneducation.com); (6) using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences -*The analysis showed that most of the assessment exercises are not related to real life context. Also, students are not asked to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, one of the prototype assessment exercises in chapter 2 (methods of addition) request the students to add two numbers (e.g. 5+9); and (7) the central and active role of the student in the learning process – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, in lesson 1(properties of addition) in chapter 2, students are presented with several activities that are solved. These activities are prototype for activities of the lesson.*

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students. The rubric contained eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts. The analysis showed that there is almost satisfactory evidence of the suitability of the Arabic language in each of these indicators.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, other indicators such as practice exercises; assessment exercises and skills showed little evidence. Most of the practice exercises are direct applications and can be solved in a routine way. For example, in lesson 6 (organizing numbers) in chapter 1, most of the exercises request the student to compare numbers using the number line. Also, no explanation or justification is required from the students. For example, in lesson 6 (comparing numbers) in chapter 1, most of the exercises request the student to compare two numbers without further justification.

Most of the assessment activities are of low level and can be solved in a routine way and they are not related to real life context. Also, there is no request to solve the assessment exercises using more than one strategy. **For example**, one of the prototype assessment exercises requests the students to add (e.g. 5+9) without further justifications.

Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. **For example**, in lesson 7 (connected facts) in chapter 3: the students are asked to fill in the blanks:  $3 + \dots = 13$ ;  $10 + \dots = 13$ ;  $\dots - 3 = 10$ ;  $13 - \dots = 3$ . Also, there is little evidence of explanation: several activities request the students to write and explain. For example, in lesson 6 (missing numbers): explain how to find the missing number in  $5 + \dots = 13$ .

**Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



### Report about mathematics textbooks in grade 2 second semester

The following report is an evaluation of math books in grade 2, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 2 – 1<sup>st</sup> semester – is divided into seven chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 9: fractions; (2) Chapter 10: numbers up to 1000; (3) chapter 11: geometric shapes.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is little evidence that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy is based on: (1) building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, in most of the lessons of chapter 9, the majority of the activities are not connected to real-life. For example, in lesson 4 (fractions which are equal to 1), in all the activities, models (circular model or rectangular models) are presented and students are requested to write the corresponding fraction. Word problems are rarely introduced in the lessons except the two lessons that involve students in using a specific strategy where all the activities are connected to real-life situations;* (2) showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book;* (3) developing different types of skills including high level thinking and collecting and organizing data – *the analysis showed that in some lessons in student textbook there is a section entitled "high level task" that contains around 3 activities (less than 15% of the activities in the textbook) which may be of high level; however some of these tasks can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). Also, the analysis showed that there is no emphasis on justification or looking backward or explaining when solving a problem;* For example, the emphasis in chapter 10 is on finding an answer to problems involving subtraction; (4) using different strategies to solve the mathematical activities and exercises - *the analysis showed that students are involved in one strategy in each lesson.* For example, in lesson 5 (comparing fractions) of chapter 9, the activities are based on looking at the colored piece to state which fraction is bigger; (5) using technology in solving mathematical exercises - *The usage of*



technology is limited to a reference of website to do more practice:

[www.obeikaneducation.com](http://www.obeikaneducation.com); (6) using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences -*The analysis showed that most of the assessment exercises are not related to real life context. Also, students are not asked to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, one of the prototype assessment exercises involves the students in counting the colored pieces of a fractional model and then in writing the corresponding fraction*; and (7) the **central and active role of the student** in the learning process – *the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, in lesson 6 (comparing numbers) in chapter 10: students are presented with several activities at the beginning of the lesson. These activities are modeled and solved. These activities represent a prototype of the unsolved activities.*

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students. The rubric contained eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts. The analysis showed that there is almost satisfactory evidence of the suitability of the Arabic language in each of these indicators.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, other indicators such as practice exercises; assessment exercises and skills showed little evidence. Most of the practice exercises are direct applications and can be solved in a routine way. For example, in lesson 1 (numbers up to 1000) chapter 10, in most of the exercises, flats are given (pieces that represent 100) and the students have to write how many hundreds, tens and ones. Also, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 7 (comparing numbers) involve students in comparing numbers without any connection to real-life situations. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

Most of the assessment activities are of low level and can be solved in a routine way and they are not related to real life context. Also, there is no request to solve the assessment exercises using more than one strategy. For example, one of the prototype assessment exercises in chapter 9 involves the students in counting the colored pieces of a fractional model and then writing the corresponding fraction without further justifications.

Concerning the development of skills, the analysis showed that most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, in lesson 4 (the place value of numbers less than 1000): the students are asked to



“correct the following error: the number 365 was represented by someone as follows:  $300+50+6$ . Find the error and correct it.” Such an activity does not involve the students in high level thinking. Also there is no evidence of group work and little evidence of involving students in justifying and explaining: Most of the activities do not involve the students in explaining and justifying their answer. For example, in lesson 8 (patterns of numbers) the following activity is presented to the students: a restaurant produces 200 pies each Friday. How many pies does the restaurant produce during four weeks? No justification is requested.

**Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 2(semester 1)			
	Textbook Title:			
	Chapter Title: Chapter 1 Place Value			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>14. Alignment of the translated texts to the philosophy of the original textbook</b>				
14.1. <i>Content of the Chapter</i>		✓		
14.2. <i>Activities included in the chapter</i>		✓		
14.3. <i>Learning objectives</i>		✓		
14.4. <i>Practice exercises</i>		✓		
14.5. <i>Assessment exercises</i>		✓		
14.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u>            Even though several strategies may be shown in a chapter, one <b>strategy</b> is used to solve most of the activities in each lesson in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. In some lessons two strategies are shown but the student has to use one of them. <b>For example</b>, in lesson 1 (ones and tens) the activities are based on using cubes to state the ones and tens and then to identify the number.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications limited to the procedure learned at the beginning of each lesson. <b>For example</b>, in lesson 4(place value) an activity is presented and solved at the beginning of the lesson (representing the number 29). The other activities presented in the lesson could be solved in a similar manner.</p> <p>In almost all the activities, students are not asked to justify or explain their response or to cooperate with others. Students are only asked to identify numbers and place value. For example, most of the activities in lesson 4 are similar to the following activity: write the number in numerical form (e.g. one hundred).</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in</p>				



contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. **For example**, in lesson 6 (order of numbers): students are presented with an activity that is modeled and solved. This activity is a prototype of the unsolved activities presented in the lesson.

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, except the one that focuses on developing specific strategies, almost all the activities are not connected to real-life. **For example**, in lesson 2 (place value of numbers less than 100), in all the activities, the focus is on knowing the place value (given a two digit number).

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives that is presented in the teacher guidebook is listed as follows: comparing numbers.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson 6 (comparing numbers) most of the exercises request the student to compare numbers using the number line.

Furthermore, most of the practice exercises in some lessons are not connected to real-life. For example, in lesson 2 (place value), there are 4 activities (such that each activity contains 3 exercises) which are not word problem. Only, 2 activities are presented as word problems related to real-life context.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 7 (comparing numbers) most of the exercises request the student to compare two numbers without further justification.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, one of the prototype assessment exercises requests the students to compare numbers by using number line.



### 1.6 Skills

Little evidence of the suitability of the Arabization of the translated skills to serve the math concepts. The analysis showed that in most of the activities students are involved in low level thinking. For example, in lesson 4(reading and writing numbers) students were provided with a model (cubes and longs). Students were asked to write the number in two different ways. In addition, students are not requested to work in groups and a small number of activities request the student to explain. For example, in lesson 4 (reading and writing numbers): explain the numbers that you use when writing the number 23. Also, there is no emphasis on justification or looking backward when solving a problem. Justification is only emphasized at the end of some lessons in the activities entitled: mathematical sense. For example, in lesson 1 (ones and tens) the students are involved in explaining whether 3 tens and 9 ones is bigger than 9 tens and 3 ones.

	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>7. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>7.1. Length of sentences</i>			✓	
<i>7.2. Complexity of sentences</i>			✓	
<i>7.3. Diversity of language structures</i>			✓	
<i>7.4. Number of concepts per chapter</i>			✓	
<i>7.5. Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>7.6. Clarity of definitions of technical terms</i>			✓	
<i>7.7. Using concrete examples to illustrate concepts</i>			✓	
<i>7.8. Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>13. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>13.1. Illustrations</i>			✓	
<i>13.2. Content</i>			✓	
<i>13.3. Activities</i>			✓	
<i>13.4. Practice Exercises</i>		✓		
<i>13.5. Assessment exercises</i>		✓		
<i>13.6. Skills</i>		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<u>3.4 Practice exercises</u>				



Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson 6 (comparing numbers) most of the exercises request the student to compare numbers using the number line.

Furthermore, most of the practice exercises in some lessons are not connected to real-life. For example, in lesson 2 (place value), there are 4 activities (such that each activity contains 3 exercises) which are not word problem. Only, 2 activities are presented as word problems related to real-life context.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 7 (comparing numbers) most of the exercises request the student to compare two numbers without further justification.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, one of the prototype assessment exercises requests the students to compare numbers by using number line.

### 3.6 Skills

Little evidence of the suitability of the Arabization of skills to serve the math concepts. **Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Also, the high-level-questions are found in some lessons. Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). **For example**, in lesson 4 (reading and writing numbers) students were provided with a model (cubes and longs). Students were asked to write the number in two different ways.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of activities request the student to talk about. For example, in lesson 4 (reading and writing numbers): talk about how you identify numbers that you use when writing the number 23.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

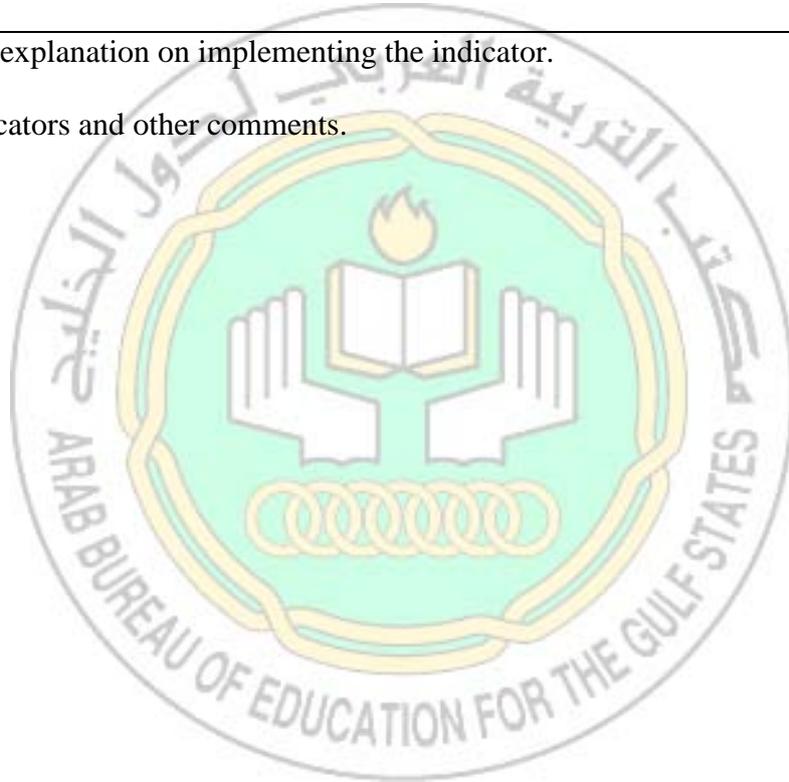
**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of some lessons in the activities entitled: mathematical sense. **For example**, in lesson 1 (ones and tens) the following activity is presented to the students: Jamilah has 3 bags of biscuits. In each bag there are 10 pieces. If she has in her pocket 3 more pieces. How many pieces does she have?



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>14. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
14.1. <i>Illustrations</i>				✓
14.2. <i>Content</i>				✓
14.3. <i>Activities</i>				✓
14.4. <i>Practice Exercises</i>				✓
14.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 2(semester 1)			
	Textbook Title:			
	Chapter Title: Chapter 2 Methods for Addition			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>15. Alignment of the translated texts to the philosophy of the original textbook</b>				
15.1. <i>Content of the Chapter</i>		✓		
15.2. <i>Activities included in the chapter</i>		✓		
15.3. <i>Learning objectives</i>		✓		
15.4. <i>Practice exercises</i>		✓		
15.5. <i>Assessment exercises</i>		✓		
15.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>Even though several strategies may be shown in a chapter, one <b>strategy</b> is used to solve most of the activities in each lesson in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. In some lessons two strategies are shown but the student has to use one of them. <b>For example</b>, in lesson 2 (adding by counting upwards) the activities are either based on using the number line or on basic facts of addition.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications limited to the procedure learned at the beginning of each lesson. <b>For example</b>, in lesson 4(adding the same number to itself) an activity is presented and solved at the beginning of the lesson (adding 6 + 6). The other activities presented in the lesson could be solved in a similar manner.</p> <p>In almost all the activities, students are not asked to justify or explain their response or to cooperate with others. Students are only asked to provide a number as an answer to a sum between two numbers. For example, most of the activities in lesson 5 are similar to the following activity: find the sum of the following: 4+4.</p>				



Little evidence of the **central and active role of the student** in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. **For example**, in lesson 1 (properties of addition): students are presented with several activities that are modeled and solved. These activities are prototype of the unsolved activities.

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In all the lessons, except the two lessons that focus on developing strategies, almost all the activities are not connected to real-life. **For example**, in lesson 1 (properties of addition), in all the activities, the addition of two numbers is presented either horizontally (e.g.  $1+5$ ) or vertically (in the form of a column). Word problems are rarely introduced in the lessons except the two lessons that involve students in using a specific strategy where all the activities are connected to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives that is presented in the teacher guidebook is listed as follows: using the commutative property of addition.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson 7 (adding 3 numbers) most of the exercises request the student to add 3 numbers formed of 1 digit and presented in a column form. Furthermore, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 5 there are 5 activities (such that each activity contains 3 to 4 exercises) which are not word problem. Only, 2 activities are presented as word problems related to real-life context.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises except in the lessons that involve the usage of specific strategy.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in



contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, one of the prototype assessment exercises request the students to add (e.g. 5+9).

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Also, the high-level-questions are found in some lessons. Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). **For example**, in lesson 1(properties of addition): the students are asked to fill in the blank:  $4+... = 3+4$ .

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of activities request the student to talk about. For example, in lesson 4 (adding the number to itself): explain how to remember the sum of 5+5.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of some lessons in the activities entitled: mathematical sense. **For example**, in lesson 4 (adding the number to itself) the following activity is presented to the students: Amal has 3 planes. Ibtisam has the same number of planes. How many planes do they have together?

	e	nc	de	cvt	e	nc	de	cvt	e	nc	de	cvt
<b>8. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>												
8.1. Length of sentences									✓			
8.2. Complexity of sentences									✓			
8.3. Diversity of language structures									✓			
8.4. Number of concepts per chapter									✓			
8.5. Reuse of technical terms in subsequent lessons and chapters									✓			
8.6. Clarity of definitions of technical terms									✓			
8.7. Using concrete examples to illustrate concepts									✓			
8.8. Redundancy of terms and sentences with no educational benefit.									✓			
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3												





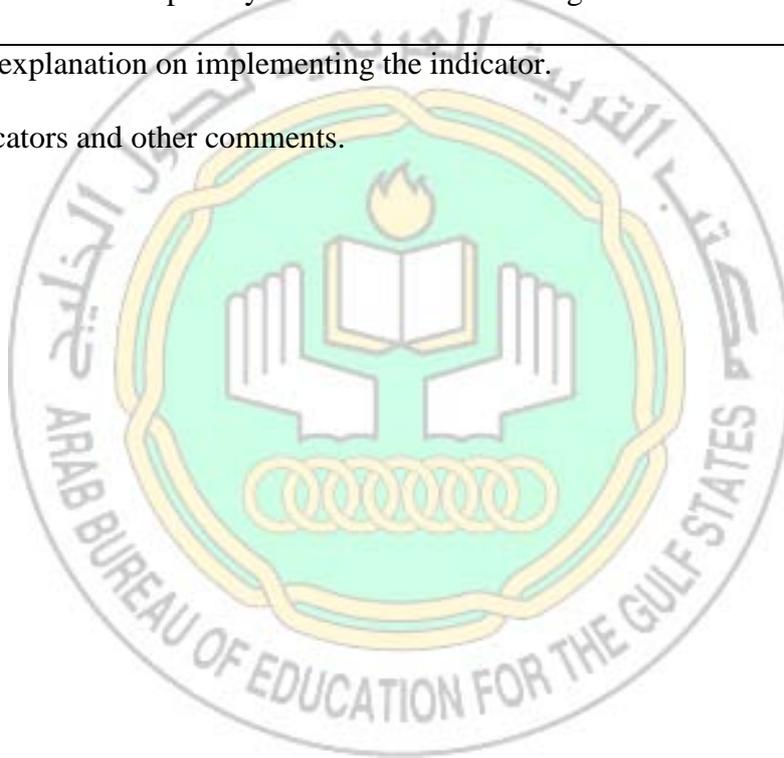
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>15. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
15.1. Illustrations			✓	
15.2. Content			✓	
15.3. Activities			✓	
15.4. Practice Exercises		✓		
15.5. Assessment exercises		✓		
15.6. Skills		✓		
<p>Illustrate by at least one example any indicator of criterion 3 given a score of less than 3</p> <p><u>3.4 Practice exercises</u>            Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). <b>For example</b>, in lesson 7 (adding 3 numbers) most of the exercises request the student to add 3 numbers formed of 1 digit and presented in a column form. Furthermore, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 5 there are 5 activities (such that each activity contains 3 to 4 exercises) which are not word problem. Only, 2 activities are presented as word problems related to real-life context. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises except in the lessons that involve the usage of specific strategy.</p> <p><u>3.5 Assessment exercises</u>            Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. <b>For example</b>, one of the prototype assessment exercises request the students to add (e.g. 5+9).</p> <p><u>3.6 Skills</u>            Little evidence of the suitability of the Arabization of the translated skills to serve the math concepts. For example, most of the activities does not involve the students in high level thinking and can be solved in a routine way and the students will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). <b>For example</b>, in lesson 1(properties of addition): the students are asked to fill in the blank: <math>4 + \dots = 3 + 4</math>. Also, there is no evidence of group work. Little evidence of explanation: several activities request the students to write and explain. For example, in lesson 4 (adding the number to itself): explain how to remember the sum of 5+5.</p>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>16. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
16.1. <i>Illustrations</i>				✓
16.2. <i>Content</i>				✓
16.3. <i>Activities</i>				✓
16.4. <i>Practice Exercises</i>				✓
16.5. <i>Assessment exercises</i>				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>		Subject: Mathematics			
		Grade: 2(semester 2)			
		Textbook Title:			
		Chapter Title: Chapter 11 geometric shapes			
		No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>					
<b>16. Alignment of the translated texts to the philosophy of the original textbook</b>					
16.1.	<i>Content of the Chapter</i>		✓		
16.2.	<i>Activities included in the chapter</i>		✓		
16.3.	<i>Learning objectives</i>		✓		
16.4.	<i>Practice exercises</i>		✓		
16.5.	<i>Assessment exercises</i>		✓		
16.6.	<i>Skills</i>		✓		
<p>Illustrate by at least one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u>            Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter involve the student in identifying or describing geometric shapes.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The characteristics of geometric shapes are identified at the beginning each lesson. Also, the different steps to accomplish the activities are shown.</p> <p>Little evidence of connection to real-life activities. Most of the activities are not connected to real-life situations. These activities involve students in identifying geometric shapes.</p> <p><u>1.3 Learning Objectives</u>            The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. <b>For example</b>, one of the objectives,</p>					



presented in the teacher guidebook, is listed as follows: identifying geometric shapes.

#### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises involve students in identifying different geometric shapes.

Also, most of the practice exercises are not connected to real-life. For example, most of the exercises in lesson 1 involve students in writing the names of geometric objects and compare between geometric objects that are similar and those that are different.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

#### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, some of the assessment exercises involve students in writing a given number in its numerical form or to compare numbers or organize numbers in order.

#### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Also, one high-level-question is found in some lessons. Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). **For example**, in lesson 4 (the place value of numbers less than 1000): the students are asked to correct the following error: the number 365 was represented by someone as follows:  $300+50+6$ . Find the error and correct it.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of activities request the student to talk or write about. For example, in lesson 4 (the place value of numbers less than 1000): talk about the similarities and differences between the two numbers: 562 and 265.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. Even for the activities that are entitled:



mathematical sense or high-level-questions and that are listed at the end of the book, students are not asked to justify. For example, in lesson 8 (patterns of numbers) the following activity is presented to the students: a restaurant produces 200 pies each Friday. How many pies does the restaurant produce during four weeks? No justification is requested.

	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>9. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
9.1. Length of sentences			✓	
9.2. Complexity of sentences			✓	
9.3. Diversity of language structures			✓	
9.4. Number of concepts per chapter			✓	
9.5. Reuse of technical terms in subsequent lessons and chapters			✓	
9.6. Clarity of definitions of technical terms			✓	
9.7. Using concrete examples to illustrate concepts			✓	
9.8. Redundancy of terms and sentences with no educational benefit.			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>17. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
17.1. Illustrations			✓	
17.2. Content			✓	
17.3. Activities			✓	
17.4. Practice Exercises		✓		
17.5. Assessment exercises		✓		
17.6. Skills		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson1 (numbers up to 1000) in most of the exercises, flats are given (pieces that represent 100) and the students have to write how many hundreds, tens and ones.

Also, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in



lesson 7 (comparing numbers) involve students in comparing numbers without any connection to real-life situations.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, some of the assessment exercises involve students in writing a given number in its numerical form or to compare numbers or organize numbers in order.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated skills to serve the math concepts. Most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures).

For example, in lesson 4 (the place value of numbers less than 1000): the students are asked to "correct the following error: the number 365 was represented by someone as follows:  $300+50+6$ . Find the error and correct it." Such an activity does not involve the students in high level thinking.

There is no evidence of group work. Also, little evidence of involving students in justifying and explaining: Most of the activities do not involve the students in explaining and justifying their answer. For example, in lesson 8 (patterns of numbers) the following activity is presented to the students: a restaurant produces 200 pies each Friday. How many pies does the restaurant produce during four weeks? No justification is requested.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>18. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
18.1. <i>Illustrations</i>				✓
18.2. <i>Content</i>				✓
18.3. <i>Activities</i>				✓
18.4. <i>Practice Exercises</i>				✓
18.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.



Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 2(semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 11 geometric shapes			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>17. Alignment of the translated texts to the philosophy of the original textbook</b>				
17.1. <i>Content of the Chapter</i>		✓		
17.2. <i>Activities included in the chapter</i>		✓		
17.3. <i>Learning objectives</i>		✓		
17.4. <i>Practice exercises</i>		✓		
17.5. <i>Assessment exercises</i>		✓		
17.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter involve the student in identifying or describing geometric shapes.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The characteristics of geometric shapes are identified at the beginning each lesson. Also, the different steps to accomplish the activities are shown.</p> <p>Little evidence of connection to real-life activities. Most of the activities are not connected to real-life situations. These activities involve students in identifying geometric shapes.</p> <p><u>1.3 Learning Objectives</u></p> <p>The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These</p>				



indicators are listed in the philosophy of the book. **For example**, one of the objectives, presented in the teacher guidebook, is listed as follows: identifying geometric shapes.

#### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises involve students in identifying different geometric shapes.

Also, most of the practice exercises are not connected to real-life. For example, most of the exercises in lesson 1 involve students in writing the names of geometric objects and compare between geometric objects that are similar and those that are different.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

#### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, some of the assessment exercises involve students in writing a given number in its numerical form or to compare numbers or organize numbers in order.

#### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Also, one high-level-question is found in some lessons. Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). **For example**, in lesson 4 (the place value of numbers less than 1000): the students are asked to correct the following error: the number 365 was represented by someone as follows:  $300+50+6$ . Find the error and correct it.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of activities request the student to talk or write about. For example, in lesson 4 (the place value of numbers less than 1000): talk about the similarities and differences between the two numbers: 562 and 265.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or



looking backward when solving a problem. Even for the activities that are entitled: mathematical sense or high-level-questions and that are listed at the end of the book, students are not asked to justify. For example, in lesson 8 (patterns of numbers) the following activity is presented to the students: a restaurant produces 200 pies each Friday. How many pies does the restaurant produce during four weeks? No justification is requested.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>10. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>10.1.Length of sentences</i>			✓	
<i>10.2.Complexity of sentences</i>			✓	
<i>10.3.Diversity of language structures</i>			✓	
<i>10.4.Number of concepts per chapter</i>			✓	
<i>10.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>10.6.Clarity of definitions of technical terms</i>			✓	
<i>10.7.Using concrete examples to illustrate concepts</i>			✓	
<i>10.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>19. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>19.1. Illustrations</i>			✓	
<i>19.2. Content</i>			✓	
<i>19.3. Activities</i>			✓	
<i>19.4. Practice Exercises</i>		✓		
<i>19.5. Assessment exercises</i>		✓		
<i>19.6. Skills</i>		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<u>3.4 Practice exercises</u>				
Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). <b>For example</b> , in lesson1 (numbers up to 1000) in most of the exercises, flats are				



given (pieces that represent 100) and the students have to write how many hundreds, tens and ones.

Also, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 7 (comparing numbers) involve students in comparing numbers without any connection to real-life situations.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, some of the assessment exercises involve students in writing a given number in its numerical form or to compare numbers or organize numbers in order.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated skills to serve the math concepts. Most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures).

For example, in lesson 4 (the place value of numbers less than 1000): the students are asked to "correct the following error: the number 365 was represented by someone as follows:  $300+50+6$ . Find the error and correct it." Such an activity does not involve the students in high level thinking.

There is no evidence of group work. Also, little evidence of involving students in justifying and explaining: Most of the activities do not involve the students in explaining and justifying their answer. For example, in lesson 8 (patterns of numbers) the following activity is presented to the students: a restaurant produces 200 pies each Friday. How many pies does the restaurant produce during four weeks? No justification is requested.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>20. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
20.1. <i>Illustrations</i>				✓
20.2. <i>Content</i>				✓
20.3. <i>Activities</i>				✓
20.4. <i>Practice Exercises</i>				✓
20.5. <i>Assessment exercises</i>				✓

Illustrate by at least one example any indicator of criterion 4 given a score of less than 3

Comments and explanation on implementing the indicator.



Additional indicators and other comments





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 2(semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 9 fractions			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>18. Alignment of the translated texts to the philosophy of the original textbook</b>				
18.1. <i>Content of the Chapter</i>				
18.2. <i>Activities included in the chapter</i>				
18.3. <i>Learning objectives</i>				
18.4. <i>Practice exercises</i>				
18.5. <i>Assessment exercises</i>				
18.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u>            One <b>strategy</b> is used to solve most of the activities in the book in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. <b>For example</b>, in lesson 5 (comparing fractions) the activities are based on using looking at the colored piece to state which fraction is bigger.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications limited to the procedure learned at the beginning of each lesson. <b>For example</b>, in lesson 4(fractions which are equal to 1) an activity is presented and solved at the beginning of the lesson (the fraction <math>\frac{5}{5}</math> equal 1). The other activities presented in the lesson could be solved in a similar manner.</p> <p>In almost all the activities, students are not asked to justify or explain their response or to cooperate with others. Students are only asked to apply a procedure. For example, most of the activities in lesson 2 (fractions which indicate more than one part) involve the students in using fraction models to write a corresponding fraction and then read it.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each</p>				



section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. **For example**, in lesson 1 (fraction with 1 as numerator): students are presented with an activity that is modeled and solved. A circle is presented that is cut into two pieces and one of them is brown. The corresponding fraction of the brown piece is  $\frac{1}{2}$ . This activity is a prototype of the unsolved activities.

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In all the lessons, except the two lessons that focus on developing strategies, most of the activities are not connected to real-life. **For example**, in lesson 4 (fractions which are equal to 1), in all the activities, models (circular model or rectangular models) are presented and students are requested to write the corresponding fraction. Word problems are rarely introduced in the lessons except the two lessons that involve students in using a specific strategy where all the activities are connected to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives that are listed in the teacher guidebook is stated as follows: identifying the pieces of a fraction that are taken from a whole.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson 5 (comparing fractions) most of the exercises request the student to compare two fractions by using fractional models or without using the models. Furthermore, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 4 (fractions that are equal to 1) there are 6 activities which are not related to real-life situation. Only, 1 activity is related to real-life context.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the fractional models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, one



of the prototype assessment exercises involves the students in counting the colored pieces of a fractional model and then in writing the corresponding fraction.

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Only one high-level-question is found in some lessons.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of activities request the student to talk about a specific situation. For example, in lesson 4 (fractions equal to 1), the students were requested to explain why the fractions that are equal to 1 has a numerator equal to the denominator.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of some lessons in the activities entitled: mathematical sense or high-level questions. **For example**, in lesson 5 (comparing fractions) the following activity is presented to the students: Ali drank  $\frac{1}{6}$  of a juice cup and Issa drank  $\frac{1}{4}$  of another juice cup. Why did Ali drank more than Issa? Explain.

	e	nc	de	cvi												
<b>11. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																
<i>11.1.Length of sentences</i>										✓						
<i>11.2.Complexity of sentences</i>										✓						
<i>11.3.Diversity of language structures</i>										✓						
<i>11.4.Number of concepts per chapter</i>										✓						
<i>11.5.Reuse of technical terms in subsequent lessons and chapters</i>										✓						
<i>11.6.Clarity of definitions of technical terms</i>										✓						
<i>11.7.Using concrete examples to illustrate concepts</i>										✓						
<i>11.8.Redundancy of terms and sentences with no educational benefit.</i>										✓						
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3																

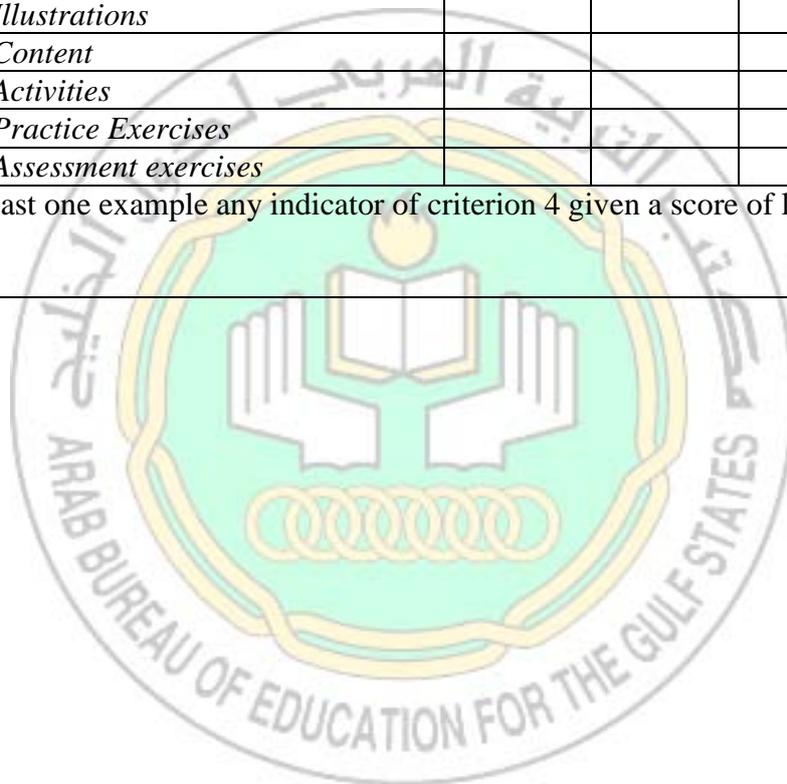


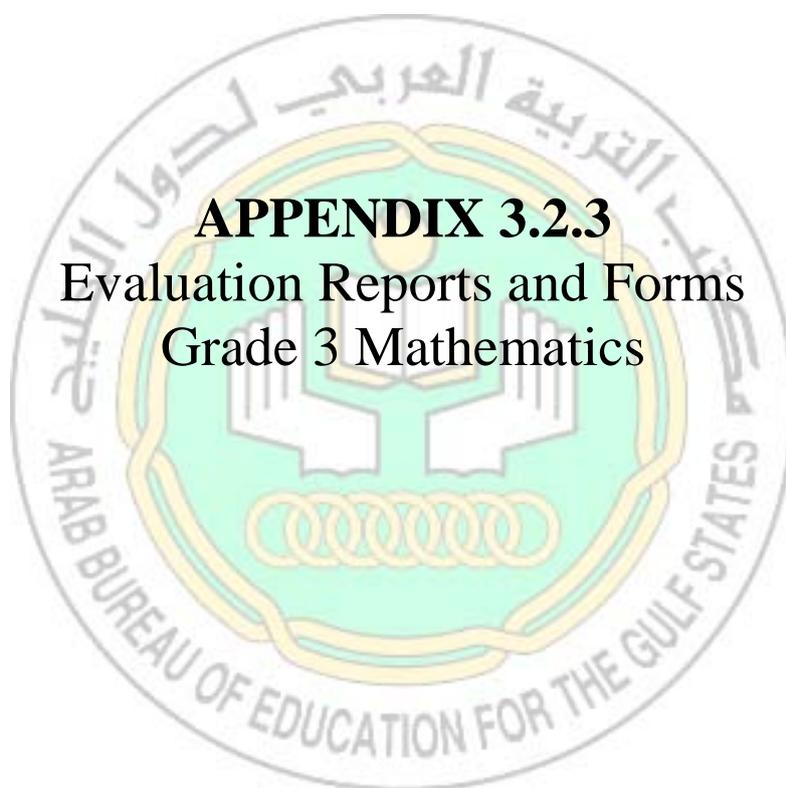
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>21. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
21.1. <i>Illustrations</i>			✓	
21.2. <i>Content</i>			✓	
21.3. <i>Activities</i>			✓	
21.4. <i>Practice Exercises</i>		✓		
21.5. <i>Assessment exercises</i>		✓		
21.6. <i>Skills</i>		✓		
<p>Illustrate by at least one example any indicator of criterion 3 given a score of less than 3</p> <p><u>3.4 Practice exercises</u>            Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). <b>For example</b>, in lesson 5 (comparing fractions) most of the exercises request the student to compare two fractions by using fractional models or without using the models. Furthermore, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 4 (fractions that are equal to 1) there are 6 activities which are not related to real-life situation. Only, 1 activity is related to real-life context. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the fractional models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.</p> <p><u>3.5 Assessment exercises</u>            Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. <b>For example</b>, one of the prototype assessment exercises involves the students in counting the colored pieces of a fractional model and then in writing the corresponding fraction.</p> <p><u>3.6 Skills</u>            Little evidence of the suitability of the Arabization of the translated skills to serve the math concepts. Most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, only one high-level-question is found in some lessons. There is no evidence of group work. Also, little evidence of involving students in justifying</p>				



and explaining: There are several activities that involve the students in writing and explaining. For example, in lesson 4 (fractions equal to 1), the students involved in explaining why the fractions that are equal to 1 has a numerator equal to the denominator. **Another example**, in lesson 5 (comparing fractions) the following activity is presented to the students: Ali drank  $\frac{1}{6}$  of a juice cup and Issa drank  $\frac{1}{4}$  of another juice cup. Why did Ali drank more than Issa? Explain.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>22. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
22.1. <i>Illustrations</i>				✓
22.2. <i>Content</i>				✓
22.3. <i>Activities</i>				✓
22.4. <i>Practice Exercises</i>				✓
22.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				





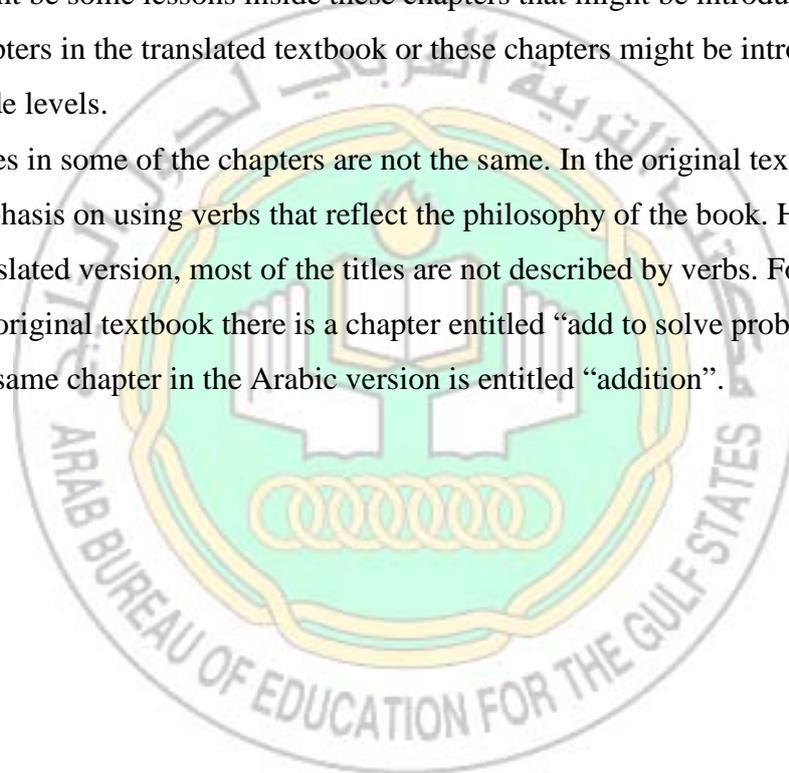
**APPENDIX 3.2.3**  
Evaluation Reports and Forms  
Grade 3 Mathematics



Tables of contents

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “use patterns and algebraic thinking”, “measure temperature”, “understand fractions and decimals”, “multiply by one digit numbers” are chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- Titles in some of the chapters are not the same. In the original textbook there is emphasis on using verbs that reflect the philosophy of the book. However, in the translated version, most of the titles are not described by verbs. For example, in the original textbook there is a chapter entitled “add to solve problems” whereas the same chapter in the Arabic version is entitled “addition”.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 3		Semester: 1		
		Textbook Title:				
		Chapter Title: Addition				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>19. Agreement of the translated Arabic book with that of the English book</b>						
19.1. <i>Definitions and explanations in the chapter</i>						✓
19.2. <i>Activities included in the chapter</i>			✓			
19.3. <i>Learning objectives</i>				✓		
19.4. <i>Practice exercises</i>				✓		
19.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>20. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
20.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

13. One form is to be filled for each of the three books (student, practice, teacher) for each semester
14. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
15. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

16. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Addition” in both textbooks showed that there is no difference between the definitions and explanations in the chapter. Some differences that we have found were due to cultural reasons. These differences do not affect students’ understanding.

### 1.2 Activities included in the chapter

The analysis of the chapter “Addition” in both textbooks has showed large difference in the activities included in the chapter. This is due to the existence of several important sections in the original textbook that are absent in the Arabic version. For example, “Add Money” lesson, problem –solving in Geography, Game Time, are found in the original textbook but are absent in the translated textbook. For evidence, the section 5-4: “Problem solving investigation” in the original textbook is missing from the translated version.

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. For example, lesson 8 from the original textbook does not appear in the translated textbook (objective: in lesson8: “I will add three – and four – digit numbers with regrouping”). On the other hand, the objectives in the sections that appear in both versions are similar.

### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed little difference due to the existence of several important sections in the original textbook that are absent in the Arabic version. For example, “Add Money” lesson is introduced only in the original textbook. Also, the questions in the exercises in the practice textbook are similar. However, there are some differences that are due to the difference in the context of the exercises. Note that the practice exercises in the practice textbook in both versions involve students in low-level tasks.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar (differences due to culture), large difference in the assessment exercises appeared in both textbooks due to the due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several



assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in several lessons in the original textbook there is a section entitled “test practice” section and spiral review section. Also, at the end of the chapter, there is a “**test practice**” **cumulative test** which covers chapters 1 and 2. This cumulative test is not found in the translated book. These sections are not found in the translated textbook. Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that there differences between the figures and illustrations were due to cultural reasons.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 3		Semester: 2		
		Textbook Title:				
		Chapter Title: Fractions				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>21. Agreement of the translated Arabic book with that of the English book</b>						
21.1. <i>Definitions and explanations in the chapter</i>						✓
21.2. <i>Activities included in the chapter</i>			✓			
21.3. <i>Learning objectives</i>				✓		
21.4. <i>Practice exercises</i>				✓		
21.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>22. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
22.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

17. One form is to be filled for each of the three books (student, practice, teacher) for each semester
18. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
19. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

20. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Fractions” showed that there is no difference between the definitions and explanations in both textbooks.

### 1.2 Activities included in the chapter

The analysis of the chapter “Fractions” in both textbooks has showed large difference in the activities included in the chapter. This is due to the existence of several important lessons and sections in the original textbook that are absent in the Arabic version. For example, “Lesson 3 – Problem solving investigation: I will choose the best strategy to solve a problem”; “Technology activity for modeling equivalent fractions”; and Lesson 7 “Locate fractions on a number line”) are lessons that appear in the original textbook but are missing from the translated version.

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

### 1.3 Learning objectives

There is “little difference” between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. For example, some objectives that are found in the original textbook and do not appear in the translated textbook (objectives: “I will use technology to model equivalent fractions”; “I will choose the best strategy to solve a problem”; “I will locate and name points on the number line using fractions”).

### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed little difference due to introducing lessons in the original textbook that are absent in the Arabic version. For example, Lesson 7 “Locate fractions on a number line”) is a lesson that only appears in the original textbook.

Also, the questions in the exercises in the practice textbook are similar. However, there are some differences that are due to the difference in the context of the exercises. Note that the practice exercises in the practice textbook in both versions involve students in low-level tasks.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar (differences due to culture), large difference in the assessment exercises appeared in both textbooks due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several



assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in several lessons in the original textbook there are “test practice” section and “spiral review” section that do not appear in the translated version. These sections are not found in the translated textbook. Also, at the end of the chapter, there is a “**test practice**” **cumulative test** which covers chapters 1-13. The assessment exercises in the cumulative and the same in both textbooks.

Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that the differences between the figures and illustrations were due to cultural reasons.





### Report about mathematics textbooks in grade 3 first semester

The following report is an evaluation of math books in grade 3, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 3 – 1<sup>st</sup> semester – is divided into five chapters. Two chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 2: Addition; (2) Chapter 3: subtraction.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy is based on: (1) building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, For example, in lesson 6 (adding 3-digit numbers) around 80% of the activities are not related to real-life situations. Only in two lessons (focusing on how to use specific strategies to solve problems), most of the activities are connected to real-life situations;* (2) showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book.* Furthermore, no explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises; (3) developing different types of skills including high level thinking and justifying or looking backwards – *the analysis showed that in some lessons in student textbook there is a section entitled "high level task" that contains several activities written at the end of the lesson. The total number of high-level-questions, in each lesson, is between 2 and 4 (around 15% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, each of Ali and Omar estimated the sum of 26 and 47. Which one has followed the appropriate way to estimate the answer? Explain. Other high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, the following activity is presented to the students in lesson 8: "by using each of the digits 1, 2, 3, and 4 one time, write two numbers such that each of them is formed of 2 digits and their sum is less than 50".*



Other questions titled “high-level-thinking-activities” involve students in thinking about two arguments and deciding which one is correct. For example, the following activity is presented to the students in lesson 4: “Ali and Omar estimated the sum of 26 and 47. Which one has followed the appropriate way to estimate the answer? Explain. A third type of activity, under the heading “high-level-thinking- questions”, asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students were asked to write a real-life situation where they need to use estimation to find the sum of numbers. Also, the analysis showed that there is no emphasis on justification or looking backward when solving a problem; (4) using different strategies to solve the mathematical activities and exercises - the analysis showed that students are involved in one strategy throughout the lesson to solve the problems. For example, in lesson 4 (subtracting numbers formed of 3 digits) most of the activities involve the students in subtracting two numbers (each is formed of 3-digits) using the strategy that is modeled at the beginning of the lesson;(5) using technology in solving mathematical exercises - The usage of technology is limited to a reference of website to do more practice:

[www.obeikaneducation.com](http://www.obeikaneducation.com); (6) using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - The analysis showed that most of the assessment exercises are not related to real life context. Also, students are not asked to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, one of the prototype assessment activities involves students in finding the difference between two numbers (e.g. 394-271) without further justification or without using different ways or strategies; and (7) the central and active role of the student in the learning process – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students to subtract 2-digit numbers, the following activity (with the solution) is presented to the students: the following schedule shows that the tiger sleeps 16 hours during the day, whereas the cat sleeps 12 hours during the day. What is the difference between the number of hours that the tiger and the cat need to sleep? This activity is solved and the different steps are shown

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students. The rubric contained eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts. The analysis showed that there is almost satisfactory evidence of the suitability of the Arabic language in each of these indicators.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, other indicators such as practice exercises; assessment exercises and skills showed little evidence. The reasons which showed little evidence for those indicators may be due to several reasons: (1) Most of the practice exercises are direct applications and can be solved in a routine way. For example, in lesson 4 the student is requested to subtract 381-165. Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no



illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

(2) Most of the assessment activities are of low level and can be solved in a routine way. For example, one of the assessment activities involves the students in finding the difference:  $394 - 271$  without further explanation or justification. Also, around 50% of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way.

(3) Concerning skills, most of the activities donot involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, in lesson 7 (connected facts) in chapter 3: the students are asked to fill in the blanks:  $3 + \dots = 13$ ;  $10 + \dots = 13$ ;  $\dots - 3 = 10$ ;  $13 - \dots = 3$ . Also, a small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in lesson 1 (subtracting 2-digit numbers), students are requested to explain why the subtraction procedure begins with the ones place value. There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, there is little evidence of involving students in justifying and explaining. For example, in lesson 5 (subtraction of numbers having zero as one of its digits) students were involved in the following activity: if Ali had 200 Reyls and spent 27. How much does he still have? This activity is similar to other activities where no justification is requested.

#### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



### Report about mathematics textbooks in grade 3 second semester

The following report is an evaluation of math books in grade 3, second semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 3 – 2<sup>st</sup> semester – is divided into six chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 6: Division; (2) Chapter 9: geometric shapes; and (3) chapter 11: fractions.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy is based on: (1) building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, in lesson 3 (equal fractions) in chapter 11, all the activities are not connected to real-life situations. Another example may be also shown, in lesson 6 (division by 10) of chapter 6 where around 70% of the activities are not related to real-life situations;* (2) showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book. Furthermore, no explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises;* (3) developing different types of skills including high level thinking and justifying or looking backwards – *the analysis showed that most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 2 (division by 2): find the division  $20 \div 2$  then write the multiplication expression related to it. Also, students are rarely asked to justify or explain their response or to cooperate with others. In some lessons in student textbook there is a section entitled "high level task" that contains several activities written at the end of the lesson. The analysis showed that only 3 to 4 exercises are categorized as High-Level-Thinking-Questions. For example, at the end of lesson 4, a high-level-question is presented to the students as follows: Write a number by which when divided by 2 results in a number bigger than 8. Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers.*



For example, the following activity is presented to the students in lesson 4: “write a number such that its division by 2 is more than 8”. Another type of activity categorized as “high-level-thinking-activities” present two arguments and the students have to indicate why one argument is correct and the other argument is wrong. For example, the following activity is presented to the students in lesson 4: “Reem and Haifa have found the division of 8 by 2. Whose solution is correct?”. A third type of activity categorized asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students were asked to write a real-life situation by using  $18 \div 6$ ; (4) using different strategies to solve the mathematical activities and exercises - the analysis showed that students are involved in one strategy throughout the lesson to solve the problems. For example, in lesson 5 (comparing fractions) an activity requests the students to use fractional models to compare three fractions;(5) using technology in solving mathematical exercises - The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com); (6) using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - The analysis showed that most of the assessment exercises are not related to real life context. Also, students are not asked to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, in chapter 9 (geometric shapes), most of the assessment activities request the student to “identify” or “categorize”. For example, given a shape, the student has to identify and describe it based on the number of sides and angles; and (7) the central and active role of the student in the learning process – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students about axis of symmetry (in lesson 9: symmetry), the following activity (with the solution) is presented to the students: A shape is presented to the students; axes of symmetry are also shown to the students.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students. The rubric contained eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts. The analysis showed that there is almost satisfactory evidence of the suitability of the Arabic language in each of these indicators.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, other indicators such as practice exercises; assessment exercises and skills showed little evidence. The reasons which showed little evidence for those indicators may be due to several reasons: (1) Most of the practice exercises are direct applications and can be solved in a routine way. For example, in lesson 7 (division with 0 and by 1), the student is requested to divide by 1 in some activities whereas in the other activities, the student is requested to divide the number by itself or to divide 0 by different numbers. Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.



(2) Most of the assessment activities are of low level and can be solved in a routine way. For example, in chapter 9, most of the assessment activities request the student to “identify” or “categorize”. For example, given a shape, the student has to identify and describe it based on the number of sides and angles. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy.

(3) Concerning skills, most of the activities donot involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, three of the four given fractions are equal, identify the fraction which is not equal to the other three and explain.

Also, a small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in lesson 1 (relationship of division and subtraction) students are requested to talk about and explain how to use number line to divide 18 by 9.

There is no evidence of group work since there are no tasks written in student’s textbook or practice book which require the students to work in groups. Also, there is little evidence of involving students in justifying and explaining. For example, these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 3, there is a focus on learning the strategy: looking at a simpler strategy to solve the problem. The activity which was solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems. Thus, looking backwards is not requested.

#### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade:3 (semester 1)			
	Textbook Title:			
	Chapter Title: Chapter 3 Methods for Subtraction			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>23. Alignment of the translated texts to the philosophy of the original textbook</b>				
23.1. <i>Content of the Chapter</i>		✓		
23.2. <i>Activities included in the chapter</i>		✓		
23.3. <i>Learning objectives</i>		✓		
23.4. <i>Practice exercises</i>		✓		
23.5. <i>Assessment exercises</i>		✓		
23.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u>            One <b>strategy</b> is used to solve most of the activities in the book in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. <b>For example</b>, in lesson 1 (subtracting using the number line) the activities are either based on using the number line or by putting the two numbers in the column form.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications limited to the procedure learned at the beginning of each lesson. <b>For example</b>, in lesson 1(subtracting using the number line) an activity is presented and solved at the beginning of the lesson (find 10-3). The other activities presented in the lesson could be solved in a similar manner.</p> <p>In almost all the activities, students are not asked to justify or explain their response or to cooperate with others. Students are only asked to provide a number as an answer to a difference between two numbers. For example, most of the activities in lesson 2 (subtracting a 0 or subtracting all) are similar to the following activities: find the difference: 3-3 or 5-0.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in</p>				



contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning of each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. **For example**, in lesson 3(subtracting by using the fact of adding the number to itself): students are presented with an activity (find  $16-8$ ) which is modeled and solved ( $8+8=16$  so  $16-8=8$ ). This activity is a prototype of the unsolved activities.

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In all the lessons, except the lesson that focus on developing the strategy: guess and check, almost all the activities are not connected to real-life. **For example**, in lesson 5 (relationship between addition and subtraction), in all the activities, the subtraction or addition between two numbers is presented either horizontally (e.g.  $13-6$ ) or vertically (in the form of a column). Word problems are rarely introduced in the lessons except the lesson that involve students in using the strategy: guess and check where all the activities are connected to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. **For example**, one of the objectives that is presented in the teacher guidebook is listed as follows: counting downwards to find the difference (as a result of subtraction).

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson 7 (the connected facts) most of the exercises introduce a triangle with the three numbers – each listed in an angle - request the student to add or subtract two of the three numbers.

Also, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 5 (relationship between addition and subtraction) there are 4 activities (such that each activity contains 6 applications) which are not word problem. Only, 2 activities are presented as word problems related to real-life context.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in



contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, the prototype assessment exercises request the students to subtract either by using the number line and by counting downwards or by using addition facts or by using connected facts...

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Also, the high-level-questions are found in some lessons. Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). **For example**, in lesson 7 (connected facts): the students are asked to fill in the blanks:  $3 + \dots = 13$ ;  $10 + \dots = 13$ ;  $\dots - 3 = 10$ ;  $13 - \dots = 3$

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of activities request the student to talk about. For example, in lesson 6 (missing numbers): explain how to find the missing number in  $5 + \dots = 13$ .

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of some lessons in the activities entitled: mathematical sense. **For example**, in lesson 5 (relationship between addition and subtraction) the following activity is presented to the students: circle one the subtraction equations that can be used to check the addition equation.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>12. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>12.1.Length of sentences</i>			✓	
<i>12.2.Complexity of sentences</i>			✓	
<i>12.3.Diversity of language structures</i>			✓	
<i>12.4.Number of concepts per chapter</i>			✓	
<i>12.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>12.6.Clarity of definitions of technical terms</i>			✓	
<i>12.7.Using concrete examples to illustrate concepts</i>			✓	
<i>12.8.Redundancy of terms and sentences</i>			✓	



<i>with no educational benefit.</i>				
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>23. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
23.1. Illustrations			✓	
23.2. Content			✓	
23.3. Activities			✓	
23.4. Practice Exercises		✓		
23.5. Assessment exercises		✓		
23.6. Skills		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). **For example**, in lesson 7 (the connected facts) most of the exercises introduce a triangle with the three numbers – each listed in an angle - request the student to add or subtract two of the three numbers.

Also, most of the practice exercises are not connected to real-life, except in the lessons that focus on involving students in using a specific strategy. For example, most of the exercises in lesson 5 (relationship between addition and subtraction) there are 4 activities (such that each activity contains 6 applications) which are not word problem. Only, 2 activities are presented as word problems related to real-life context.

Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the students and one line space is given to write the answer in almost all the practice exercises.

#### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. **For example**, the prototype assessment exercises request the students to subtract either by using the number line and by counting downwards or by using addition facts or by using connected facts...

#### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated skills to serve the math

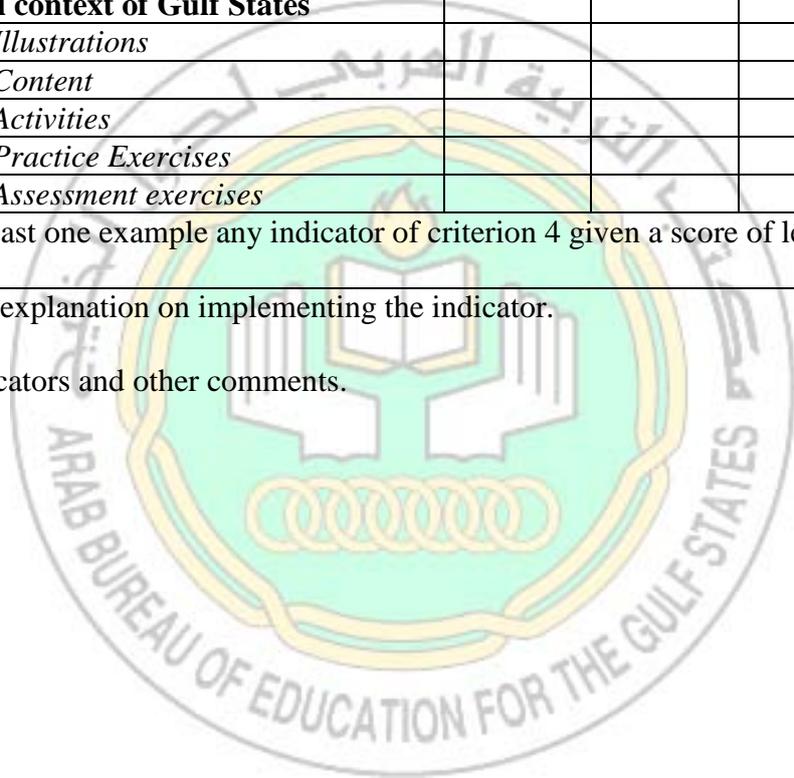


concepts. For example, most of the activities does not involve the students in high level thinking and can be solved in a routine way and the students will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). **For example**, in lesson 7 (connected facts): the students are asked to fill in the blanks:  $3 + \dots = 13$ ;  $10 + \dots = 13$ ;  $\dots - 3 = 10$ ;  $13 - \dots = 3$ . Also, there is no evidence of group work. Little evidence of explanation: several activities request the students to write and explain. For example, in lesson 6 (missing numbers): explain how to find the missing number in  $5 + \dots = 13$ .

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>24. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
24.1. <i>Illustrations</i>				✓
24.2. <i>Content</i>				✓
24.3. <i>Activities</i>				✓
24.4. <i>Practice Exercises</i>				✓
24.5. <i>Assessment exercises</i>				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 3 (semester 1)			
	Textbook Title:			
	Chapter Title: Chapter 3 Subtraction			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>24. Alignment of the translated texts to the philosophy of the original textbook</b>				
24.1. <i>Content of the Chapter</i>		✓		
24.2. <i>Activities included in the chapter</i>		✓		
24.3. <i>Learning objectives</i>		✓		
24.4. <i>Practice exercises</i>		✓		
24.5. <i>Assessment exercises</i>		✓		
24.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>In each lesson one <b>strategy</b> is used to solve most of the activities in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, in lesson 4 (subtracting numbers formed of 3 digits) most of the activities involve the student in subtracting two numbers (each is formed of 3-digits).</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 1(subtracting two-digit numbers): subtract the following numbers: 39-14.</p> <p>From the questions of the book, we can infer that students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level-Thinking-Questions. For example, at the end of lesson 1, a high-level-question is presented to the students as follows: without subtracting, how do you know whether 31-19 is bigger or smaller than 20?</p> <p>Little evidence of the central and active role of the student in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each section by</p>				



presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students to subtract 2-digit numbers, the following activity (with the solution) is presented to the students: the following schedule shows that the tiger sleeps 16 hours during the day, whereas the cat sleeps 12 hours during the day. What is the difference between the number of hours that the tiger and the cat need to sleep? This activity is solved and the different steps are shown.

Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, the number of activities not connected to real-life is much more than those connected to real-life situations. For example, in lesson 1 (subtracting 2-digit numbers) around 70% of the activities are not related to real-life situations. Only in two lessons (focusing on how to use specific strategies to solve problems), most of the activities are connected to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, in this chapter the students should learn how to subtract 2-digit or 3-digit numbers.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 4 the student is requested to subtract 381-165. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Around 50% of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, one of the assessment activities is as follows: find the difference: 394-271.

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.



**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. 2 high-level-questions are written at the end of each lesson (around 10% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, in a swimming pool there are 45 roses, 32 tulips and 18 Krounfoul. If Layla takes 8 from each kind, how many flowers are kept in the garden?

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). For example, in lesson 1(subtracting 2-digit numbers), students are requested to explain why the subtraction procedure begins with the ones place value.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving most exercises. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 2, there is a focus on learning the strategy: specifying whether the answer is reasonable or not. The activity which is solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities in the lesson there is no request to follow the 4 steps used to solve problems. Also, in some exercises (which have no context), students are requested to check the answer.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>13. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>13.1.Length of sentences</i>			✓	
<i>13.2.Complexity of sentences</i>			✓	
<i>13.3.Diversity of language structures</i>			✓	
<i>13.4.Number of concepts per chapter</i>			✓	
<i>13.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>13.6.Clarity of definitions of technical terms</i>			✓	
<i>13.7.Using concrete examples to illustrate concepts</i>			✓	
<i>13.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	



Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>25. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
25.1. <i>Illustrations</i>			✓	
25.2. <i>Content</i>			✓	
25.3. <i>Activities</i>			✓	
25.4. <i>Practice Exercises</i>		✓		
25.5. <i>Assessment exercises</i>		✓		
25.6. <i>Skills</i>		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 4 the student is requested to subtract 381-165. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Around 50% of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, one of the assessment activities is as follows: find the difference: 394-271

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the skills. Most of the activities do not involve the students in high level thinking.

A small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in lesson 1(subtracting 2-digit numbers), students are requested to explain why the subtraction procedure begins with the ones place value.

There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, little evidence of involving students in justifying and explaining. For example, in lesson 5(subtraction of numbers having zero as one of its digits) students were involved in the following activity: if Ali had 200 Reyals and spent 27. How much does he still have? This activity is similar to other activities



where no justification is requested.





	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>26. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
26.1. <i>Illustrations</i>				✓
26.2. <i>Content</i>				✓
26.3. <i>Activities</i>				✓
26.4. <i>Practice Exercises</i>				✓
26.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 3(semester 1)			
	Textbook Title:			
	Chapter Title: Chapter 2 Addition			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>25. Alignment of the translated texts to the philosophy of the original textbook</b>				
25.1. <i>Content of the Chapter</i>		✓		
25.2. <i>Activities included in the chapter</i>		✓		
25.3. <i>Learning objectives</i>		✓		
25.4. <i>Practice exercises</i>		✓		
25.5. <i>Assessment exercises</i>		✓		
25.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>In each lesson one <b>strategy</b> is used to solve most of the activities in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, in lesson 6 (adding numbers formed of 3 digits) an activity requests the students to perform the addition of two numbers such that each of these numbers if formed of 3 digits.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 3(estimating the result of addition): Estimate the following addition by rounding to the nearest tens.</p> <p>From the questions of the book, we can infer that students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level-Thinking-Questions. For example, at the end of lesson 4, a high-level-question is presented to the students as follows: by using each of the digits 1, 2, 3, and 4 one time, write two numbers such that each of them is formed of 2 digits and their sum is less than 50.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in</p>				



contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how the commutative property (in lesson 1: characteristics of addition), the following activity (with the solution) is presented to the students: Layla has 2 necklaces and 3 rings and Souaad has 3 necklaces and 2 rings. I notice that each of Layla and Souaad has the same number of jewelry:  $2+3=3+2$ .

Little evidence of **connection to real-life situations** in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, the number of activities not connected to real-life is much more than those connected to real-life situations. For example, in lesson 6 (adding 3-digit numbers) around 80% of the activities are not related to real-life situations. Only in two lessons (focusing on how to use specific strategies to solve problems), most of the activities are connected to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, the students should learn how to add 2-digit and 3-digit numbers.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 1 the student is requested to add and identify the mathematical property that is used to find  $3+5$  and  $5+3$ . Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, fill in the blanks and name the mathematical property (commutative, associative, identify element for addition).

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions;



(2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 15% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, each of Ali and Omar estimated the sum of 26 and 47. Which one has followed the appropriate way to estimate the answer? Explain.

Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, the following activity is presented to the students in lesson 8: "by using each of the digits 1, 2, 3, and 4 one time, write two numbers such that each of them is formed of 2 digits and their sum is less than 50".

Another type of activities under the heading "high-level-thinking-activities" present two arguments and the students have to indicate why one argument is correct and the other argument is wrong. For example, the following activity is presented to the students in lesson 4: "Ali and Omar estimated the sum of 26 and 47. Which one has followed the appropriate way to estimate the answer? Explain.

A third type of activity, under the heading "high-level-thinking- questions", asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students were asked to write a real-life situation where they need to use estimation to find the sum of numbers.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to describe or "write about" (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). For example, in lesson 1 (properties of addition), students are involved in explaining how to use the commutative and associative properties of addition in order to add 7, 8 and 3.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in less 6 "adding numbers formed of 3-digits" students are involved in an activity of adding two numbers; students are requested to check their responses. Another example is in lesson 2, there is a focus on learning the strategy: specifying whether the accurate answer is requested or an estimation is requested. The activity which is solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the activities there is no request to follow the 4 steps used to solve problems.



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>14. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>14.1.Length of sentences</i>			✓	
<i>14.2.Complexity of sentences</i>			✓	
<i>14.3.Diversity of language structures</i>			✓	
<i>14.4.Number of concepts per chapter</i>			✓	
<i>14.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>14.6.Clarity of definitions of technical terms</i>			✓	
<i>14.7.Using concrete examples to illustrate concepts</i>			✓	
<i>14.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>27. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>27.1. Illustrations</i>			✓	
<i>27.2. Content</i>			✓	
<i>27.3. Activities</i>			✓	
<i>27.4. Practice Exercises</i>		✓		
<i>27.5. Assessment exercises</i>		✓		
<i>27.6. Skills</i>		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<p><u>3.4 Practice exercises</u></p> <p>Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 1 the student is requested to add and identify the mathematical property that is used to find 3+5 and 5+3. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.</p>				



### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context. Also, students are not requested to use more than one strategy to solve some of the assessment exercises. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, fill in the blanks and name the mathematical property (commutative, associative, identify element for addition).

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated textbooks to serve the math skills. Most of the activities do not involve the students in high level thinking. A small number of activities request the student to talk about or write about (to describe). For example, in lesson 1 (properties of addition), students are involved in explaining how to use the commutative and associative properties of addition in order to add 7, 8 and 3.

There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, little evidence of involving students in justifying: Most of the activities do not involve the students in justifying their answer. For example, in less 6 "adding numbers formed of 3-digits" students are involved in an activity of adding two numbers; students are requested to check their responses.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>28. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
28.1. <i>Illustrations</i>				✓
28.2. <i>Content</i>				✓
28.3. <i>Activities</i>				✓
28.4. <i>Practice Exercises</i>				✓
28.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 3(semester 2)			
	Textbook Title:			
	Chapter Title: Division			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>26. Alignment of the translated texts to the philosophy of the original textbook</b>				
26.1. <i>Content of the Chapter</i>		✓		
26.2. <i>Activities included in the chapter</i>		✓		
26.3. <i>Learning objectives</i>		✓		
26.4. <i>Practice exercises</i>		✓		
26.5. <i>Assessment exercises</i>		✓		
26.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>Several strategies may be used in a chapter; however, one <b>strategy</b> is used to solve most of the activities in one lesson in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, in lesson 7 (dividing with 0 and by 1) an activity requests the students to perform the division by 1.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 2 (division by 2): find the division <math>20 \div 2</math> then write the multiplication expression related to it. Also, students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are categorized as High-Level-Thinking-Questions and are presented at the end of each lesson. For example, at the end of lesson 4, a high-level-question is presented to the students as follows: Write a number by which when divided by 2 results in a number bigger than 8.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned from the lessons are modeled at the beginning each</p>				



section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how to divide by 2 (in lesson 1: division by 2), the following activity (with the solution) is presented to the students: Each of Saad and Khaled have divided an apple equally. The apple was divided into 8 pieces. How many pieces each one has got?

Little evidence of **connection to real-life situations** in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, the number of activities not connected to real-life is much more than those connected to real-life situations. For example, in lesson 6 (division by 10) around 70% of the activities are not related to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, in this chapter the students should learn how to divide by subtracting or multiplying.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 7 (division with 0 and by 1), the student is requested to divide by 1 in some activities whereas in the other activities, the student is requested to divide the number by itself or to divide 0 by different numbers. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, find the following division:  $12 \div 2$ .

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's



textbook and not in the practice book. Around 2 high-level-questions, in most of the lessons, are presented at the end of the lesson (representing about 10% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, “divide 36 by 2” is presented in lesson 4.

Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, the following activity is presented to the students in lesson 4: “write a number such that its division by 2 is more than 8”.

Another type of activity categorized as “high-level-thinking-activities” present two arguments and the students have to indicate why one argument is correct and the other argument is wrong. For example, the following activity is presented to the students in lesson 4: “Reem and Haifa have found the division of 8 by 2. Whose solution is correct?”

A third type of activity categorized as “high-level-thinking- questions”, asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students were asked to write a real-life situation by using  $18 \div 6$ .

***Little evidence to skills of communication.*** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to describe (“write about” or “talk about”) (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). For example, in lesson 1 (relationship of division and subtraction) students are requested to talk about and explain how to use number line to divide 18 by 9.

***Little evidence to skills of collecting and organizing data.*** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

***Little evidence to skills of mathematical sense.*** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 3, there is a focus on learning the strategy: specifying the appropriate strategy to solve the problem. The activity which was solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems.



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>15. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>15.1.Length of sentences</i>			✓	
<i>15.2.Complexity of sentences</i>			✓	
<i>15.3.Diversity of language structures</i>			✓	
<i>15.4.Number of concepts per chapter</i>			✓	
<i>15.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>15.6.Clarity of definitions of technical terms</i>			✓	
<i>15.7.Using concrete examples to illustrate concepts</i>			✓	
<i>15.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>29. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>29.1. Illustrations</i>			✓	
<i>29.2. Content</i>			✓	
<i>29.3. Activities</i>			✓	
<i>29.4. Practice Exercises</i>		✓		
<i>29.5. Assessment exercises</i>		✓		
<i>29.6. Skills</i>		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<p><u>3.4 Practice exercises</u></p> <p>Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 7 (division with 0 and by 1), the student is requested to divide by 1 in some activities whereas in the other activities, the student is requested to divide the number by itself or to divide 0 by different numbers. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the</p>				



answer in almost all the practice exercises.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, find the following division:  $12 \div 2$ .

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the skills. Most of the activities do not involve the students in high level thinking. High level tasks are only found in student's textbook and not in the practice book. Around 2 high-level-questions, in most of the lessons, are presented at the end of the lesson (representing about 10% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, "divide 36 by 2" is presented in lesson 4.

A small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in lesson 1 (relationship of division and subtraction) students are requested to talk about and explain how to use number line to divide 18 by 9. There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, little evidence of involving students in justifying and explaining. For example, these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 3, there is a focus on learning the strategy: specifying the appropriate strategy to solve the problem. The activity which was solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>30. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
30.1. <i>Illustrations</i>				✓
30.2. <i>Content</i>				✓
30.3. <i>Activities</i>				✓
30.4. <i>Practice Exercises</i>				✓
30.5. <i>Assessment exercises</i>				✓

Illustrate by at last one example any indicator of criterion 4 given a score of less than 3

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 3(semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 9 Geometric shapes			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>27. Alignment of the translated texts to the philosophy of the original textbook</b>				
27.1. <i>Content of the Chapter</i>		✓		
27.2. <i>Activities included in the chapter</i>		✓		
27.3. <i>Learning objectives</i>		✓		
27.4. <i>Practice exercises</i>		✓		
27.5. <i>Assessment exercises</i>		✓		
27.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>Several strategies may be used in a chapter; however, one <b>strategy</b> is used to solve most of the activities in one lesson in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, in lesson 4 (geometric patterns) an activity requests the students to find the number of triangles used in figure 30 in the pattern.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 2(convex polygons): Identify the following polygons by identifying the number of angles and sides and then name it. Also, students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are categorized as High-Level-Thinking-Questions and are presented at the end of each lesson. For example, at the end of lesson 1, a high-level-question is presented to the students as follows: Name 3 objects having a disk shape and are used either in the house or in the classroom.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned from the lessons are modeled at the beginning each</p>				



section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students about axis of symmetry (in lesson 9: symmetry), the following activity (with the solution) is presented to the students: A shape is presented to the students; axes of symmetry are also shown to the students.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, in this chapter the students should learn how to specify, categorize and describe geometrical shapes.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 4 (geometric patterns) the student is requested to find the number of hexagons in figure 18 given the first figures. Furthermore, most of the practice exercises are not connected to real-life. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities request the student to "identify" or "categorize". For example, given a shape, the student has to identify and describe it based on the number of sides and angles.

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Around 3 high-level-questions, in most of the lessons, are presented at the end of the lesson (representing about 15% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, "look at the following figure, then describe how you can verify whether the shape has an axis of symmetry or not".

Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, the following activity is presented to the students in lesson 6: "think about a geometric shape with an axis of symmetry then draw half



of it. Then ask another student to complete the figure”.

Another type of activity categorized as “high-level-thinking-activities” present two arguments and the students have to indicate why one argument is correct and the other argument is wrong. For example, the following activity is presented to the students in lesson 2: “Ahmad and Said have categorized the following shape (Ahmad has identified the shape as hexagon whereas Saiid as pentagon) which one is correct?”

A third type of activity categorized as “high-level-thinking- questions”, asks the student to relate what is learned to real-life context. For example, “think of two objects in the classroom having at least two sides”.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to describe (“write about or talk about”); most of these activities are found in those categorized as high level questions. For example, in lesson 1(solid shapes) students are involved in talking about the similarities and differences between cones and pyramids.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 3, there is a focus on learning the strategy: looking at a simpler strategy to solve the problem. The activity which was solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems.

	e	nc	de	cvt												
<b>16. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																
<i>16.1.Length of sentences</i>										✓						
<i>16.2.Complexity of sentences</i>										✓						
<i>16.3.Diversity of language structures</i>										✓						
<i>16.4.Number of concepts per chapter</i>										✓						
<i>16.5.Reuse of technical terms in subsequent lessons and chapters</i>										✓						
<i>16.6.Clarity of definitions of technical terms</i>										✓						
<i>16.7.Using concrete examples to illustrate concepts</i>										✓						
<i>16.8.Redundancy of terms and sentences with no educational benefit.</i>										✓						
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3																



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>31. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>31.1. Illustrations</i>			✓	
<i>31.2. Content</i>			✓	
<i>31.3. Activities</i>			✓	
<i>31.4. Practice Exercises</i>		✓		
<i>31.5. Assessment exercises</i>		✓		
<i>31.6. Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 4 (geometric patterns) the student is requested to find the number of hexagons in figure 18 given the first figures. Furthermore, most of the practice exercises are not connected to real-life. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

#### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities request the student to "identify" or "categorize". For example, given a shape, the student has to identify and describe it based on the number of sides and angles.

#### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the skills. Most of the activities do not involve the students in high level thinking. High level tasks are only found in student's textbook and not in the practice book. Around 3 high-level-questions, in most of the lessons, are presented at the end of the lesson (representing about 15% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, "look at the following figure, then describe how you can verify whether the shape has an axis of symmetry or not".

A small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in lesson 1 (solid shapes) students are involved in talking



about the similarities and differences between cones and pyramids.  
 There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, little evidence of involving students in justifying and explaining. For example, these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 3, there is a focus on learning the strategy: looking at a simpler strategy to solve the problem. The activity which was solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems. Thus, looking backwards is not requested.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>32. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
32.1. <i>Illustrations</i>				✓
32.2. <i>Content</i>				✓
32.3. <i>Activities</i>				✓
32.4. <i>Practice Exercises</i>				✓
32.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 3(semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 11: Fractions			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>28. Alignment of the translated texts to the philosophy of the original textbook</b>				
28.1. <i>Content of the Chapter</i>		✓		
28.2. <i>Activities included in the chapter</i>		✓		
28.3. <i>Learning objectives</i>		✓		
28.4. <i>Practice exercises</i>		✓		
28.5. <i>Assessment exercises</i>		✓		
28.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the Chapter and activities included in the chapter</u></p> <p>Several strategies may be used in a chapter; however, one <b>strategy</b> is used to solve most of the activities in one lesson in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, in lesson 5 (comparing fractions) an activity requests the students to use fractional models to compare three fractions.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented in lesson 3 (equal fractions): write the appropriate number in order to have equal fractions. This type of question was modeled at the beginning of the lesson.</p> <p>Students are rarely asked to justify or explain their response or to cooperate with others. Only about 3 exercises are listed at the end of each section under the title High-Level-Thinking-Questions. For example, at the end of lesson 3, a high-level-question is presented to the students as follows: provide an example of two fractions which are not equal, then draw a picture to justify your response.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The</p>				



definitions and procedures, to be learned during the lessons, are modeled at the beginning each section by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how to use models in order to find equal fractions (in lesson 3: equal fractions), the following activity (with the solution) is presented to the students: finding fractions equal  $\frac{1}{2}$ .

Little evidence of **connection to real-life situations** in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts. In most of the lessons, the number of activities that are not connected to real-life is much more than those connected to real-life situations. For example, in lesson 3 (equal fractions), all the activities are not connected to real-life situations. In only one lesson which focuses on employing a strategy (using a diagram to solve a problem), almost all the activities are connected to real-life situations.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives indicate that the students should learn how to compare fractions and put them in order.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 1 the student is requested to write the fraction corresponding to the model that is presented to the student. Furthermore, most of the practice exercises are not connected to real-life (in contrast to the philosophy of the original book). Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the fractional models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 1.5 Assessment exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. More than 50% of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, several exercises requested the student to find the fraction that is represented by a model or a figure.

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High-level-questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.



**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 15% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, three of the four given fractions are equal, identify the fraction which is not equal to the other three and explain.

Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, the following activity is presented to the students in lesson 3: "Given two non equal fractions and then draw a model to justify your answer".

Another type of activity, under the heading "high-level-thinking- questions", asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students were asked to write a real-life situation where they need to compare two fractions.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). For example, in lesson 1, students are requested to explain how to write a fraction representing a part of a whole.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems (lesson 4: drawing a figure to solve a problem). For example, in lesson 4, the activity which is solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems or to justify.



	CVI	CVI	CVI	CVI
<b>17. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>17.1.Length of sentences</i>			✓	
<i>17.2.Complexity of sentences</i>			✓	
<i>17.3.Diversity of language structures</i>			✓	
<i>17.4.Number of concepts per chapter</i>			✓	
<i>17.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>17.6.Clarity of definitions of technical terms</i>			✓	
<i>17.7.Using concrete examples to illustrate concepts</i>			✓	
<i>17.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>33. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>33.1. Illustrations</i>			✓	
<i>33.2. Content</i>			✓	
<i>33.3. Activities</i>			✓	
<i>33.4. Practice Exercises</i>		✓		
<i>33.5. Assessment exercises</i>		✓		
<i>33.6. Skills</i>		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 1 the student is requested to write the fraction corresponding to the model that is presented to the student. Furthermore, most of the practice exercises are not connected to real-life (in contrast to the philosophy of the original book). Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations (except the fractional models) are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

#### 3.5 Assessment exercises



Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. More than 50% of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Most of the assessment activities can be solved in a routine way. For example, several exercises requested the student to find the fraction that is represented by a model or a figure.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the skills. Most of the activities do not involve the students in high level thinking. High level tasks are only found in student's textbook and not in the practice book. The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 15% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, three of the four given fractions are equal, identify the fraction which is not equal to the other three and explain.

A small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in lesson 1 (fraction part of a whole), students are requested to explain how to write a fraction representing a part of a whole.

There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, little evidence of involving students in justifying and explaining.

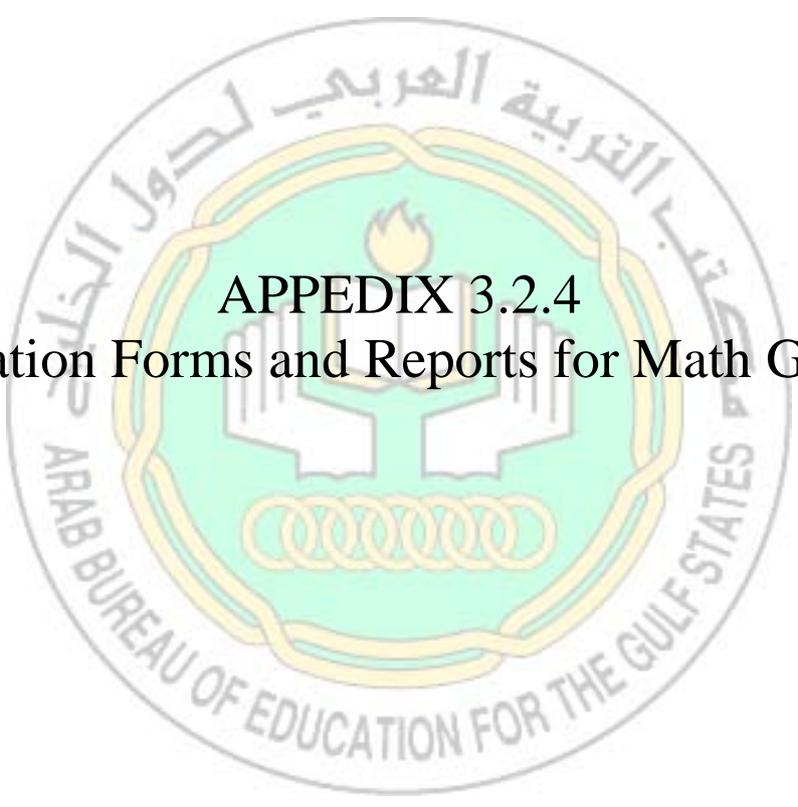
For example, these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems. For example, in lesson 4, the activity which is solved at the beginning of the lesson is modeled through 4 steps (understanding the problem, planning, solving the problem, looking backwards). However, in the unsolved activities there is no request to follow the 4 steps used to solve problems or to justify.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>34. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
34.1. <i>Illustrations</i>				✓
34.2. <i>Content</i>				✓
34.3. <i>Activities</i>				✓
34.4. <i>Practice Exercises</i>				✓
34.5. <i>Assessment exercises</i>				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.



Additional indicators and other comments.



**APPEDIX 3.2.4**  
**Evaluation Forms and Reports for Math Grade 4**



## Grade 4 – Math connects 4

### Tables of content

The chapters that are listed in the tables of contents of the original book and the translated book are the same. However, the titles in some of the chapters are different. In the original textbook there is emphasis on using verbs that reflect the philosophy of the book. However, in the translated version, most of the titles are not described by verbs. For example, in the original textbook there is a chapter entitled “solve addition and subtraction problems” whereas the same chapter in the Arabic version is entitled “addition and subtraction”.





<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 4 Semester: 1				
		Textbook Title: Math connects 4				
		Chapter Title: Solve Addition and Subtraction Problems				
		Completely different	large difference	Little difference	Difference due only to cultural reasons	No difference
<b>Criterion/Indicator</b>						
<b>29. Agreement of the translated Arabic book with that of the English book</b>						
29.1.	<i>Definitions and explanations in the chapter</i>					✓
29.2.	<i>Activities included in the chapter</i>		✓			
29.3.	<i>Learning objectives</i>			✓		
29.4.	<i>Practice exercises</i>			✓		
29.5.	<i>Assessment exercises</i>		✓			
29.6.	<i>Figures, pictures and illustrations</i>				✓	

Guidelines for filling this form:

21. One form is to be filled for each of the three books ( student, practice, teacher) for each semester
22. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
23. For the Table of Content (1.1), compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them, fill in the rubric
24. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. '2' for little difference
  - c. '3' difference due only to cultural context
  - d. '4' no difference
25. Check the appropriate box in the rubric based on the frequency of each value
26. Write a short report under the headings 1.1 to 1.6 and attach to it the copies of the coded table of content and the selected chapter.
- 27.



### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Solve Addition and Subtraction Problems” in both textbooks showed that there is no difference between the definitions and explanations in the chapter.

### 1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed large difference in the activities included in the chapter due to introducing several activities in the original book (including problem –solving activities, technology activities, and data-file activities) are not found in the translated textbook. For example, the activities in lesson 6 - entitled “**Problem-solving investigation** – Choosing the best strategy to solve the problem” in the original textbook are connected to real-life situations. This lesson also contains an activity with multiple questions and it involves students in “problem solving in science”. This lesson does not appear in the translated textbook.

Also, there are activities in the lessons which are found in both books that appear only in the original book. For example, “**Data file**” activity – involves students in several exercises – in lesson 4 (page 66) is found in the original book but does not appear in the translated book.

Also, there are 5 **problem-solving projects** that are found at the end of the original student textbook. Those projects are not found in the translated version of student textbook. Note that projects to be introduced to the students are found in the teacher textbook in the different chapters.

Missing also are “spiral review” activities which are found at the end of each lesson in the original textbook. These activities involve students in activities from previous chapters and previous lessons. The section “spiral review” is not found in the translated textbook.

There are **technology activities** which are found in the original textbook (page 68) but are not found in the original textbook. The technology activities in the original textbook are based on using the “Math Tool Chest” software and in this chapter they involve students in activities for lesson 4.

There are “**Real –World problem solving**” activities in the original textbook (lesson 5, page 74) which do not appear in the translated textbook.

### 1.3 Learning objectives

Although the objectives in the sections that appear in both versions are similar, there is little difference between the alignment of objectives in the original and translated textbooks. However, some objectives are written differently in the original and translated books. For example, the third objective in the original textbook states: “determine when to estimate or find an exact answer”. Whereas in the translated textbook the same objective indicates: “decide whether to provide an accurate answer or to estimate”.

### 1.4 Practice exercises

Inside the lessons, the practice exercises (exercises that are entitled “Practice”) found in both books are similar. However, at the end of the original textbook there are extra practice exercises for each lesson (Student Handbook – Built in Workbooks) which are not found in the translated textbook. On the other hand, there is an additional practice book in the translated collection of books that accompany each student textbook. For example, in grade 4, semester 1, there is a practice book which contains practice exercises for each lesson each of the chapters. The practice exercises in “Student Handbook – Built in Workbooks” and in “student practice book” are similar but are not formed of the same context.

### 1.5 Assessment



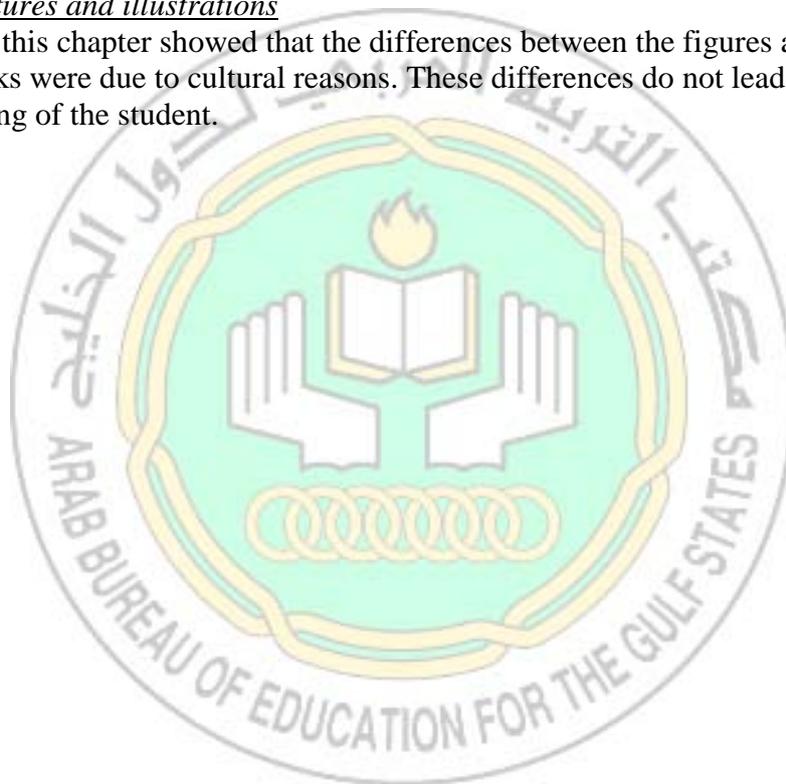
The assessment activities in the “chapter test” are similar, however some assessment activities and sections that are found in the original book are not found in the translated book. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 to 4” in the middle of the chapter and it includes several exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook.

Also, there is a section entitled “Study Guide and Review” which contains activities about all the lessons in this chapter. This section is not found in the translated textbook. Also, at the end of the chapter, there is a “**test practice**” **cumulative test** which covers chapters 1 and 2. This cumulative test is not found in the translated book. Note that in the translated book, 2 cumulative tests are introduced during the semester in contrast to the original book where at the end of each chapter there is a cumulative test.

Also, there is “test practice” section containing 2 activities in each lesson in the original textbook. These test practice activities are not found in the translated textbook.

### 1.6 Figures, pictures and illustrations

The analysis of this chapter showed that the differences between the figures and illustrations in both textbooks were due to cultural reasons. These differences do not lead to a change in the understanding of the student.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 4		Semester: 2		
		Textbook Title:				
		Chapter Title: Fractions				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>30. Agreement of the translated Arabic book with that of the English book</b>						
30.1. <i>Definitions and explanations in the chapter</i>						✓
30.2. <i>Activities included in the chapter</i>			✓			
30.3. <i>Learning objectives</i>				✓		
30.4. <i>Practice exercises</i>				✓		
30.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>31. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
31.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

28. One form is to be filled for each of the three books (student, practice, teacher) for each semester
29. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
30. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

31. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Use algebraic Expressions” in both textbooks showed that there is no difference between the definitions and explanations in the chapter.

### 1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed large difference in the activities included in the chapter. This is due to the existence of several important sections in the original textbook but are absent in the Arabic version. For example, problem solving investigation, problem –solving in Science, problem-solving projects are found in the original textbook but are absent in the translated textbook. For evidence, the section “problem solving in science” (pages 558-559) is in the original book but is missing from the translated version. On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons (except the existence of one section in the translated version that does not appear in the original one: “representing fractions on number lines” (pages 127-129).

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

### 1.3 Learning objectives

Although the objectives in the sections that appear in both versions are similar, there is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. For example, lesson 2: “Parts of a set” from the original textbook does not appear in the translated textbook. The objective in lesson 2 states: “I will identify, write, read, and model fractions for parts of a set”

### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed little difference between the exercises due to the appearance of lessons that are not introduced in the translated version. For example the lesson entitled: “Parts of a set” is introduced in the original textbook but it does not appear in the translated textbook. On the other hand, the practice-exercises in student handbook involve students in similar exercises in both versions. However, the contexts (size of the numbers) of the exercises are different.

Note that the practice exercises in student handbook in both versions are of low level.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar, the analysis of this chapter has showed large difference in the assessment exercises in both textbooks. This is due to the presence of some assessment sections in the original textbook which do not appear in



the original textbook. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 13-1 through 13-4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, there is a section entitled “Study Guide and Review” which contains activities about all the lessons in this chapter. This section is not found in the translated textbook. Also, there is “test practice” section and spiral review section in several lessons in the original textbook. These sections are not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of this chapter showed that the differences between the figures and illustrations in both textbooks were due to cultural reasons. These differences do not lead to a change in the understanding of the student.





### Report about mathematics textbooks in grade 4 first semester

The following report is an evaluation of math books in grade 4, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 3 – 1<sup>st</sup> semester – is divided into six chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 2: Addition and Subtraction; (2) Chapter 4: patterns and algebra; and (3) chapter 5: multiplication with a 1-digit number.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy focuses on several points. These points are discussed in the following paragraphs according to the analysis of the books:

- (1) Building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, in lesson 1 (properties of addition and subtraction) in chapter 2, most of the activities (more than 80%) are not related to real-life context.*
- (2) Showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book. Furthermore, no explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.*
- (3) Developing different types of skills including high level thinking and justifying or looking backwards– *the analysis showed that most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. In some lessons in student textbook there is a section entitled "high level task" that contains several activities written at the end of the lesson. The analysis showed that around 3 activities are categorized as High-Level-Thinking-Questions. For example, students are asked to write two numbers such that each one is formed of 5-digits and their sum is approximately 60,000. Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, in lesson 2, chapter 4, students are asked to use the numbers 13, 16 and 29 in*



two situations and then compare between them using  $<$ ,  $>$ , or  $=$ . Another type of activity categorized as “high-level-thinking-activities” presents two arguments and the students have to indicate why one argument is correct and the other argument is wrong. For example, the following activity is given in lesson 1 (algebra: properties of addition and rules of subtraction): Hassan and Majed were requested to give an example about the identity element of addition. Which one gave the correct example? Majed:  $2-2=0$ ; Hassan:  $0+3=3$ . Explain. A third type of activity asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students are asked, in lesson 7 of chapter 5, to write about a real-life situation involving the multiplication of a 3-digit number by a 1-digit number.

(4) Using different strategies to solve the mathematical activities and exercises - the analysis showed that students are taught several strategies throughout the chapter. However, students are requested to use one strategy when solving a problem. For example, in chapter 5 (multiplication with a 1-digit number), one way (the traditional way) is used to multiply 3 by 7000 or 7 by 100.

(5) Using technology in solving mathematical exercises - The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).

(6) Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - The analysis showed that most of the assessment exercises are of low-level, not related to real life context, and can be solved in a routine way. Also, students are not asked to solve the assessment exercises using more than one strategy. For example, in chapter 4 (patterns and algebra) the following activity: “find the value of the expression  $b+4$  given that  $b=6$ ” is presented in the assessment.

(7) The central and active role of the student in the learning process – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. Also, the different steps that are followed to accomplish the activities are shown at the beginning of the book. For example, to teach the students how to multiply one-digit-number by 10, an example is given at the beginning of the lesson.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students in all the indicators except the one concerning the “diversity of language structures”. Seven of the eight indicators in the rubric showed “almost satisfactory evidence” in the different chapters that are analyzed: (1) length of the sentences, (2) complexity of sentences; (3) number of concepts per chapter, (4) reuse of technical terms in subsequent lessons; (5) clarity of definitions of technical words; (6) redundancy of terms and sentences with no educational benefit; and (7) using concrete examples to illustrate concepts. As for the “diversity of language structures”, the analysis showed that there is “little evidence” of the suitability of the Arabic language in this indicator. There is a repetition of the same structure of questions in several places throughout chapters. Specifically, the “if questions” having the following structure: if – verb – ... – how much would ... “If questions” are repeated in many word problems. For example, on page 24 in student textbook, the following exercise has the structure of the “if question”: “a person climbed Mount Everest where the altitude is 8850 meters. **If the person** climbs the hill and then gets down, approximately **how many** meters did he go?”

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, other indicators such as practice exercises; assessment



exercises and skills showed little evidence. The reasons which showed little evidence for those indicators may be due to several reasons:

(1) Most of the practice exercises are direct applications and can be solved in a routine way. For example, most of the exercises in lesson 2 (estimating the sum or difference) involve the students in estimating the sum or difference of two numbers. Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises;

(2) Most of the assessment activities are of low level and can be solved in a routine way. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. For example, one of the following exercises involved students in giving a numerical answer: “find the answer for the following multiplication exercises:  $4 \times 226$ ”. This is a prototype exercise.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 6 (subtraction and using 0) are involved in determining a correct solution given two solutions to a subtraction problem. Students in such an activity do not need procedures other than the ones used in the lesson. Also, a small number of activities request the student to describe a mathematical situation (talk about or write about). For example, in chapter 2, in lesson 2 (estimate the sum and difference), students are asked to write about an example where estimation is better than accurate calculation.

There is no evidence of group work since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, there is little evidence of involving students in justifying and explaining. For example, these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems.

#### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



### Report about mathematics textbooks in grade 4 second semester

The following report is an evaluation of math books in grade 4, 2<sup>nd</sup> semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 3 – 2<sup>nd</sup> semester – is divided into six chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 7: Division by one digit number; (2) Chapter 8: Identifying and describing Geometrical shapes; and (3) chapter 11: Fractions.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, objectives, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book that is stated at the beginning of student textbook and is based on the central role of the student in the learning process. The emphasis of the philosophy focuses on several points. These points are discussed in the following paragraphs according to the analysis of the books:

- (1) Building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations. For example, in lesson 1, in chapter 8 (three dimension shapes), students are presented with different geometrical shapes; however almost all these shapes are not connected to real-life shapes.*
- (2) Showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book. Furthermore, no explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.*
- (3) Developing different types of skills including high level thinking and justifying or looking backwards– *the analysis showed that most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. In some lessons in student textbook there is a section entitled "high level task" that contains several activities written at the end of the lesson. The analysis showed that around 3 activities are categorized as High-Level-Thinking-Questions (less than 15% of the total number of activities in each lesson). Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, one of the questions in chapter*



11 - lesson six (mixed fractions), requests the students to choose three fractions which are less than  $1/2$ . Another type of activities under the heading “high-level-thinking-activities” involves students in choosing one of two given arguments or solutions. Thus, the students are presented with two arguments and they have to indicate why one argument is correct and the other argument is wrong. For example, a question in lesson 6, requests the students to identify a mistake. Students are presented by two improper forms of the mixed fraction  $4 \frac{3}{5}$ . Students had to choose one of the answers and explain why it is the correct one. A third type of questions under the heading “high-level-thinking-activities” involves students in writing. For example, in lesson 5, students are requested to explain whether  $\frac{3}{4}$  is smaller or larger than  $\frac{3}{5}$ .

(4) Using different strategies to solve the mathematical activities and exercises - *the analysis showed that students are taught several strategies throughout the chapters. For example, in chapter 7 two strategies were shown at the beginning of two lessons. One of the strategies involves students on looking at a pattern, when multiplying, in order to do division while the other strategy involves students in looking at division facts. However, one strategy (the traditional way) is used to solve most of the activities in the other lessons in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, one way (the traditional way) is used to divide 62 by 2.*

(5) Using technology in solving mathematical exercises - *The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).*

(6) Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - *The analysis showed that most of the assessment exercises are of low-level, not related to real life context, and can be solved in a routine way. Also, students are not asked to solve the assessment exercises using more than one strategy. For example, in chapter 11, one of the prototype questions requests the student to compare two fractions; another prototype question requests the students to change the mixed fraction into improper fraction.*

(7) The central and active role of the student in the learning process – *the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. Also, the different steps that are followed to accomplish the activities are shown at the beginning of the book. For example, to teach the students about identifying triangles according to the interior angles, three triangles were shown to the students: (1) right triangle; (2) acute triangle; and (3) obtuse triangle.*

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students. The rubric contained eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts. The analysis showed that there is almost satisfactory evidence of the suitability of the Arabic language in each of these indicators.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:** Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, the other indicators: practice exercises; assessment exercises and skills showed little evidence. The reasons which showed little evidence for those indicators may be due to several reasons:



(1) Most of the practice exercises are direct applications and can be solved in a routine way. Most, if not all, of the practice exercises are direct applications categorized as low level since the focus is on identifying or naming the shapes. For example, in lesson 2, the question asked the students to “name the following closed geometric shapes”. Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

(2) Most of the assessment activities are of low level and can be solved in a routine way. Most of the assessment exercises are not related to real life context in contrast to the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. For example, in chapter 7, most of the assessment exercises request the student to give a numerical answer. For example, find the following division: 45 by 2.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson.

The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, one of the questions in lesson six (mixed fractions) – chapter 11 – requests the students to choose three fractions which are less than  $\frac{1}{2}$ .

There is no evidence of group work since there are no tasks written in student’s textbook or practice book which require the students to work in groups. Also, there is little evidence of involving students in justifying and explaining. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems.

#### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 4 (semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 8 Identifying and describing Geometrical shapes			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>32. Alignment of the translated texts to the philosophy of the original textbook</b>				
32.1. <i>Content of the Chapter</i>		✓		
32.2. <i>Activities included in the chapter</i>		✓		
32.3. <i>Learning objectives</i>	✓			
32.4. <i>Practice exercises</i>	✓			
32.5. <i>Assessment exercises</i>	✓			
32.6. <i>Skills</i>	✓			
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the chapter and Activities included in the chapter</u></p> <p>Little evidence of connection to real-life situations in contrast to the philosophy of the book which emphasis on involving students in developing mathematical thinking through solving mathematical activities connected to real-life contexts. For example, in lesson 1: three dimension shapes: the student is presented with different geometrical shapes; however almost all these shapes are not connected to real-life shapes.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter are of low level where the student has to identify shapes. For example, the following activity was presented at the beginning of lesson 2 (two dimension shapes) of this chapter: Name each of the following shapes, name each From the questions of the book, we can infer that students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level- Thinking. For example, at the end of lesson 2, a high-level-question is presented to the students as follows: Faissal and Zeyad have drawn a quadrilateral, which one of them is correct?.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in</p>				



contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and names of shapes are explained at the beginning each lesson. For example, to teach the students about identifying triangles according to the interior angles, three triangles were shown to the students: (1) right triangle; (2) acute triangle; and (3) obtuse triangle.

### 1.3 Learning objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives in this chapter indicates that students should be able to identify angles. No further indications are listed concerning skills, technology, strategies, etc.

### 1.4 Practice exercises

No evidence of (1) connection to real-life situations; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; (5) using technology; and (6) the central role of the students in the learning process. For example, in lesson 5, students are asked to identify each of the triangles according to the angles and sides. Also, the practice exercises are presented in a non-motivating, in contrast to the philosophy of the book, where no real-life illustrations are associated to the exercises. On the other hand, one line space is given to almost all the practice exercises which indicate to the student that no explanation or justification is required.

### 1.5 Assessment exercises

No evidence of (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. All of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested since most of the exercises request the student to identify a specific shape according to either the measurement of the angles or sides.

### 1.6 Skills

In the philosophy of the book, the following skills are listed: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. According to the philosophy of the book, students should be involved in developing these skills by playing an active and central role in the learning process.

Analysis of the chapter indicates:

***Little evidence of “High level thinking questions”.*** High level tasks are only found in student's textbook and not in the practice book. The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, draw a triangle having right angle but different sides, and another triangle with obtuse angle



and two equal sides.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write and explain (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). For example, in lesson 5 (triangles) the student is requested to write about: if the sum of the length of two sides of an equilateral triangle is 6 cm, how long is the length of the third side. Explain.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. Most of the activities request the student to identify or provide a name of geometrical shapes or draw a shape. For example, in lesson 2 (two dimension shape) draw a closed shape and name it.

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<b>18. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>18.1.Length of sentences</i>			✓	
<i>18.2.Complexity of sentences</i>			✓	
<i>18.3.Diversity of language structures</i>			✓	
<i>18.4.Number of concepts per chapter</i>			✓	
<i>18.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>18.6.Clarity of definitions of technical terms</i>			✓	
<i>18.7.Using concrete examples to illustrate concepts</i>			✓	
<i>18.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>35. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>35.1. Illustrations</i>			✓	
<i>35.2. Content</i>			✓	
<i>35.3. Activities</i>			✓	
<i>35.4. Practice Exercises</i>		✓		
<i>35.5. Assessment exercises</i>		✓		
<i>35.6. Skills</i>		✓		



Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice Exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most, if not all, of the practice exercises are direct applications categorized as low level since the focus is on identifying or naming the shapes. For example, in lesson 2, the question asked the students to “name the following closed geometric shapes”.

Furthermore, most of the practice exercises are not connected to real-life. On the other hand, the practice exercises are presented in a non-motivating way where no real-life illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook.

The student is only required to name or identify a shape with no further justifications or explanations and one line space is given almost all the practice exercises.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. All of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested since most of the exercises request the student to identify a specific shape according to either the measurement of the angles or sides.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the development of skills (high level thinking, communication, mathematical sense).

The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson in student textbook (around 20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, draw a triangle having right angle but different sides, and another triangle with obtuse angle and two equal sides.

There are no tasks written in student's textbook or practice book which require the students to work in groups. Also, a small number of tasks request the student to write and explain (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). For example, in lesson 5 (triangles) the student is requested to write about: if the sum of the length of two sides of an equilateral triangle is 6 cm, how long is the length of the third side. Explain.

There is no emphasis on justification or looking backward when solving a problem. Most of the activities request the student to identify or provide a name of geometrical shapes or draw a shape. For example, in lesson 2(two dimension shape) draw a closed shape and name it.



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>36. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
36.1. <i>Illustrations</i>				✓
36.2. <i>Content</i>				✓
36.3. <i>Activities</i>				✓
36.4. <i>Practice Exercises</i>				✓
36.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 4 (semester 1)			
	Textbook Title:			
	Chapter Title: Addition and Subtraction			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>33. Alignment of the translated texts to the philosophy of the original textbook</b>				
33.1. <i>Content of the Chapter</i>		✓		
33.2. <i>Activities included in the chapter</i>		✓		
33.3. <i>Learning objectives</i>		✓		
33.4. <i>Practice exercises</i>		✓		
33.5. <i>Assessment exercises</i>		✓		
33.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u>            Even though several <b>strategies</b> may be shown in a chapter, one <b>strategy</b> is used to solve most of the activities in each lesson in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. Some examples of how to add or subtract are shown at the beginning of each lesson in the chapter. One strategy is used in each lesson.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications limited to the procedure learned at the beginning of each lesson. For example, in lesson 2 (estimating addition and subtraction) an activity is presented and solved at the beginning of the lesson. Most of the other activities presented in the lesson could be solved in a similar manner.</p> <p>Writing and communicating or high level thinking are stated in the philosophy of the book as skills to be developed by the students. However, only 3 to 4 exercises are listed at the end of each section under the title High-Level- Thinking which may involve the development of these skills.</p> <p>Little evidence of the central and active role of the student in the learning process since definitions and procedures of calculation are explained at the beginning each section. The</p>				



central and active role of the student is highlighted in the philosophy of the textbook.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn how to estimate the sum or difference.

### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, most of the exercises in lesson 2 (estimating the sum or difference) involve the students in estimating the sum or difference of two numbers.

Furthermore, most of the practice exercises are not connected to real-life. For example, in lesson 1 (properties of addition and rules of subtraction), all the exercises are not connected to real-life situations.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 4 (addition), most of the exercises request the student to add and find the answer. No questions are asked in to involve the students in justifying.

### 1.5 Assessment

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, the following exercise is given in the assessment: "subtract then check up the answer using addition:  $612-430$ ".

Only one exercise asks the student to explain, by writing, a specific process.

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in student's textbook and not in the practice book. Some of these questions are open-ended question where students may provide different answers. For example, in lesson 2, students are requested to write two numbers such that when rounded to the nearest thousand their sum is 0. Other questions involve students in choosing one out of two arguments and indicate why it is correct and the other is wrong. For example, the following activity is given in lesson 1 (algebra: properties of addition and rules of subtraction): Hassan and Majed were requested to give an example about



the identity element of addition. Which one gave the correct example? Majed:  $2-2=0$ ; Hassan:  $0+3=3$ . Explain

A third type of high-level-questions involves students in writing a story about a specific situation where the concept or procedure being taught in the lesson should be used in the story. For example, in lesson 2, estimating the sum and difference, the students are involved in writing about a real-life example where estimation is used and its usage is better than doing the accurate calculation.

The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, students in lesson 6(subtraction and using 0) are involved in determining a correct solution given two solutions to a subtraction problem.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (this may be found at the end of the chapter where the student is requested to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 2 (estimate the sum and difference), students are asked to write about an example where estimation is better than using accurate calculation.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title : high level thinking skills

	e	nc	de	cvi	e	nc	de	cvi	e	nc	de	cvi
<b>19. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>												
<i>19.1.Length of sentences</i>									✓			
<i>19.2.Complexity of sentences</i>									✓			
<i>19.3.Diversity of language structures</i>					✓							
<i>19.4.Number of concepts per chapter</i>									✓			
<i>19.5.Reuse of technical terms in subsequent lessons and chapters</i>									✓			
<i>19.6.Clarity of definitions of technical terms</i>									✓			
<i>19.7.Using concrete examples to illustrate concepts</i>									✓			
<i>19.8.Redundancy of terms and sentences with no educational benefit.</i>									✓			
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3												
<u>2.3 Diversity of language structures</u>												
The “if questions” having the following structure: if – verb – ... – how much would ... “If												



questions” are repeated in many word problems. For example on page 24 in student textbook, the following exercise has the structure of the “if question”: a person climbed mount Everest where the altitude is 8850 meters. **If the person** climbs the hill and then gets down, approximately **how many** meters did he go?

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>37. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
37.1. <i>Illustrations</i>			✓	
37.2. <i>Content</i>			✓	
37.3. <i>Activities</i>			✓	
37.4. <i>Practice Exercises</i>		✓		
37.5. <i>Assessment exercises</i>		✓		
37.6. <i>Skills</i>		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice Exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are similar to the activities listed in the student-textbook. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, most of the exercises in lesson 2 (estimating the sum or difference) involve the students in estimating the sum or difference of two numbers.

Furthermore, most of the practice exercises are not connected to real-life. For example, in lesson 1 (properties of addition and rules of subtraction), all the exercises are not connected to real-life situations.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 4 (addition), most of the exercises request the student to add and find the answer. No questions are asked in to involve the students in justifying.

#### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, the following exercise is given in the assessment: “subtract then check up the answer using addition:  $612-430$ ”. Only one exercise asks the student to explain, by writing, a specific process.

#### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve



the skills. The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson in student textbook. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, students in lesson 6(subtraction and using 0) are involved in determining a correct solution given two solutions to a subtraction problem.

There are no tasks written in student’s textbook or practice book which request the students to work in groups. A small number of tasks request the student to write (this may be found at the end of the chapter where the student is requested to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 2 (estimate the sum and difference), students are asked to write about an example where estimation is better than accurate calculation.

There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title: high level thinking skills.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>38. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
38.1. <i>Illustrations</i>				✓
38.2. <i>Content</i>				✓
38.3. <i>Activities</i>				✓
38.4. <i>Practice Exercises</i>				✓
38.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 4 (semester 1)			
	Textbook Title:			
	Chapter Title: algebra and Patterns			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>34. Alignment of the translated texts to the philosophy of the original textbook</b>				
34.1. <i>Content of the Chapter</i>		✓		
34.2. <i>Activities included in the chapter</i>		✓		
34.3. <i>Learning objectives</i>		✓		
34.4. <i>Practice exercises</i>		✓		
34.5. <i>Assessment exercises</i>		✓		
34.6. <i>Skills</i>		✓		
<p>Illustrate by at least one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications limited to the procedure learned at the beginning of each lesson. For example, in lesson 2(numeric expressions and sentences) an activity is presented and solved at the beginning of the lesson. Most of the other activities presented in the lesson could be solved in a similar manner.</p> <p>Writing and communicating or high level thinking are stated in the philosophy of the book as skills to be developed by the students. However, only 3 to 4 exercises are listed at the end of each section under the title High-Level-Thinking which may involve the development of these skills.</p> <p>Little evidence of the central and active role of the student in the learning process since definitions and procedures of calculation are explained at the beginning each section. The central and active role of the student is highlighted in the philosophy of the textbook.</p> <p><u>1.3 Learning Objectives</u></p> <p>The learning objectives focus on what students should learn as concepts and procedures in the</p>				



chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives in this chapter indicates that students will learn how to solve mathematical problems by representing them by expressions.

#### 1.4 Practice Exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). The practice exercises are similar to the activities listed in the student-textbook. For example, given two column tables (in lesson 4) the students should discover the rule and continue filling the table.

Furthermore, most of the practice exercises are not connected to real-life in some lessons. For example, in lesson 8 (algebraic expressions), 13 out of 16 exercises are not connected to real-life situations.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 2 (numeric expressions and sentences), most of the exercises request the student write a numeric expression or a numeric sentence. No questions are asked in to involve the students in justifying.

#### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, students are engaged in the following activity: "find the value of the expression  $b+4$  given that  $b=6$ ". Only one exercise asks the student to explain, by writing, a specific process.

#### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in student's textbook and not in the practice book. Those questions are in the form of open-ended questions and students may provide different answers. *For example, in lesson 2, chapter 4, students are asked to use the numbers 13, 16 and 29 in two situations and then compare between them using  $<$ ,  $>$ , or  $=$ .* Other high-level questions involve students in identifying one out of two arguments and indicate why it is correct and the other is wrong. For example, "Abdallah and Abd el Rouhman wrote numeric expressions. Which one is correct? Explain why. Abdallah: 8-40-56. Abdel Rouhman: 48-56.

Another type under the title high level is the type of questions that asks the student to write a story about a specific situation where the concept learned in the lesson should be used in the



story. For example, in lesson 2 (numeric expressions), students are requested to write about a real-life situation where subtraction is needed to solve the situation.

The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson. Those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, in lesson 7 (tables of multiplication and division) students are requested to find the missing number in the expression ... +3=8.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 1, students are involved in the following activity: write a situation from real-life which includes a numeric equation formed of several numbers.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title : high level thinking skills

	e nc de cvt	e nc de cvt	e nc de cvt	e nc de cvt
<b>20. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
20.1.Length of sentences			✓	
20.2.Complexity of sentences			✓	
20.3.Diversity of language structures		✓		
20.4.Number of concepts per chapter			✓	
20.5.Reuse of technical terms in subsequent lessons and chapters			✓	
20.6.Clarity of definitions of technical terms			✓	
20.7.Using concrete examples to illustrate concepts			✓	
20.8.Redundancy of terms and sentences with no educational benefit.			✓	

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

2.3 Diversity of language structures

The “if questions” having the following structure: if – verb – ... – how much would ... “If questions” are repeated in many word problems. For example on page 27 in student practice book, the following exercise has the structure of the “if question”: A fisherman gets 10 fish in one day. **If** the fisherman eats 3 fish on breakfast and 3 fish during the dinner. **How many** fish does the fisherman have to eat at night?





	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>39. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
39.1. <i>Illustrations</i>			✓	
39.2. <i>Content</i>			✓	
39.3. <i>Activities</i>			✓	
39.4. <i>Practice Exercises</i>		✓		
39.5. <i>Assessment exercises</i>		✓		
39.6. <i>Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice Exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are similar to the activities listed in the student-textbook. The practice exercises are similar to the activities listed in the student-textbook. Most of the practice exercises are direct applications and can be solved in a routine way. For example, given two column tables (in lesson 4) the students should discover the rule and continue filling the table. This activity is a direct application in lesson 4.

Furthermore, most of the practice exercises are not connected to real-life in some lessons. For example, in lesson 8 (algebraic expressions), 13 out of 16 exercises are not connected to real-life situations.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 2 (numeric expressions and sentences), most of the exercises request the student write a numeric expression or a numeric sentence. No questions are asked in to involve the students in justifying.

#### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises do not include high-level thinking questions. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. For example, students are engaged in the following activity: “find the value of the expression  $b+4$  given that  $b=6$ ” which is a direct application and low level task.

Only one exercise asks the student to explain, by writing, a specific process.

#### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson. Those questions are not of high level since the task can be solved in a routine way and the students will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For



example, in lesson 7 (tables of multiplication and division) students are requested to find the missing number in the expression ... +3=8.

There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 1, students are involved in the following activity: write a situation from real-life which includes a numeric equation formed of several numbers.

There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title : high level thinking skills.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>40. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
40.1. <i>Illustrations</i>				✓
40.2. <i>Content</i>				✓
40.3. <i>Activities</i>				✓
40.4. <i>Practice Exercises</i>				✓
40.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 4 (semester 1)			
	Textbook Title:			
	Chapter Title: Multiplication by one digit			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>35. Alignment of the translated texts to the philosophy of the original textbook</b>				
35.1. <i>Content of the Chapter</i>		✓		
35.2. <i>Activities included in the chapter</i>		✓		
35.3. <i>Learning objectives</i>		✓		
35.4. <i>Practice exercises</i>		✓		
35.5. <i>Assessment exercises</i>		✓		
35.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and Activities</u></p> <p>Even though several strategies may be shown in a chapter, one <b>strategy</b> is used to solve most of the activities in each lesson in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, one way (the traditional way) is used to multiply 3 by 7000 or 7 by 100.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes these skills. Only 3 to 4 exercises are listed at the end of each section under the title High-Level- Thinking. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. From the questions of the book, we can infer that students are rarely asked to justify or explain their response or to cooperate with others. Most of the activities in the chapter are direct applications to the procedure learned at the beginning of each section. For example, the first section of this chapter focuses on multiplying one-digit-number by 10, 100 or 1000. For the students to answer most of the questions, they need to apply the multiplication procedure of one-digit-number by 10 or 100 or 1000.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are explained at the beginning each</p>				



section by giving different solved examples. For example, to teach the students how to multiply one-digit-number by 10 an example is given at the beginning of the lesson.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives of this chapter is that students will learn how to multiply one-digit-number with 10 or 100 or 1000.

### 1.4 Practice Exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. Most of the practice exercises are direct applications, can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and are similar to the activities listed in the student-textbook. For example, in lesson 3 (estimating multiplication), students are requested to estimate the multiplication of two numbers.

Furthermore, most of the practice exercises are not connected to real-life. For example, in lesson 4 (multiplying a 2-digit number with a 1-digit number) 21 out of 25 exercises are not related to real-life contexts.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 4 (multiplying a number formed of two digits by a number formed of one digit), most of the exercises involve students in multiplying two numbers. No questions are asked that involve the students in justifying.

### 1.5 Assessment

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. Only two exercises request the student to provide an explanation. The other exercises request the student to give a numerical answer. For example, one of the following exercises involved students in giving a numerical answer: "find the answer for the following multiplication exercises:  $4 \times 226$ "

### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. Some of the high-level-questions are in the form of



open-ended questions where students are able to provide different answers. For example, students are involved in the following activity: write a number such that if it is multiplied by 3 it will give less than 100. In other questions, two arguments are provided to the students and they have to indicate why one argument is correct and the other argument is wrong. For example, Fahed and Khaled have solved the following multiplication problem:  $2 \times 362$ . Which answer is correct? Khaled 624; Fahed 724. A third type of questions, under the heading high-level-thinking- questions, asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, students are asked in lesson 7 to write about a real-life situation involving the multiplication of a 3-digit number by a 1-digit number.

The total number of high-level-questions, in each lesson, does not exceed 4 and these questions are written at the end of the lesson. Those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, in the lesson “multiplying one-digit-number by a large number”, one of the high-level-thinking-questions asked the students to think of a 4-digit-number and a 1-digit-number so that their multiplication would give a number between 6000 and 6200.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write a story about a real life situation and to use the procedure being studied in the lesson). Write about a real-life situation where you multiply a 3-digit number with a 1-digit number.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title : high-level-thinking questions

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>21. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>21.1.Length of sentences</i>			✓	
<i>21.2.Complexity of sentences</i>			✓	
<i>21.3.Diversity of language structures</i>			✓	
<i>21.4.Number of concepts per chapter</i>			✓	
<i>21.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>21.6.Clarity of definitions of technical terms</i>			✓	
<i>21.7.Using concrete examples to illustrate concepts</i>			✓	
<i>21.8.Redundancy of terms and sentences</i>			✓	



<i>with no educational benefit.</i>				
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>41. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
41.1. Illustrations			✓	
41.2. Content			✓	
41.3. Activities			✓	
41.4. Practice Exercises		✓		
41.5. Assessment exercises		✓		
41.6. Skills		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice Exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way and the students would not be involved in high-level-thinking. Justification or usage of different strategies is not requested in most of the practice-exercises. For example, in lesson 3 (estimating multiplication), students are requested to estimate the multiplication of two numbers.

Furthermore, most of the practice exercises are not connected to real-life. For example, in lesson 4 (multiplying a 2-digit number with a 1-digit number) 21 out of 25 exercises are not related to real-life contexts.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook.

In addition, no explanation or justification is required from the students. For example, in lesson 4 (multiplying a number formed of two digits by a number formed of one digit), most of the exercises involve students in multiplying two numbers. No questions are asked that involve the students in justifying.

### 3.5 Assessment

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. Only two exercises request the student to provide an explanation. The other exercises request the student to give a numerical answer. For example, one of the following exercises involved students in giving a numerical answer: “find the answer for the following multiplication exercises:  $4 \times 226$ ”

### 1.6 Skills



Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The total number of high-level-questions, in each lesson, does not exceed 4 and these questions are written at the end of the lesson. Those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, in the lesson “multiplying one-digit-number by a large number”, one of the high-level-thinking-questions asked the students to think of a 4-digit-number and a 1-digit-number so that their multiplication would give a number between 6000 and 6200.

There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write a story about a real life situation and to use the procedure being studied in the lesson). Write about a real-life situation where you multiply a 3-digit number with a 1-digit number.

There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title : high-level-thinking questions

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>42. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
42.1. <i>Illustrations</i>				✓
42.2. <i>Content</i>				✓
42.3. <i>Activities</i>				✓
42.4. <i>Practice Exercises</i>				✓
42.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 4 (semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 7: Division by one digit number			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>36. Alignment of the translated texts to the philosophy of the original textbook</b>				
36.1. <i>Content of the Chapter</i>		✓		
36.2. <i>Activities included in the chapter</i>		✓		
36.3. <i>Learning objectives</i>		✓		
36.4. <i>Practice exercises</i>		✓		
36.5. <i>Assessment exercises</i>		✓		
36.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and Activities</u></p> <p>In two out of eight lessons, two strategies were shown at the beginning each of those lesson. One of the strategies to do division is based on looking at a pattern when multiplying whereas the other is based on division facts. However, one <b>strategy</b> (the traditional way) is used to solve most of the activities in the other lessons in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, one way (the traditional way) is used to divide 62 by 2.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, the following activity was presented at the beginning of lesson 4 (estimating the result of division) of this chapter: a truck passes a distance 642 Km during 8 hours. Approximately, how many kilometers does it pass during one hour? After showing the solution and the different steps. Similar activities (real-world context and non real-world context) are presented to the students.</p> <p>From the questions of the book, we can infer that students are rarely asked to justify or explain</p>				



their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level- Thinking. For example, at the end of lesson 4, a high-level-question is presented to the students as follows: is estimating the division of “5425 by 6” by using “5400 divided by 6” gives an approximate answer bigger or smaller than the real division. Explain.

Little evidence of the **central and active role of the student** in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are explained at the beginning each section by presenting to the students activities which are solved and the different steps are shown. For example, to teach the students how to estimate a division, the following activity is presented to the students: a truck passes a distance 642 Km during 8 hours. Approximately, how many kilometers does it pass during one hour? After showing the solution and the different steps. The solution, with the different steps, is presented to the students.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives of this chapter is that students should learn how to divide two-digit numbers, three-digit numbers and four-digit numbers by a one-digit number.

### 1.4 Practice Exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. The practice exercises are similar to the activities listed in the student-textbook. Also, these exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson one a typical exercise would ask the student to perform a division such as “find 56 divided by 6”.

Furthermore, most of the practice exercises are not connected to real-life. On the other hand, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook.

One line space is given to almost all the practice exercises which indicate to the student that no explanation or justification is required.

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. Only one assessment exercises request the student to provide an explanation. The other exercises request the student to give a numerical answer. For example, find the following division: 45 by 2.



### 1.6 Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** High level tasks are only found in student's textbook and not in the practice book. The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures).

Some of the high-level-questions are in the form of open-ended questions where students are able to provide different answers. For example, the following activity is presented to the students in lesson 8: "Provide a 3-digit number such that when divided by 6 the answer will be a 3-digit number and the tenth place value is 0".

Other type of activities under the heading "high-level-thinking-activities" present two arguments to the students and they have to indicate why one argument is correct and the other argument is wrong. For example, the following activity is presented to the students in lesson 5: "Ali and Massoud divided 53 by 3, as explained in the following procedures. Which one has the correct answer? Explain.

A third type of activity, under the heading "high-level-thinking- questions", asks the student to write a story about a specific situation and to apply the procedure being learned in the lesson. For example, write a real-life situation where you need to divide a 3-digit number by a 1-digit number and the result should be 2-digit number with a remainder.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson).

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. This skill is only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions. For example, the following activity was presented to the students at the end of lesson 1: when you divide a number by 6, would the remainder be 6. Explain your answer.



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>22. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>22.1.Length of sentences</i>			✓	
<i>22.2.Complexity of sentences</i>			✓	
<i>22.3.Diversity of language structures</i>			✓	
<i>22.4.Number of concepts per chapter</i>			✓	
<i>22.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>22.6.Clarity of definitions of technical terms</i>			✓	
<i>22.7.Using concrete examples to illustrate concepts</i>			✓	
<i>22.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>43. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>43.1. Illustrations</i>			✓	
<i>43.2. Content</i>			✓	
<i>43.3. Activities</i>			✓	
<i>43.4. Practice Exercises</i>		✓		
<i>43.5. Assessment exercises</i>		✓		
<i>43.6. Skills</i>		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<p><u>3.4 Practice Exercises</u></p> <p>Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are similar to the activities listed in the student-textbook. Also, these exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, in lesson 1, a typical exercise would ask the student to perform a division such as “find 56 divided by 6”. Furthermore, most of the practice exercises are not connected to real-life. On the other hand, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook.</p> <p>One line space is given to almost all the practice exercises. Thus, the student does not have</p>				



enough space to explain and/or justify. The student is only required to apply a procedure and get a numerical answer.

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are not related to real life context. Also, students are not requested to use more than one strategy to solve some of the assessment exercises. Furthermore, no high-level thinking questions are requested. Only one assessment exercise requests the student to provide an explanation. The other exercises request the student to give a numerical answer. For example, find the following division: 45 by 2.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the development of skills (high level thinking, communication, mathematical sense).

The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures).

The analysis showed little evidence to skills of communication since there are no tasks written in student's textbook or practice book which require the students to work in groups. Also, a small number of tasks request the student to write (which may be found at the end of the chapter where the student is requested to write a story about a real life situation and to use the procedure being studied in the lesson). The analysis also showed little evidence to skills of mathematical sense. There is no emphasis on justification or looking backward when solving a problem. This skill is only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions. For example, the following activity was presented to the students at the end of lesson 1: when you divide a number by 6, would the remainder be 6. Explain your answer.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>44. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
44.1. <i>Illustrations</i>				✓
44.2. <i>Content</i>				✓
44.3. <i>Activities</i>				✓
44.4. <i>Practice Exercises</i>				✓
44.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 4 (semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 11 Fractions			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>37. Alignment of the translated texts to the philosophy of the original textbook</b>				
37.1. <i>Content of the Chapter</i>				
37.2. <i>Activities included in the chapter</i>				
37.3. <i>Learning objectives</i>				
37.4. <i>Practice exercises</i>				
37.5. <i>Assessment exercises</i>				
37.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the chapter and Activities included in the chapter</u>            Little evidence of connection to real-life situations (more than 50% of the activities are not connected to real-life situations) in contrast to the philosophy of the book which emphasis on involving students in developing mathematical thinking through solving mathematical activities connected to real-life contexts. For example, in lesson 6 (mixed numbers), one of the typical activities request the students to write the following as mixed numbers or fractional numbers.</p> <p>Several strategies are shown throughout the chapter to solve the activities. Also, two strategies are taught in two lessons: (1) Using diagrams to solve problems and (2) choosing the best strategy to solve a problem. However, in the other lessons, students are not requested to use more than one strategy when doing the activities in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems. For example, students are not asked to use more than one strategy in the following activity: “organize the fractions from smallest to largest: <math>\frac{4}{6}</math>, <math>\frac{1}{3}</math>, and <math>\frac{3}{3}</math>”</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. For example, in lesson 5, the following activity requests the students to “compare between the following fractions: <math>\frac{3}{4}</math> and <math>\frac{1}{2}</math>”</p> <p>From the questions of the book, we can infer that students are rarely asked to justify or explain</p>				



their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level- Thinking. For example, “explain how do you decide whether  $\frac{3}{4}$  is smaller or larger than  $\frac{3}{5}$ ?”

Little evidence of the **central and active role of the student** in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures are explained at the beginning each lesson. For example, in lesson 4 (equal fractions), a real-life activity with its solution are presented at the beginning of the lesson.

### 1.3 Learning objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives is listed as follows: students will learn how to compare and organize fractions.

### 1.4 Practice exercises

No evidence of (1) connection to real-life situations; (2) developing skills (including high level thinking and writing); (3) using different strategies to solve a problem; (4) using technology; and (5) the central role of the students in the learning process. For example, one of the typical questions in lesson 6 (mixed fractions) requests the students to write the mixed fractions in the form of improper fractions. Also, the practice exercises are presented in a non-motivating, in contrast to the philosophy of the book, where no real-life illustrations are associated to the exercises. On the other hand, one line space is given to almost all the practice exercises which indicate to the student that no explanation or justification is required.

### 1.5 Assessment exercises

Little evidence of (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested since most of the exercises request the student to identify a specific shape according to either the measurement of the angles or sides. For example, one of the questions requests the student to compare two fractions; another question requests the students to change the mixed fraction into improper fraction.

### 1.6 Skills

In the philosophy of the book, the following skills are listed: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. According to the philosophy of the book, students should be involved in developing these skills by playing an active and central role in the learning process. However, the analysis of the chapter showed little evidence to these criteria:

**Little evidence of “High level thinking questions”.** High level tasks are only found in student's textbook and not in the practice book. The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around



20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, one of the questions in lesson six (mixed fractions) requests the students to choose three fractions which are less than  $1/2$ .

Another type of activities under the heading “high-level-thinking-activities” involves students in choosing one of two given arguments or solutions. Thus, the students are presented with two arguments and they have to indicate why one argument is correct and the other argument is wrong. For example, a question in lesson 6, requests the students to identify a mistake. Students are presented by two improper forms of the mixed fraction  $4 \frac{3}{5}$ . Students had to choose one of the answers and explain why it is the correct one.

A third type of questions under the heading “high-level-thinking-activities” involves students in writing. For example, in lesson 5, students are requested to explain whether  $\frac{3}{4}$  is smaller or larger than  $\frac{3}{5}$ .

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students explicitly to work in groups. A small number of tasks request the student to write and explain (which may be found at the end of the chapter under the heading “high-level-questions”). For example, students are requested to write and explain whether  $\frac{3}{4}$  is smaller or larger than  $\frac{3}{5}$ .

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem. Most of the activities request the student to find an equivalent fraction or write the mixed fraction as improper fraction or compare fractions, etc.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>23. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>23.1.Length of sentences</i>			✓	
<i>23.2.Complexity of sentences</i>			✓	
<i>23.3.Diversity of language structures</i>			✓	
<i>23.4.Number of concepts per chapter</i>			✓	
<i>23.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>23.6.Clarity of definitions of technical terms</i>			✓	
<i>23.7.Using concrete examples to illustrate concepts</i>			✓	
<i>23.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at least one example any indicator of criterion 2 given a score of less than 3				





	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>45. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
45.1. <i>Illustrations</i>			✓	
45.2. <i>Content</i>			✓	
45.3. <i>Activities</i>			✓	
45.4. <i>Practice Exercises</i>		✓		
45.5. <i>Assessment exercises</i>		✓		
45.6. <i>Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice Exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concept since most of the practice exercises are not connected to real-life situations. No focus on (2) developing skills (including high level thinking and writing); (3) using different strategies to solve a problem; (4) using technology. For example, one of the typical questions in lesson 6 (mixed fractions) requests the students to write the mixed fractions in the form of improper fractions. Also, the practice exercises are presented in a non-motivating, in contrast to the philosophy of the book, where no real-life illustrations are associated to the exercises. On the other hand, one line space is given to almost all the practice exercises which indicate to the student that no explanation or justification is required

### 3.5 Assessment exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. The assessment exercises are written at the end of the chapter in students' textbook where there is little evidence of (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. Also, no high-level thinking questions are requested since most of the exercises request the student to identify a specific shape according to either the measurement of the angles or sides. For example, one of the questions requests the student to compare two fractions; another question requests the students to change the mixed fraction into improper fraction.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated books to serve the development of skills (high level thinking, communication, mathematical sense).

The total number of high-level-questions, in each lesson, is between 2 and 4 and these questions are written at the end of the lesson (around 20% of the total number of activities in the textbook but if we consider student textbook, then it will be less than 10%). Also, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, one of the questions in lesson six (mixed fractions) requests the students to choose three fractions which are less than  $\frac{1}{2}$ .



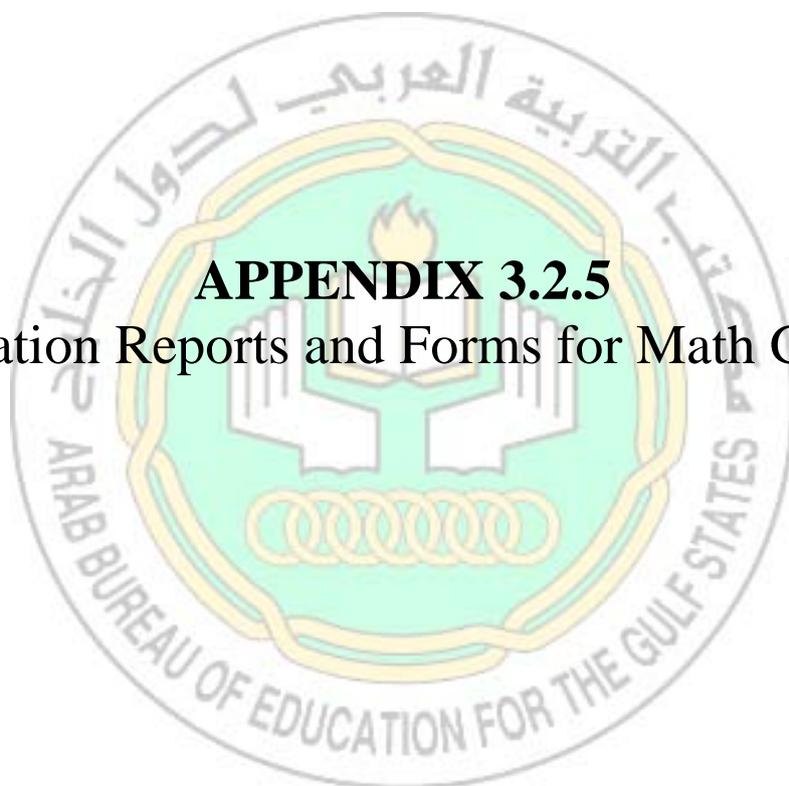
The analysis showed little evidence to skills of communication since there are no tasks written in student’s textbook or practice book which require the students explicitly to work in groups. Also, a small number of tasks request the student to write and explain (which may be found at the end of the chapter under the heading “high-level-questions”). For example, students are requested to write and explain whether  $\frac{3}{4}$  is smaller or larger than  $\frac{3}{5}$ .

The analysis also showed little evidence to skills of mathematical sense. There is no emphasis on justification or looking backward when solving a problem. Most of the activities request the student to find an equivalent fraction or write the mixed fraction as improper fraction or compare fractions, etc.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>46. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
46.1. <i>Illustrations</i>				✓
46.2. <i>Content</i>				✓
46.3. <i>Activities</i>				✓
46.4. <i>Practice Exercises</i>				✓
46.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



**APPENDIX 3.2.5**  
Evaluation Reports and Forms for Math Grade 5

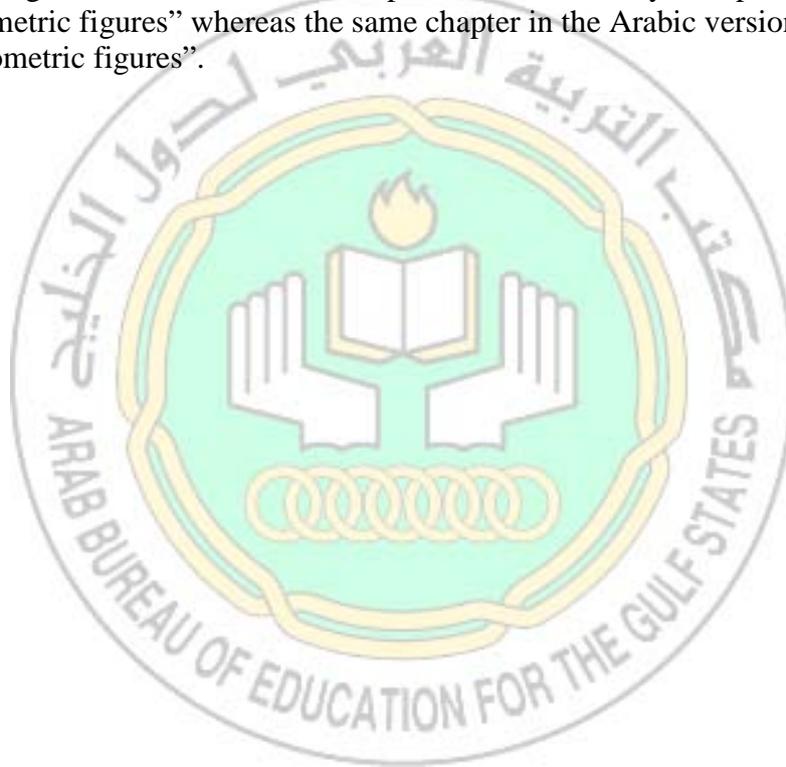


## Grade 5 – Math connects 5

### Tables of contents

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “use probability to make predictions” and “use measures in the customary system” are the chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- Titles in some of the chapters are not the same. In the original textbook there is emphasis on using verbs that reflect the philosophy of the book. However, in the translated version, most of the titles are not described by verbs. For example, in the original textbook there is a chapter entitled “identify, compare, and classify geometric figures” whereas the same chapter in the Arabic version is entitled “geometric figures”.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 5		Semester: 1		
		Textbook Title: Math Connects 5				
		Chapter Title: Use algebraic Expressions				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>38. Agreement of the translated Arabic book with that of the English book</b>						
38.1. <i>Definitions and explanations in the chapter</i>						✓
38.2. <i>Activities included in the chapter</i>			✓			
38.3. <i>Learning objectives</i>				✓		
38.4. <i>Practice exercises</i>				✓		
38.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>39. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
39.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

32. One form is to be filled for each of the three books (student, practice, teacher) for each semester
33. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
34. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

35. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of this chapter in both textbooks showed that there is no difference between the definitions and explanations in the chapter. Some differences that we have found were due to cultural reasons. These differences do not affect students' understanding.

### 1.2 Activities included in the chapter

The analysis of the chapter "Use algebraic Expressions" in both textbooks has showed large difference in the activities included in the chapter. This is due to the existence of several important sections in the original textbook but are absent in the Arabic version. For example, problem solving investigation, problem –solving in Science, problem-solving projects, and technology activities are found in the original textbook but are absent in the translated textbook. For evidence, the section 5-4: "More algebraic expressions" in the original book is missing from the translated version. On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

There is a lesson (section 6) entitled "**Problem-solving investigation** – Choosing the best strategy to solve the problem" in the original textbook. All the activities in this lesson are connected to real-life situations. This lesson also contains an activity with multiple questions and it involves students in "problem solving in science". This lesson does not appear in the translated textbook.

There are **technology activities** which are found in the original textbook (pages 214-215) but are not found in the original textbook. The technology activities in the original textbook are based on using the "Math Tool Chest" software and in this chapter they involve students in activities for lesson 4.

There are "**Problem solving in Science**" – **Section** which involves students in solving activities related to sciences and real-life situations in the original textbook (lesson 5, page 74) which do not appear in the translated textbook.

Also, there are 5 **problem-solving projects** at the end of the original student textbook (P2 – P9) which are missing from the translated version of student textbook. On the other hand, projects limited to the content of chapter are introduced in the teacher textbook.

Missing also are "spiral review" activities which are found at the end of each lesson in the original textbook. These activities involve students in activities from previous chapters and previous lessons. The section "spiral review" is not found in the translated textbook. For example, "Spiral Review" in page 201 in the original textbook does not appear in the translated version.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in



the original textbook. For example sections 5 and 6 from the original textbook do not appear in the translated textbook.

- Sections 5 “I will choose the best strategy to solve a problem”
- Section 6 “I will use technology to create function tables to solve problems”

On the other hand, the objectives in the sections that appear in both versions are similar.

#### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed little difference between the exercises due to the appearance of lessons that are not introduced in the translated version. For example, the lesson entitled “More algebraic expressions” in the original book is missing from the translated version.

On the other hand, the practice-exercises in student handbook involve students in similar exercises in both versions. However, the contexts (size of the numbers) of the exercises are different.

Note that the practice exercises in student handbook in both versions are of low level.

#### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar, the analysis of the chapter “Use algebraic Expressions” in both textbooks has showed large difference in the assessment exercises in the chapter. This is due to the presence of some assessment sections in the original textbook. But, these sections are missing in the translated book. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 5-1 through 5-4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, there is a section entitled “Study Guide and Review” which contains activities about all the lessons in this chapter. This section is not found in the translated textbook. Also, at the end of the chapter, there is a **“test practice” cumulative test** which covers chapters 1 till 5. This cumulative test is not found in the translated book. Also, there is “test practice” section and spiral review section in each lesson in the original textbook. These sections are not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter “Use algebraic Expressions” in both textbooks showed that there differences between the figures and illustrations were due to cultural reasons.



**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 5		Semester: 2		
		Textbook Title: Math Connects 5				
		Chapter Title: Addition & subtraction of fractions				
		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>						
<b>40. Agreement of the translated Arabic book with that of the English book</b>						
40.1.	<i>Definitions and explanations in the chapter</i>					✓
40.2.	<i>Activities included in the chapter</i>		✓			
40.3.	<i>Learning objectives</i>			✓		
40.4.	<i>Practice exercises</i>			✓		
40.5.	<i>Assessment exercises</i>		✓			
1.6	<i>Figures, pictures and illustrations</i>				✓	
<b>41. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
41.1.	For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

**Guidelines for filling this form (Item 1 only):**

36. One form is to be filled for each of the three books (student, practice, teacher) for each semester
37. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
38. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:



- a. '1' for completely different
- b. "2" for large difference
- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

39. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of this chapter in both textbooks showed that there is no difference between the definitions and explanations. The differences that we have found were due to cultural reasons.

### 1.2 Activities included in the chapter

The analysis of this chapter has showed large difference in the activities in both textbooks due to the existence of several important lessons in the original textbook that are absent in the Arabic version. For example, "Estimate sums and differences", "game time – fraction subtraction – subtract mixed numbers", "problem solving investigation", "subtraction with renaming", "problem –solving in Science", and "spiral review" activities are lessons that appear only in the original textbook.

Also, there are two sections in the original textbook that are not found in the translated one: (1) Start smart; and (2) problem-solving projects. These sections contain activities, problems, and projects that are not found in the translated version.

On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

Although the objectives in the sections that appear in both versions are similar, there is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. For example the following sections from the original textbook do not appear in the translated textbook.

- Section 6 "I will use estimate sums and differences of mixed numbers"
- Section 9 "I will choose the best strategy to solve a problem"

### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed little difference between the exercises due to the appearance of lessons that are not introduced in the translated version. For example, "Estimate sums and differences" and "subtraction with renaming" are two lessons that appear only in the original textbook.

On the other hand, the practice-exercises in student handbook involve students in similar exercises in both versions. However, the contexts (size of the numbers) of the exercises are different.

Note that the practice exercises in student handbook in both versions are of low level.

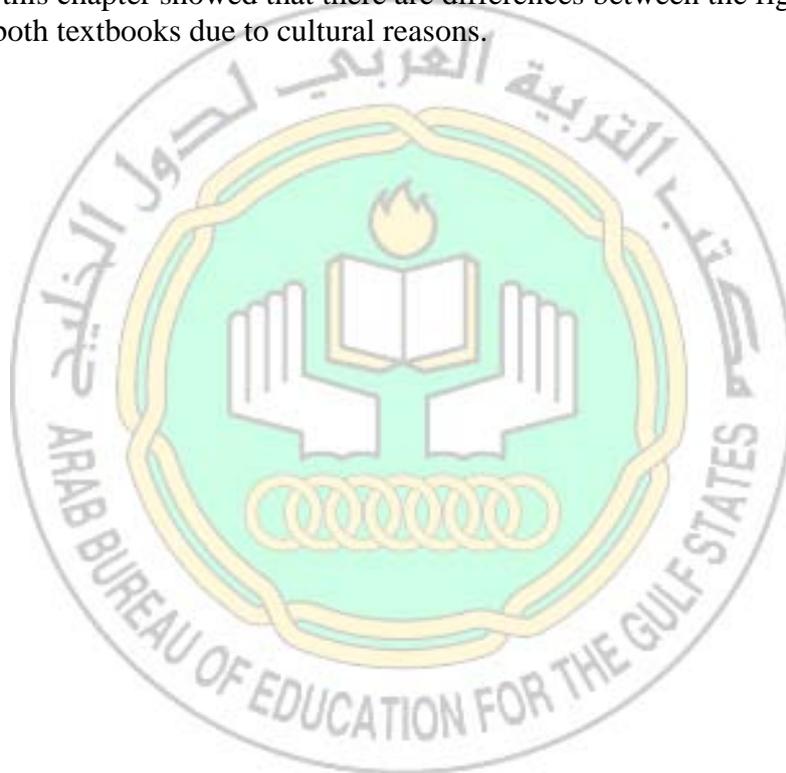
### 1.5 Assessment



Even though the assessment activities in the “chapter test” are similar, the analysis showed large difference in the assessment exercises in the chapter. This is due to the presence of some assessment sections in the original textbook which are missing in the translated versions. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 10-1 through 10-64” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 6. This section is not found in the translated textbook. Also, there is “test practice” section and spiral review section in each lesson in the original textbook. These sections are not found in the translated textbook. Also, there is a section entitled “Study Guide and Review” which contains activities about all the lessons in this chapter. This section is not found in the translated textbook. Also, at the end of the chapter, there is a “test practice” cumulative test which covers chapters 1 till 5. This cumulative test is in the translated book but the assessment exercises are not the same.

#### 1.6 Figures, pictures and illustrations

The analysis of this chapter showed that there are differences between the figures and illustrations in both textbooks due to cultural reasons.





### Report about mathematics textbooks in grade 5 first semester

The following report is an evaluation of math books in grade 5, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books in grade 5 – 1<sup>st</sup> semester – is divided into seven chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 2: Addition and Subtraction; (2) Chapter 3: multiplication; and (3) chapter 5: using algebraic expressions.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States . The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is “little evidence” that the content of the chapters, activities, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book. The analysis also showed that there is “no evidence” that the objectives are aligned with the philosophy of the original book. The philosophy is stated at the beginning of student textbook and focuses on the central role of the student in the learning process. The philosophy gives weight to several criteria which are discussed in the following paragraphs according to the analysis of the books:

(1) Building connections between the content of mathematics and real-life situations - *the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations in two chapters. On the other hand, in chapter 5 more activities are connected to real-life situations; however, most of the practice exercises are not connected to real-life situations.*

(2) Showing the content of the books in a motivating way – *the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book. Furthermore, no explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.*

(3) Developing different types of skills including high level thinking and justifying or looking backwards– *the analysis showed that most activities in the 3 chapters can be solved in a routine way. These activities are direct applications to the procedure learned at the beginning of each section. In some lessons in student textbook there is a section entitled “high level task” that contains several activities written at the end of the lesson. The analysis showed that around 3 activities are categorized as High-Level-Thinking-Questions in each lesson. However, some of these questions are not of high level since the task can be solved in*



a routine way. For example, students in lesson 4 are involved in explaining how the sum of 5.1, 3.6, and 2.4 is larger than 10.

(4) Using different strategies to solve the mathematical activities and exercises - *the analysis showed that students are taught several strategies throughout the chapter*. However, one **strategy** is used to solve the activities in most of the lessons in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. Furthermore, students are not requested for more than one strategy which is usually shown at the beginning of the lesson. Some examples of how to add or subtract are shown at the beginning of each lesson in the chapter. For example, in chapter 2 in lesson 6 (mental calculation: addition and subtraction), two strategies are shown at the beginning of the lesson. For example, to add 4.6 and 1.5, students are presented with two ways: (1) by adding 0.4 to 4.6 thus it becomes 5 and by subtracting .4 from 1.5 and it becomes 1.1. Thus,  $5+1.1=6.1$ ; (2) the second way involves adding 0.5 to 1.5 and it becomes 2 and then removing 0.5 from 4.6 and it becomes 4.1 and then adding the numbers  $2+4.1=6.1$ . Although two strategies are introduced to the students, they are requested to solve the activities and practice exercises using one strategy – the traditional way. For example, in lesson 4, the sum  $150+136$  is modeled to the students. The strategy that is used to do the sum is the traditional one (putting the two numbers in a column and beginning to add the ones, then tens, then hundreds).

(5) Using technology in solving mathematical exercises - *The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com)*.

(6) Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences - *The analysis showed that the three assessments that are written at the end of the chapter are mostly formed of low-level exercises which are not related to real life context, and can be solved in a routine way. Also, students are not asked to solve the assessment exercises using more than one strategy. For example, in chapter 4 (patterns and algebra) the following activity: “find the value of the expression  $b+4$  given that  $b=6$ ” is presented in the assessment*.

(7) The central and active role of the student in the learning process – *the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. Also, the different steps that are followed to accomplish the activities are shown at the beginning of the book. For example, to teach the students how to calculate an algebraic expression, solved examples are presented at the beginning of lesson 3*.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is “almost satisfactory evidence” that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students in almost all the indicators. Six of the eight indicators in the rubric showed “almost satisfactory evidence” in the three chapters: (1) length of the sentences, (2) complexity of sentences; (3) number of concepts per chapter, (4) reuse of technical terms in subsequent lessons; (5) redundancy of terms and sentences with no educational benefit; and (6) using concrete examples to illustrate concepts. The indicator “clarity of definitions of technical words” showed “almost satisfactory evidence” in two chapters. In chapter 5 (using algebraic expressions), some definitions in student textbook are not clear. For example, the variable is defined as a letter (student textbook, page 119) which is mathematically incorrect. A variable is usually represented by a letter but it is not a letter. The analysis showed that there is “little evidence” for the “diversity of language structures” in the three chapters. Several questions that have same structure are repeated throughout chapters. For example, “if ... so how much/how



many” questions are repeated in several places in chapter 5(Student textbook page 120-121; page 126).

### **Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, other indicators such as practice exercises; assessment exercises and skills showed “little evidence” due to the following:

(1) Most of the practice exercises are direct applications and can be solved in a routine way.

For example, most of the exercises in lesson 4 involve the students in adding decimal numbers (e.g.  $0.07+1.546$ ). Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises;

(2) Most of the assessment activities are of low level and can be solved in a routine way.

Also, most of the assessment exercises are not related to real life context and students are not requested to solve the assessment exercises using more than one strategy. For example, “add or subtraction  $853+4012$ ” is an assessment exercise introduced to the students in chapter 2.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 4 (chapter 2) are involved in explaining how the sum of 5.1, 3.6, and 2.4 is larger than 10. Students in such an activity do not need procedures other than the ones used in the lesson. There is no evidence of group work and there is “little evidence” of involving students in justifying and explaining. For example, these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems.

### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



### Report about mathematics textbooks in grade 5 second semester

The following report is an evaluation of math books in grade 5, second semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books is divided into six chapters. Three chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 10: Addition and Subtraction of fractions; (2) Chapter 11: measurement: metric units and (3) chapter 12: geometric shapes.

One evaluation form was filled out for each chapter for the set made up of the student textbook, practice book and teacher's manual. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States . The scale in each of the four rubrics was rated as: "satisfactory evidence"; "almost satisfactory evidence"; "little evidence"; or "no evidence".

The results of the following report are based on the evaluation forms. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book. The analysis also showed that there is "no evidence" that the objectives are aligned with the philosophy of the original book. The philosophy is stated at the beginning of student textbook and focuses on the central role of the student in the learning process. The philosophy gives weight to several criteria which are discussed in the following paragraphs according to the analysis of the books:

(1) *Building connections between the content of mathematics and real-life situations* - the analysis of student textbook and practice book showed that most of the tasks are not connected to real-life situations in the three chapters.

(2) *Showing the content of the books in a motivating way*– the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book. Furthermore, most of the practice exercises do not request explanation or justification and one line space is given to write the answer.

(3) *Developing different types of skills including high level thinking and justifying or looking backwards*–the analysis showed that most activities in the 3 chapters can be solved in a routine way. These activities are direct applications to the procedures learned at the beginning of each lesson. On the other hand, around 3 activities that are categorized as High-Level-Thinking-Questions are introduced at the end of each lesson. However, some of these questions are not of high level since the task can be solved in a routine way. For example, students in lesson 3 (chapter 10) are involved in writing a sum of two fractions (non equal denominators) where one denominator is 12 and the other is 9.

(4) *Using different strategies to solve the mathematical activities and exercises* -the analysis showed that students are introduced to several strategies throughout the chapter which is formed of several lessons and thus focuses on several procedures. However, one **strategy** is used to solve the activities in each lesson in contrast to the philosophy of the book which



emphasizes the usage of different strategies to solve problems. Furthermore, students are not requested to look at more than one strategy to solve a problem. For example, to add mixed numbers (lesson 6 in chapter 10), a real-life example is shown and one way is modeled to solve the problem. Furthermore, solving the activities and practice exercises does not require the student to use more one strategy. Students in this lesson are not requested to use more than one strategy which is modeled at the beginning of the lesson to solve the activities and practice exercises.

(5) Using technology in solving mathematical exercises - *The usage of technology is limited to a reference of website to do more practice:* [www.obeikaneducation.com](http://www.obeikaneducation.com).

(6) *Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences* - The analysis showed different types of assessments are included in teacher's manual (project to accomplish, end of chapter assessment, end of semester assessment, homework, etc.). However, the assessments that are usually written at the end of the chapter are mostly formed of low-level exercises that are not related to real-life contexts and can be solved in routine ways. Also, students are not asked to solve the assessment exercises using more than one strategy. For example, the following assessment exercise is similar to the activities introduced in lesson 1:  $9/11 + 1/11$ .

(7) *The central and active role of the student in the learning process* – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. For example, to teach the students how to change from centimeters to meters, solved examples are introduced at the beginning of the lesson.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is “almost satisfactory evidence” that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students in all the indicators except the one concerning the “diversity of language structures”. Seven of the eight indicators in the rubric showed “almost satisfactory evidence” in the three chapters: (1) length of the sentences, (2) complexity of sentences; (3) number of concepts per chapter, (4) reuse of technical terms in subsequent lessons; (5) redundancy of terms and sentences with no educational benefit; (6) using concrete examples to illustrate concepts and “clarity of definitions of technical words”. In contrast, the analysis showed that there is “little evidence” in the “diversity of language structures” since there is a repetition of the same structure of questions throughout the chapters. For example, in lesson 7, there are several questions with the same structure: “identify whether the geometric transformation is translation, reflection or rotation”. (Textbook, p. 154-155; practice book, p. 40)

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed “almost satisfactory evidence”. However, other indicators such as practice exercises; assessment exercises and skills showed “little evidence” due to the following:

(1) Most of the practice exercises are direct applications and can be solved in a routine way. For example, most of the exercises in lesson 4 involve the students in subtracting two fractions by using the same strategy. Furthermore, most of the practice exercises are not connected to real-life. Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises;

(2) Most of the assessment activities are of low level and can be solved in a routine way. Also, most of the assessment exercises are not related to real life context and students are not

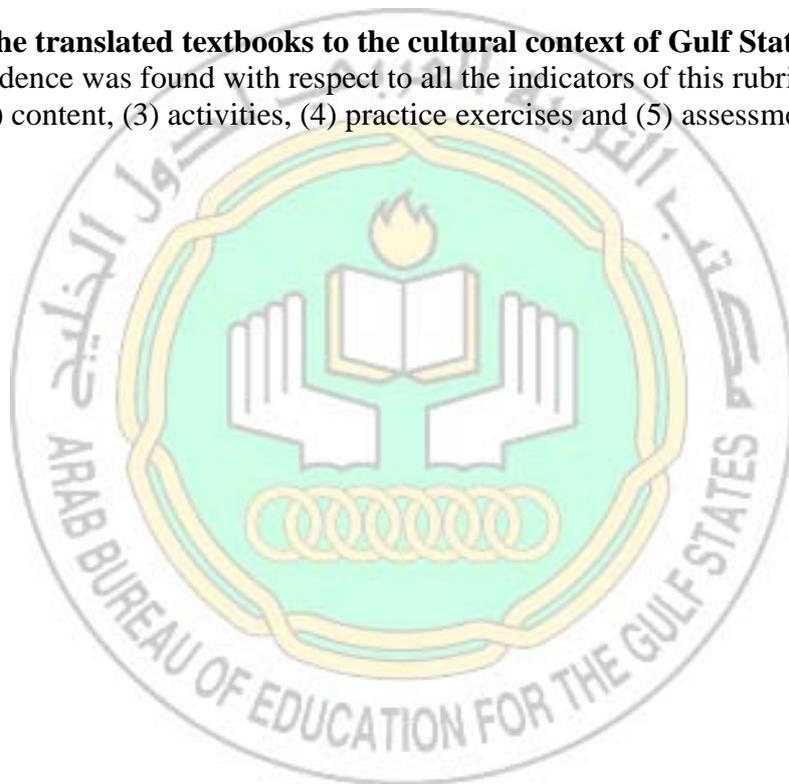


requested to solve the assessment exercises using more than one strategy. For example, the following assessment exercise is similar to the activities introduced in lesson 3 (chapter 12): find the number of right angles in each of the following quadrilaterals.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 1 (chapter 10) are involved in choosing one of the following measurements which is not equal to the other measurements: 3500km; 35m; 3500cm; 35000mm. This activity is of low level and involves students in procedures that they have used in several activities. Students in such an activity do not need procedures other than the ones used in the lesson. There is no evidence of group work and there is “little evidence” of involving students in justifying and explaining since these skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems.

### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.





<b>Book Evaluation Form</b>	Subject:			
	Grade:5			
	Textbook Title:			
	Chapter Title: Chapter 10 Addition & Subtraction of fractions			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>42. Alignment of the translated texts to the philosophy of the original textbook</b>				
42.1. <i>Content of the Chapter</i>		✓		
42.2. <i>Activities included in the chapter</i>		✓		
42.3. <i>Learning objectives</i>	✓			
42.4. <i>Practice exercises</i>	✓			
42.5. <i>Assessment exercises</i>		✓		
42.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>For each process, in this chapter, one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, to add mixed numbers (lesson 6), a real-life example is shown and one way is modeled to solve the problem. Furthermore, solving the activities and practice exercises does not require the student to use more one strategy.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of connection to <b>real-life situations</b> (less than 35% of activities and examples are connected to real-life context), in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how to add fractions with different denominators, solved examples are introduced at the beginning of the lesson.</p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication,</p>				



collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter are direct applications to the procedure learned at the beginning of each section and can be solved in a routine way similar to the one shown in the examples at the beginning of the lesson. For example, most of the activities in lesson 2 involve the students in adding fractions with equal denominators. Students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level-Thinking-Questions may involve the students in explaining or justifying.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn to add and subtract fractions, with no further indication concerning the criteria mentioned in the philosophy.

### 1.4. Practice Exercises

In each lesson, the number of tasks that are not related to real-life situations is larger than the one related to real-life (more than 90% of practice exercises are not related to real-life situations). Furthermore, the word problems are introduced in a way that the student has to select the numbers and apply the procedure corresponding to the lesson.

- No technology is asked to be used in the practice exercises.
- There are no illustrations in the practice exercises which make them boring (the way those exercises are written does not reflect the philosophy of the original book where there is emphasis on writing the exercises in different ways which should be motivating).
- No emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way).

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context (around 67% of the assessment exercises are not related to real-life situations) which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to the activities introduced in lesson 1:  $9/11 + 1/11$ .

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in students' textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student



will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 3 are involved in writing a sum of two fractions (non equal denominators) where one denominator is 12 and the other is 9. Find the answer. One type of questions that is categorized as high-level-questions is open-ended question where students may provide different answers. Another type involves students in choosing one out of two arguments and in indicating why it is correct and the other argument is wrong. A third type of high-level-questions involves students in writing a story about a specific situation where the concept or procedure being taught in the lesson should be used in the story.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write. Some of these tasks involve the student in writing a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 5, students are asked to write about a real-life situation where the solution involves adding fractions (that do not have equal denominators).

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In this chapter one lesson (lesson 5) emphasizes problem solving and learning about a strategy. In this lesson, students are shown the four steps that are used to solve a problem (understand the problem, plan for solving the problem, solve the problem, check the answer) where the last step involves checking the answer.

	e	nc	de	cvi												
<b>24. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																
<i>24.1.Length of sentences</i>										✓						
<i>24.2.Complexity of sentences</i>										✓						
<i>24.3.Diversity of language structures</i>						✓										
<i>24.4.Number of concepts per chapter</i>										✓						
<i>24.5.Reuse of technical terms in subsequent lessons and chapters</i>										✓						
<i>24.6.Clarity of definitions of technical terms</i>										✓						
<i>24.7.Using concrete examples to illustrate concepts</i>										✓						
<i>24.8.Redundancy of terms and sentences with no educational benefit.</i>										✓						

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

2.3. Diversity of language structures

Some of the word-problems have similar structured sentences (refer to student textbook, page 72; page 87; practice book page 20) with the following structure: verb – noun – object – question. For example, students are involved in the following activity: Sarah bought a box containing colors and colored papers. How much did she pay? (Student textbook, 72).



On the other hand, most of the word problems are written in a brief and short way. Also, within the same page – same lesson, some of the sentences in the student’s text and practice book have a similar structure. For example, students are engaged in several activities having the following type of question: “which estimation is more logical?” (Textbook, page 94; practice book, pages 24-25). Other questions having similar structure can be found in student textbook and practice book. For example, there are questions of the following type: “how much more?”(Textbook page 81-82; practice book, page 22)

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>47. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
47.1. <i>Illustrations</i>			✓	
47.2. <i>Content</i>			✓	
47.3. <i>Activities</i>			✓	
47.4. <i>Practice Exercises</i>		✓		
47.5. <i>Assessment exercises</i>		✓		
47.6. <i>Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, most of the exercises in lesson 4 involve the students in subtracting two fractions. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. The assessment exercises are similar to the ones given in the different lessons. For example, “find the following sum:  $1/11+9/11$ ” is an assessment exercise similar to the exercises given in lesson 1.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson in student textbook. Some of these



questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, students in lesson 3 are involved in writing a sum of two fractions (non equal denominators) where one denominator is 12 and the other is 9. Find the answer.

There are no tasks written in student's textbook or practice book which request the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 5, students are asked to write about a real-life situation where the solution involves adding fractions (that do not have equal denominators).

There are no tasks written in student's textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy or in high-level-questions. In this chapter, one lesson (lesson 5) emphasizes problem solving and learning about a strategy. In this lesson, students are shown the four steps that are used to solve a problem (understand the problem, plan for solving the problem, solve the problem, check the answer) where the last step involves checking the answer.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>48. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
48.1. <i>Illustrations</i>				✓
48.2. <i>Content</i>				✓
48.3. <i>Activities</i>				✓
48.4. <i>Practice Exercises</i>				✓
48.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3  <u>Illustration and content.</u> There is 1 example with a photo related to animals not found in the Gulf States country (page 70-71). There is 1 activity with photo to an animal not familiar in Gulf States country (page 90)				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject:			
	Grade: 5 – Semester 1			
	Textbook Title:			
	Chapter Title: Chapter 11: measurement: metric units			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>43. Alignment of the translated texts to the philosophy of the original textbook</b>				
43.1. <i>Content of the Chapter</i>		✓		
43.2. <i>Activities included in the chapter</i>		✓		
43.3. <i>Learning objectives</i>	✓			
43.4. <i>Practice exercises</i>		✓		
43.5. <i>Assessment exercises</i>		✓		
43.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>For each process, one lesson is introduced and <b>one strategy</b> is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, lesson 3 focuses on changing from one unit to another (weight and mass), a real-life example is shown at the beginning of the lesson and one way is modeled to solve the problem. Also, solving the activities and practice exercises does not require the student to use more one strategy. On the other hand, two lessons are introduced in this chapter that focus on problem solving and on using different strategies. Lesson 2 involves students in checking the answer (whether it is correct or not) and the other lesson (lesson 6) involves the students in choosing the suitable strategy to solve the problem.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of connection to <b>real-life situations</b> (less than 30% of activities and examples are connected to real-life context), in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish</p>				



the activities are shown. For example, to teach the students how to change from centimeters to meters, solved examples are introduced at the beginning of the lesson.

Little evidence of **developing skills** (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter are direct applications to the procedure learned at the beginning of each section and can be solved in a routine way similar to the one shown in the examples at the beginning of the lesson. For example, most of the activities in lesson 1 involve the students in changing from one metric unit to another. Students are rarely asked to justify or explain their response or to cooperate with others. Only the activities that are listed at the end of each section under the title High-Level-Thinking-Questions (3 to 4 exercises) may involve the students in explaining or justifying.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn how to change from one metric unit to another, with no further indication concerning the criteria mentioned in the philosophy.

### 1.4. Practice Exercises

In each lesson, the number of tasks that are not related to real-life situations is larger than the one related to real-life (around 90% of practice exercises are not related to real-life situations). Furthermore, the word problems are introduced in a way that the student has to select the numbers and apply the procedure corresponding to the lesson.

- No technology is asked to be used in the practice exercises.
- There are no illustrations in the practice exercises which make them boring (the way those exercises are written does not reflect the philosophy of the original book where there is emphasis on writing the exercises in different ways which should be motivating).
- No emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way).

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context (around 89% of the assessment exercises are not related to real-life situations) which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to the activities introduced in lesson 3: fill in the blanks: 21000 g = .... Kg

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.



**Little evidence to High level questions.** High level tasks are only found in students' textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 1 in choosing one of the following measurements which is not equal to the other measurements: 3500km; 35m; 3500cm; 35000mm.

One type of questions that is categorized as high-level-questions is open-ended question where students may provide different answers. Another type involves students in choosing one out of two arguments and in indicating why it is correct and the other argument is wrong. A third type of high-level-questions involves students in writing a story about a specific situation where the concept or procedure being taught in the lesson should be used in the story.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (this may be found at the end of the chapter where the student is requested to write a story about a real life situation by using the procedure or concept being studied in the lesson. For example, in lesson 4, students are asked to write about a real-life situation where the students should change milliliters into liters then solve the situation.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In this chapter two lessons emphasize problem solving and usage of different strategies. For example, in lesson 5, students are asked to explain if they use multiplication or division to find the number of seconds in 3 minutes.

	e	nc	de	cv												
<b>25. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																
25.1.Length of sentences										✓						
25.2.Complexity of sentences										✓						
25.3.Diversity of language structures						✓										
25.4.Number of concepts per chapter										✓						
25.5.Reuse of technical terms in subsequent lessons and chapters										✓						
25.6.Clarity of definitions of technical terms										✓						
25.7.Using concrete examples to illustrate concepts										✓						
25.8.Redundancy of terms and sentences with no educational benefit.										✓						
Illustrate by at least one example any indicator of criterion 2 given a score of less than 3																



2.6 Clarity of definitions of technical terms.

The following definition about the metric system is not clear “The metric system is a decimal measurement system” (Page 104).

2.3 Diversity of language structure.

Some questions have the same structure.

Some questions have the same structure:

Some of the word-problems have similar structure. For example, “Does the answer have a logical estimation?” (Lesson 2, Student practice book, page 28) is repeated several times.

Another type of questions has the following structure: “if ... how much/many/when/ ....” (Lesson 6, textbook, page 125; practice book, page 32).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>49. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
49.1. <i>Illustrations</i>			✓	
49.2. <i>Content</i>			✓	
49.3. <i>Activities</i>			✓	
49.4. <i>Practice Exercises</i>		✓		
49.5. <i>Assessment exercises</i>		✓		
49.6. <i>Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. The assessment exercises are similar to the ones given in the different lessons. For example, the following assessment exercise is similar to the activities introduced in lesson 3: fill in the blanks: 21000 g = .... Kg

3.6 Skills



Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson in student textbook. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 1 in choosing one of the following measurements which is not equal to the other measurements: 3500km; 35m; 3500cm; 35000mm.

There are no tasks written in student’s textbook or practice book which request the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 4, students are asked to write about a real-life situation where the students should change milliliters into liters then solve the situation.

There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy or in high-level-questions. In this chapter, two lessons emphasize problem solving and learning about a strategy. In these lessons, students are shown the four steps that are used to solve a problem (understand the problem, plan for solving the problem, solve the problem, check the answer) The last step involves checking the answer.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>50. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
50.1. <i>Illustrations</i>				✓
50.2. <i>Content</i>				✓
50.3. <i>Activities</i>				✓
50.4. <i>Practice Exercises</i>				✓
50.5. <i>Assessment exercises</i>				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject:			
	Grade: 5 – semester 1			
	Textbook Title:			
	Chapter Title: Chapter 2: Addition and subtraction			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>44. Alignment of the translated texts to the philosophy of the original textbook</b>				
44.1.	Content of the Chapter		✓	
44.2.	Activities included in the chapter		✓	
44.3.	Learning objectives	✓		
44.4.	Practice exercises		✓	
44.5.	Assessment exercises		✓	
44.6.	Skills		✓	
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>Several <b>strategies</b> may be shown in a chapter. For example, in lesson 6(mental calculation: addition and subtraction), two strategies are shown at the beginning of the lesson. For example, to add 4.6 and 1.5 there are two ways: (1) by adding 0.4 to 4.6 thus it becomes 5 and by subtracting .4 from 1.5 and it becomes 1.1. Thus, <math>5+1.1=6.1</math>; (2) the second way involves adding 0.5 to 1.5 and it becomes 2 and then removing 0.5 from 4.6 and it becomes 4.1. Thus, <math>2+4.1=6.1</math>. However, one <b>strategy</b> is used to solve the activities in most of the lessons and in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems; students are not requested for more than one strategy which is usually shown at the beginning of the lesson. Some examples of how to add or subtract are shown at the beginning of each lesson in the chapter. For example, in lesson 4, the sum <math>150+136</math> is modeled to the students. The strategy that is used to do the sum is the traditional one (putting the two numbers in a column and beginning to add the ones, then tens, then hundreds).</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of connection to <b>real-life situations</b> (around 80% of activities and examples are not connected to real-life context), in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in</p>				



contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students about the properties of addition (commutative and associative properties, examples are given at the beginning of the lesson. The solutions to these examples are shown to the students.

Little evidence of **developing skills** (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, most of the activities in lesson 4 (adding and subtracting decimals) involved the students in adding or subtracting decimal numbers where students have to apply the procedure that is modeled at the beginning of the lesson.

Students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level-Thinking-Questions. For example, at the end of lesson 6 (mental calculation), a high-level-question involves the students in writing about how to add  $46.55+53.7$  and to explain the steps for doing the addition.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn to add and subtract numbers with no further indication concerning the criteria mentioned above.

### 1.4. Practice Exercises

In each lesson, the number tasks that are not related to real-life situations is larger than the one related to real-life. Furthermore, the word problems are tailored in a way that the student does not have to select among the numbers given in the situation. Rather, the student has only to pick up those numbers, write them aside and then apply the suitable operation.

- No technology is asked to be used in the practice exercises.
- There are no illustrations in the practice exercises which make them boring (the way those exercises are written does not reflect the philosophy of the original book where there is emphasis on writing the exercises in different ways which should be motivating).
- No emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way).

For example, most of the exercises in lesson 4 involve the students in adding decimal numbers (e.g.  $0.07+1.546$ ).

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook.



Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, the following exercise is given in the assessment: “add or subtraction  $853+4012$ ”. For each lesson, several exercises are given in the assessment such that these exercises are similar to the ones given in the lesson.

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

***Little evidence to High level questions.*** High level tasks are only found in student’s textbook and not in the practice book. Some of these questions are open-ended question where students may provide different answers. For example, in lesson 6, students are asked to write about a situation involving subtraction and to solve it and explain the different procedure used to do the subtraction process. Another type of questions involves students in choosing one out of two arguments and in indicating why it is correct and the other argument is wrong. For example, in lesson 6, students are asked to answer the following question: Jamil and Aniss are asked to find the sum  $67+129$ . Jamil added 1 to 129 and subtracted 1 from 67. Thus,  $130 + 66 = 196$ . Aniss add 1 to each of 129 and 67. Thus,  $130+68=198$ . A third type of high-level-questions involves students in writing a story about a specific situation where the concept or procedure being taught in the lesson should be used in the story. For example, in lesson 5, students are asked to write about an example where the commutative property is needed and to talk about another situation where the commutative property is not useful to apply.

The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, students in lesson 4 are involved in explaining how the sum of 5.1, 3.6, and 2.4 is larger than 10.

***Little evidence to skills of communication.*** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (this may be found at the end of the chapter where the student is requested to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 5, students are asked to write about a real-life situation where the commutative property is needed and to talk about another situation where the commutative property is not useful to apply.

***Little evidence to skills of collecting and organizing data.*** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

***Little evidence to skills of mathematical sense.*** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. For example, in lesson 3: solving problems by going backwards. Students are shown at the beginning of this lesson the four steps used to solve a problem where the last step indicates to the student the looking back at the problem and checking the answer.



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>26. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>26.1. Length of sentences</i>			✓	
<i>26.2. Complexity of sentences</i>			✓	
<i>26.3. Diversity of language structures</i>		✓		
<i>26.4. Number of concepts per chapter</i>			✓	
<i>26.5. Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>26.6. Clarity of definitions of technical terms</i>			✓	
<i>26.7. Using concrete examples to illustrate concepts</i>			✓	
<i>26.8. Redundancy of terms and sentences with no educational benefit.</i>			✓	
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <p><u>2.3 Diversity of language structure.</u>            Some of the word-problems have similar structure. For example, “If questions” having the following structure: if – verb – noun – amount (money, objects) – how much would ...are found in many word problems (refer to student practice book, page 11, page 13; student textbook page 46).</p>				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>51. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>51.1. Illustrations</i>			✓	
<i>51.2. Content</i>			✓	
<i>51.3. Activities</i>			✓	
<i>51.4. Practice Exercises</i>		✓		
<i>51.5. Assessment exercises</i>		✓		
<i>51.6. Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p> <p><u>3.4 Practice exercises</u>            Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice</p>				



exercises). For example, most of the exercises in lesson 4 involve the students in adding decimal numbers (e.g.  $0.07+1.546$ ). Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, the following exercise is given in the assessment: “add or subtraction  $853+4012$ ”. For each lesson, several exercises are given in the assessment such that these exercises are similar to the ones given in the lesson.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson in student textbook. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 4 are involved in explaining how the sum of 5.1, 3.6, and 2.4 is larger than 10.

There are no tasks written in student’s textbook or practice book which request the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 5, students are asked to write about a real-life situation where the commutative property is needed and to talk about another situation where the commutative property is not useful to apply

There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title: high level thinking skills.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>52. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
52.1. <i>Illustrations</i>				✓
52.2. <i>Content</i>				✓
52.3. <i>Activities</i>				✓
52.4. <i>Practice Exercises</i>				✓
52.5. <i>Assessment exercises</i>				✓

Illustrate by at least one example any indicator of criterion 4 given a score of less than 3

Comments and explanation on implementing the indicator.



Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject:			
	Grade: 5 – semester 1			
	Textbook Title:			
	Chapter Title: Chapter 3 Multiplication			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>45. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>45.1. Content of the Chapter</i>				
	✓			
<i>45.2. Activities included in the chapter</i>				
	✓			
<i>45.3. Learning objectives</i>				
✓				
<i>45.4. Practice exercises</i>				
	✓			
<i>45.5. Assessment exercises</i>				
	✓			
<i>45.6. Skills</i>				
	✓			
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u><i>1.1 and 1.2 Content and activities of the chapter</i></u>            Several <b>strategies</b> may be shown in a chapter.            For example, in lesson 1, patterns of multiplication, mental calculation, using associative property of multiplication are shown in different lessons.            However, one <b>strategy</b> is used to solve the activities in most of the lessons and in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems; students are not requested for more than one strategy which is usually shown at the beginning of the lesson. Some examples multiplying are shown at the beginning of each lesson in the chapter. For example, multiplying a number by a 1-digit number is shown at the beginning of lesson 4. Most of the activities in this lesson involve the student in applying the same procedure.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of connection to <b>real-life situations</b> (around 70% of activities and examples are not connected to real-life context), in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students about the distributive property of</p>				



multiplication over addition, examples are given at the beginning of the lesson. The solutions to these examples are shown to the students.

Little evidence of **developing skills** (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, most of the activities in lesson 3 (multiplying using estimation) involved the students in using estimation when multiplying two numbers. This procedure is modeled at the beginning of the lesson.

Students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each section under the title High-Level-Thinking-Questions. For example, at the end of lesson 2, a high-level-question involves the students in writing about how to multiply  $8 \times 62$  and to explain the steps for doing the multiplication.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn about the properties of multiplication and how to use these properties. However, the objective does not mention technology or skills or real-life situations or using different strategies.

### 1.4. Practice Exercises

In each lesson, the number of tasks that are not related to real-life situations is larger than the one related to real-life. Furthermore, the word problems are tailored in a way that the student does not have to select among the numbers given in the situation. Rather, the student has only to pick up those numbers, write them aside and then apply the suitable operation.

- No technology is asked to be used in the practice exercises.
- There are no illustrations in the practice exercises which make them boring (the way those exercises are written does not reflect the philosophy of the original book where there is emphasis on writing the exercises in different ways which should be motivating).
- No emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way).

For example, all the practice exercises in lesson 1 involve the students in multiplying 2 numbers.

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested.

For example, the following exercise is given in the assessment: "find by mental calculation the answer:  $5 \times 400$ ". For each lesson, several exercises are given in the assessment such that these



exercises are similar to the ones given in the lesson.

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in student’s textbook and not in the practice book. The number of “high level questions”, written at the end of the each lesson, is around 3. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, “Mohammad” and his brother used the distributive property of multiplication over addition to simplify the following expression:  $6 \times (4+9)$ . Who gave the correct expression? Mohammad:  $4+9 \times 6$ ; Khaled:  $(4 \times 6) + (9 \times 6)$ . Explain.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. On the other hand, a small number of tasks request the student to explain or write. For example, in lesson 4, students are requested to write a story problem about a real-life situation that can be solved by multiplying a 3-digit number by 3.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In this chapter, two lessons emphasize problem solving: Lesson 5: solving a problem using a figure and lesson 8.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>27. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>27.1.Length of sentences</i>			✓	
<i>27.2.Complexity of sentences</i>			✓	
<i>27.3.Diversity of language structures</i>		✓		
<i>27.4.Number of concepts per chapter</i>			✓	
<i>27.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>27.6.Clarity of definitions of technical terms</i>			✓	
<i>27.7.Using concrete examples to illustrate concepts</i>			✓	
<i>27.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				



### 2.3 Diversity of language structure.

Some of the word-problems have similar structure. For example, “if ... so how much/how many” are used frequently (Student textbook pages 65, 79; practice book pages 18, 21, 22).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>53. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
53.1. <i>Illustrations</i>			✓	
53.2. <i>Content</i>			✓	
53.3. <i>Activities</i>			✓	
53.4. <i>Practice Exercises</i>		✓		
53.5. <i>Assessment exercises</i>		✓		
53.6. <i>Skills</i>		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). For example, all the practice exercises in lesson 1 involve the students in multiplying 2 numbers. Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

#### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, the following exercise is given in the assessment: “find by mental calculation the answer:  $5 \times 400$ ”. For each lesson, several exercises are given in the assessment such that these exercises are similar to the ones given in the lesson.

#### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. High level tasks are only found in student’s textbook and not in the practice book. The number of “high level questions”, written at the end of the each lesson, is around 3. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, “Mohammad and his brother used the distributive property of multiplication over addition to simplify the following expression:  $6 \times (4+9)$ . Who gave the correct expression?



Mohammad:  $4+9\times 6$ ; Khaled:  $(4\times 6)+(9\times 6)$ . Explain.

There are no tasks written in student's textbook or practice book which require the students to work in groups. On the other hand, a small number of tasks request the student to explain or write. For example, in lesson 4, students are requested to write a story problem about a real-life situation that can be solved by multiplying a 3-digit number by 3.

Also, there is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In this chapter, two lessons emphasize problem solving: Lesson 5: solving a problem using a figure and lesson 8.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>54. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
54.1. <i>Illustrations</i>				✓
54.2. <i>Content</i>				✓
54.3. <i>Activities</i>				✓
54.4. <i>Practice Exercises</i>				✓
54.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3  Crocodile (example + illustration) page 65 page 71 animal lives in north				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject:			
	Grade: 5 – semester 1			
	Textbook Title:			
	Chapter Title: Chapter 5: Using Algebraic expressions			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>46. Alignment of the translated texts to the philosophy of the original textbook</b>				
46.1. <i>Content of the Chapter</i>		✓		
46.2. <i>Activities included in the chapter</i>		✓		
46.3. <i>Learning objectives</i>	✓			
46.4. <i>Practice exercises</i>		✓		
46.5. <i>Assessment exercises</i>		✓		
46.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>In each lesson, one <b>strategy</b> is used to solve the activities in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. Also, students are not requested for more than one strategy which is usually shown at the beginning of the lesson.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>In contrast to most of the chapters in this book, moderate evidence of connection of activities to <b>real-life situations</b> (around 60% of activities and examples are connected to real-life context), in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how to calculate an algebraic expression, solved examples are presented at the beginning of lesson 3.</p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication,</p>				



collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, most of the activities in lesson 1 (algebraic expressions containing addition or subtraction) involved the students in adding or subtracting algebraic expressions after replacing the variables with numbers in the expression.

Students are rarely asked to justify or explain their response or to cooperate with others. Only 3 to 4 exercises are listed at the end of each lesson under the title High-Level-Thinking-Questions.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to indicators that are listed in the philosophy of the book such as: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. For example, one of the learning objectives of this chapter indicates that students will learn write and use algebraic expressions.

### 1.4. Practice Exercises

In contrast to the book, the number tasks that are not related to real-life situations is larger than the one related to real-life (around 80% of practice exercises in this chapter are not connected to real-life situations). Also, no technology used in the practice exercises, and there is no emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way).

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For each lesson, several assessment exercises are given that are similar to the ones given in the lesson. For example, students are involved in replacing variables by numbers in algebraic expressions and then finding the answer. These exercises are similar to the ones introduced in lesson 1.

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in student's textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, the following activity was introduced in lesson 4: "Ali and Omar wrote an algebraic expression to present a number that it is less than  $s$  by 5. Ali wrote " $s-5$ " whereas Omar wrote " $-s$ " who is correct? Explain.



**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (this may be found at the end of the chapter where the student is requested to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 5, students are asked to write about a real-life situation where the commutative property is needed and to talk about another situation where the commutative property is not useful to apply.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In this chapter there is only one lesson which emphasizes problem solving. Students are shown at the beginning of this lesson the four steps used to solve a problem where the last step indicates to the student the looking back at the problem and checking the answer.

	e nc de CVI	e nc de CVI	e nc de CVI	e nc de CVI
<b>28. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>28.1.Length of sentences</i>			✓	
<i>28.2.Complexity of sentences</i>			✓	
<i>28.3.Diversity of language structures</i>		✓		
<i>28.4.Number of concepts per chapter</i>			✓	
<i>28.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>28.6.Clarity of definitions of technical terms</i>		✓		
<i>28.7.Using concrete examples to illustrate concepts</i>			✓	
<i>28.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

2.3. Diversity of language structures.

Some of the word-problems have similar structure. For example, “if ... so how much/how many” questions are repeated (Student textbook page 120-121; page 126).

2.8 Clarity of definitions of technical terms.

Some definitions in student textbook are not clear. For evidence look at:

- Algebraic expression (student text book page 116)
- Variable (page 119). The variable is defined as a letter which is mathematically incorrect. A variable is usually represented by a letter but it is not a letter.
- 

Using concrete examples to illustrate concepts.



In teacher's guidebook – in the plan of the chapter and connections to other fields – there is evidence of using concrete materials. On the other hand, no concrete examples are used in student textbook and practice book.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>55. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
55.1. <i>Illustrations</i>			✓	
55.2. <i>Content</i>			✓	
55.3. <i>Activities</i>			✓	
55.4. <i>Practice Exercises</i>		✓		
55.5. <i>Assessment exercises</i>		✓		
55.6. <i>Skills</i>		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

#### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. The practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life (around 80% of practice exercises in this chapter are not connected to real-life situations). Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. Also, no technology used in the practice exercises and there is no emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way). No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

#### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. For each lesson, several assessment exercises are given that are similar to the ones given in the lesson. For example, students are involved in replacing variables by numbers in algebraic expressions and then finding the answer. These exercises are similar to the ones introduced in lesson 1.

#### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title "high level questions", in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each



lesson). For example, the following activity was introduced in lesson 4: “Ali and Omar wrote an algebraic expression to present a number that it is less than  $s$  by 5. Ali wrote “ $s-5$ ” whereas Omar wrote “ $-s$ ” who is correct? Explain.

There are no tasks written in student’s textbook or practice book which request the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson.

There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem. This skill is emphasized only at the end of each lesson in the questions under the title: high level thinking skills.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>56. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
56.1. <i>Illustrations</i>				✓
56.2. <i>Content</i>				✓
56.3. <i>Activities</i>				✓
56.4. <i>Practice Exercises</i>				✓
56.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject:			
	Grade:5			
	Textbook Title:			
	Chapter Title: Chapter 12 Geometric shapes			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>47. Alignment of the translated texts to the philosophy of the original textbook</b>				
47.1. <i>Content of the Chapter</i>		✓		
47.2. <i>Activities included in the chapter</i>		✓		
47.3. <i>Learning objectives</i>	✓			
47.4. <i>Practice exercises</i>		✓		
47.5. <i>Assessment exercises</i>		✓		
47.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of connection to <b>real-life situations</b> (around 85% of activities and examples are not connected to real-life context), in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students about the transformation (rotation, translation, ...) of geometric shapes, solved examples are introduced at the beginning of the lesson.</p> <p>Little evidence of <b>developing skills</b> (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter are direct applications to the procedure learned at the beginning of each section and can be solved in a routine way similar to the one shown in the examples at the beginning of the lesson. For example, most of the activities in lesson 5</p>				



involve the students in designing the symmetry of familiar geometric shapes by using a grid. Only 3 to 4 activities that are listed at the end of each lesson under the title High-Level-Thinking-Questions may involve the students in explaining or justifying.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn about the properties of quadrilaterals with no further indication concerning the criteria mentioned in the philosophy.

### 1.4. Practice Exercises

In each lesson, the number of tasks that are not related to real-life situations is larger than the one related to real-life (More than 70% of practice exercises are not related to real-life situations). Furthermore, the word problems are introduced in a way that the student has to select the numbers and apply the procedure corresponding to the lesson.

- No technology is asked to be used in the practice exercises.
- There are no illustrations in the practice exercises which make them boring (the way those exercises are written does not reflect the philosophy of the original book where there is emphasis on writing the exercises in different ways which should be motivating).
- No emphasis on using different strategies (since most of the exercises are not contextualized and can be solved in a routine way).

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. All the exercises are not related to real life context (100% of the assessment exercises are not related to real-life situations) which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Most of the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to the activities introduced in lesson 3: find the number of right angles in each of the following quadrilaterals.

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in students' textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson, does not surpass 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 3 were asked to draw a quadrilateral which is not a rectangle, neither a square, nor a parallelogram.

One type of questions that is categorized as high-level-questions is open-ended question where



students may provide different answers. Another type involves students in choosing one out of two arguments and in indicating why it is correct and the other argument is wrong. A third type of high-level-questions involves students in writing a story about a specific situation where the concept or procedure being taught in the lesson should be used in the story.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write. For example, in lesson 3, students are asked to write about a real-life situation involving quadrilaterals.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy or in high-level-questions. In this chapter one lesson (lesson 2) emphasizes problem solving and usage of different strategies.

	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>29. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>29.1.Length of sentences</i>			✓	
<i>29.2.Complexity of sentences</i>			✓	
<i>29.3.Diversity of language structures</i>			✓	
<i>29.4.Number of concepts per chapter</i>		✓		
<i>29.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>29.6.Clarity of definitions of technical terms</i>			✓	
<i>29.7.Using concrete examples to illustrate concepts</i>			✓	
<i>29.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	

Illustrate by at least one example any indicator of criterion 2 given a score of less than 3

2.4. Number of concepts per chapter.

More than 15 concepts / technical terms were used in lessons 2 and 3 of this chapter.

2.3. Diversity of language structures.

Some of the word-problems have similar structured sentences. For example, in lesson 7, there are several questions with the same structure: “identify whether the geometric transformation is translation, reflection or rotation”. (textbook, p. 154-155; practice book, p. 40)



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>57. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
57.1. <i>Illustrations</i>			✓	
57.2. <i>Content</i>			✓	
57.3. <i>Activities</i>			✓	
57.4. <i>Practice Exercises</i>		✓		
57.5. <i>Assessment exercises</i>		✓		
57.6. <i>Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). Furthermore, most of the practice exercises are not connected to real-life. Also in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises in contrast to the way the activities are presented in the student textbook. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the problems using more than one strategy. Furthermore, no high-level thinking questions are requested. The assessment exercises are similar to the ones given in the different lessons. For example, the following assessment exercise is similar to the activities introduced in lesson 3: find the number of right angles in each of the following quadrilaterals.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title “high level questions”, in each lesson, does not surpass 3 questions written at the end of the lesson in student textbook. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (refer to the end of each lesson). For example, students in lesson 3 were asked to draw a quadrilateral which is not a rectangle, neither a square, nor a parallelogram.

There are no tasks written in student’s textbook or practice book which request the students to work in groups. A small number of tasks request the student to write a story about a real life situation involving the procedure or concept being studied in the lesson. For example, in lesson 5, students are asked to write about a real-life situation where the solution involves adding fractions (that do not have equal denominators).



There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy or in high-level-questions. In this chapter, one lesson (lesson 5) emphasizes problem solving and learning about a strategy. In this lesson, students are shown the four steps that are used to solve a problem (understand the problem, plan for solving the problem, solve the problem, check the answer) where the last step involves checking the answer. For example, in lesson 3, students are asked to write about a real-life situation involving quadrilaterals.

**Little evidence to skills of communication.** There are no tasks written in student’s textbook or practice book which require the students to work in groups. A small number of tasks request the student to write.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student’s textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy or in high-level-questions. In this chapter one lesson (lesson 2) emphasizes problem solving and usage of different strategies.

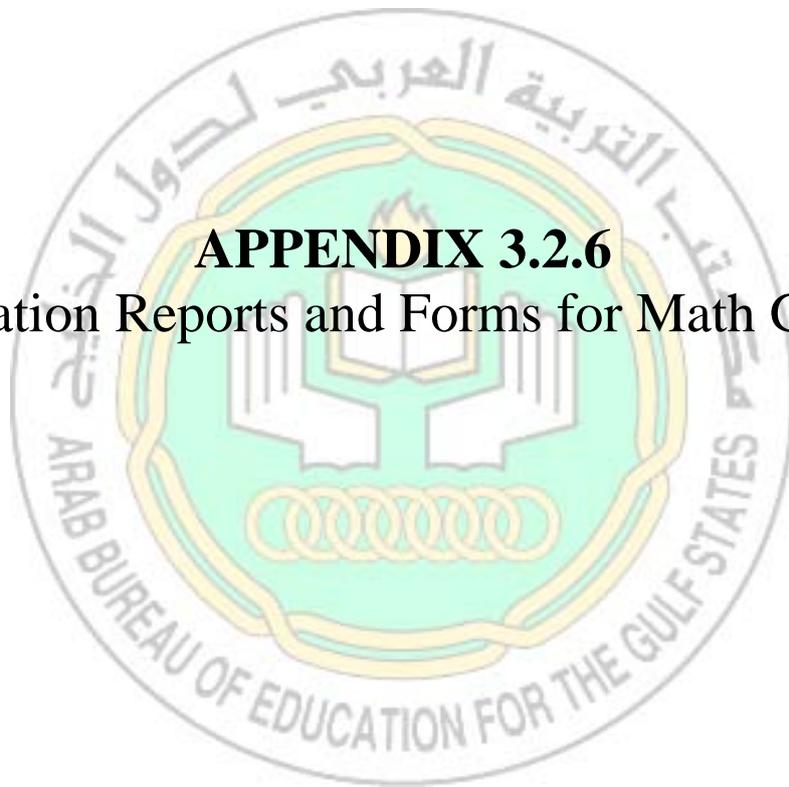
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>58. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
58.1. Illustrations				✓
58.2. Content				✓
58.3. Activities				✓
58.4. Practice Exercises				✓
58.5. Assessment exercises				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



**APPENDIX 3.2.6**  
Evaluation Reports and Forms for Math Grade 6





## Grade 6 – Math Connects – Concepts, skills and problem solving – Course 1

### Tables of content

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “Integers and transformations” and “Algebra: properties and equations” are the chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- The chapters in the original textbook are listed under units whereas in the translated version there no units.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 6		Semester: 1		
		Textbook Title: Math Connects – Concepts, skills and problem solving – course 1				
		Chapter Title: Statistics and Graphs				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>48. Agreement of the translated Arabic book with that of the English book</b>						
48.1. <i>Definitions and explanations in the chapter</i>				✓		
48.2. <i>Activities included in the chapter</i>			✓			
48.3. <i>Learning objectives</i>				✓		
48.4. <i>Practice exercises</i>			✓			
48.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>49. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
49.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

40. One form is to be filled for each of the three books (student, practice, teacher) for each semester
41. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected



42. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:

- a. '1' for completely different
- b. "2" for large difference
- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

43. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter "Statistics and graphs" in both textbooks showed "little difference" due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, "interpret line graphs", "stem and leaf plots", "selecting an appropriate display" and "integers and graphing" are some lessons and sections that appear only in the original textbook. On the other hand, the definitions and explanations that appeared in the lessons that are introduced in both textbook were similar.

### 1.2 Activities included in the chapter

The analysis of the chapter has showed large difference in the activities included in the chapter due to the appearance of important lessons and sections in the original textbook only. For example, "stem and leaf plots", and "integers and graphing" are some lessons and sections that appear only in the original textbook. Also, two sections concerning the usage of technology: Spreadsheet labs: "Double line and bar graphs" and "Spreadsheets and mean" appear only in the original textbook. Furthermore, several lessons that focus on developing students' mathematical sense as stated in the philosophy of the book such as "interpret line graphs", "selecting an appropriate display" and "statistics lab: collecting data to solve a problem" are lessons that appear only in the original textbook.

Also, there is a section in the original textbook that is not found in the translated one: (1) Start smart. This section contains activities that are not found in the translated version.

On the other hand, most of the activities in the lessons that are introduced in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in lessons that are only introduced in the original textbook. For example, "stem and leaf plots", and "integers and graphing" are some lessons that appear only in the original textbook. The objectives in those lesson state that students will learn: to display and analyze data using a stem-and-leaf plot or Use integers to represent real-world data. Also, two sections concerning the usage of technology: Spreadsheet labs: "Double line and bar graphs" and "Spreadsheets and mean" appear only in the original textbook. The objectives in these two sections states that students will use spreadsheets to find the mean or to make a line graph or a bar graph. Furthermore, several lessons that focus on developing students' mathematical sense as stated in the



philosophy of the book such as “interpret line graphs”, “selecting an appropriate display” and “statistics lab: collecting data to solve a problem” are lessons that appear only in the original textbook.

On the other hand, the objectives in the sections that appear in both textbooks are similar.

#### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed large difference between the exercises due to the appearance of several lessons several lessons only in the original textbook. For example, “stem and leaf plots”, and “integers and graphing” appear only in the original textbook.

Also, in student handbook there are “mixed problem solving” exercises and “concepts and skills bank” exercises that appear only in the original textbook.

Note that the extra practice exercises in student handbook in both versions are of low level.

#### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar (differences due to culture), large difference in the assessment exercises appeared in both textbooks due to the due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 5” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 5. This section is not found in the translated textbook. Also, in several lessons in the original textbook there is a section entitled “test practice” section and “spiral review” section. These sections are not introduced in the original textbook. Also, at the end of the chapter, there is a “test practice cumulative chapters 1 and 2” which covers chapters 1 and 2. This cumulative test is not found in the translated book. Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that there differences between the figures and illustrations were due to cultural reasons.



<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 6 Semester: 2				
		Textbook Title: Math Connects – Concepts, skills and problem solving – course 1				
		Chapter Title: Ratio, Proportion and functions				
		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>						
<b>50. Agreement of the translated Arabic book with that of the English book</b>						
50.1. Definitions and explanations in the chapter				✓		
50.2. Activities included in the chapter			✓			
50.3. Learning objectives				✓		
50.4. Practice exercises			✓			
50.5. Assessment exercises			✓			
1.6 Figures, pictures and illustrations					✓	
<b>51. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
51.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

1.1 Definitions and explanations in the chapter

The analysis of the chapter “Ratios and rates” in both textbooks showed “little difference” due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, “sequences and expressions” and “proportions and equations” are two lessons that only appear in the original textbook. Also, graphing calculator labs with a focus on “ratio tables” and “graphing proportional relationships” are two lessons and that appear only in the original textbook. On the other hand, the definitions and explanations that appear in the lessons that are introduced in both textbook are similar.

1.2 Activities included in the chapter

The analysis of the chapter has showed large difference in the activities included in the chapter due to the appearance of important lessons and sections in the original textbook only.



For example, “sequences and expressions” and “proportions and equations” are two lessons that only appear in the original textbook. Also, graphing calculator labs with a focus on “ratio tables” and “graphing proportional relationships” are two lessons and that appear only in the original textbook.

Also, there is a section in the original textbook that is not found in the translated one: (1) Start smart. This section contains activities that are not found in the translated version.

On the other hand, most of the activities in the lessons that are introduced in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in lessons that are only introduced in the original textbook. For example, “sequences and expressions” and “proportions and equations” are two lessons that only appear in the original textbook. The objectives in those lesson state that students will: (1) extend and describe arithmetic sequences using algebraic expressions; (2) write an equation to describe a proportional situation. Also, two lessons concerning the usage of technology: “ratio tables” and “graphing proportional relationships” appear only in the original textbook. The objectives in these two sections states that students will: (1) use technology to compare output/input ratios for functions; (2) graph proportional relationships.

On the other hand, the objectives in the sections that appear in both textbooks are similar.

### 1.4 Practice exercises

The analysis of the practice-exercises in both versions showed large difference between the exercises due to the appearance of several lessons only in the original textbook. For example, “sequences and expressions” and “proportions and equations” appear only in the original textbook.

Also, in student handbook there are “mixed problem solving” exercises and “concepts and skills bank” exercises that appear only in the original textbook.

Note that the extra practice exercises in student handbook in both versions are of low level.

### 1.5 Assessment

Even though the assessment activities in the “chapter practice test” are similar (differences due to culture), large difference in the assessment exercises appeared in both textbooks due to the due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in several lessons in the original textbook there is a section entitled “test practice” section and “spiral review” section. These sections are not introduced in the original textbook. Also, at the end of the chapter in the original textbook, there is a “test practice cumulative chapters 1 through 6” which does not appear in the translated book. Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

### 1.6 Figures, pictures and illustrations



The analysis of the chapter in both textbooks showed that there differences between the figures and illustrations were due to cultural reasons.





### Report about mathematics textbooks in grade 6 first semester

The following report is an evaluation of math books in grade 6, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books is divided into five chapters. Two chapters were analyzed: (1) Chapter 1: Algebra; and (2) Chapter 2: Statistics.

One evaluation form was filled out for each chapter. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** The analysis showed some similarities and some differences between chapters 1 and 2 concerning the alignment of the books to the philosophy. In both chapters the learning objectives showed no evidence of alignment with the philosophy of the book. Also, there is "little evidence" that the assessment exercises in both chapters are aligned with the philosophy of the book. As for the differences, in chapter 1, the content of the chapters, activities, practice exercises, and skills showed "little evidence" that they are aligned with the philosophy of the original book. In contrast with chapter 1, the content of the chapters, activities, practice exercises, and skills showed "almost satisfactory evidence" with the alignment of the philosophy of the book. Notify that the philosophy is stated at the beginning of student textbook and focuses on the central role of the student in the learning process. The philosophy gives weight to several criteria which are discussed in the following paragraphs according to the analysis of the books:

(1) *Building connections between the content of mathematics and real-life situations* - In several lessons of chapter 1 and all lessons of chapter 2 most of the tasks are connected to real-life situations.

(2) *Showing the content of the books in a motivating way* - the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book.

(3) *Developing different types of skills (including high level thinking and justifying or looking backwards)* - There is "little evidence" of alignment with the philosophy of the book concerning high-level-thinking in both chapters. The analysis showed that most activities in both chapters can be solved in a routine way. These activities are direct applications to the procedures learned at the beginning of the lesson. On the other hand, in some lessons in student textbook there is a section entitled "high level tasks" that contains several activities written at the end of the lesson. The analysis showed that around 3 activities are categorized as High-Level-Thinking-Questions in each lesson. However, some of these questions are not of high level since the task can be solved in a routine way. For example, students in lesson 5 (chapter 1) are involved in the following activity: choose the expression which is different



than the others:  $7s$ ;  $6+8$ ;  $sh$ ;  $2+3a$ . This activity emphasizes the procedure that the student had learned during the lesson.

(4) *Using different strategies to solve the mathematical activities and exercises* - In each lesson in chapter 1 (each lesson introduces an idea or a process) one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, lesson 3 introduces “powers” and one way is modeled to solve a real-life example that is presented at the beginning of the lesson. However, in chapter 2, several strategies are used to represent data (bar graphs, line graph, points, cubes, etc.). Furthermore, in each chapter there is one lesson which focuses on problem solving and using a specific strategy (chapter 1: using the strategy of estimating; chapter 2: checking using tables). Finally, in both chapters, solving the activities does not involve the students in using more than one strategy.

(5) *Using technology in solving mathematical exercises*—Little evidence to using technology in alignment with the philosophy. Using technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).

(6) *Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences* –The students are to be involved in different types of assessments including homework, class-work, summative assessment and developing projects. The analysis showed that the although more than 50% of assessment exercises (summative assessment) are related to real-life situations, these assessment exercises are of low level and are similar to the routine activities introduced in the lessons. For example, the following assessment exercise is similar to activities introduced in chapter 1: solve the following equation:  $d+9=14$ .

(7) *The central and active role of the student in the learning process* – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. For example, to teach the students how to solve a problem by using four steps, several activities are solved using four steps.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is “almost satisfactory evidence” that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students in almost all the indicators. The eight indicators in the rubric showed “almost satisfactory evidence” in the two chapters: (1) length of the sentences, (2) “clarity of definitions of technical words”, (3) “diversity of language structures”, (4) complexity of sentences; (5) number of concepts per chapter, (6) reuse of technical terms in subsequent lessons; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:** In chapter 2, all the indicators in the rubric showed “almost satisfactory evidence”. However, in chapter 1, three indicators (the illustrations, content and activities) showed “almost satisfactory evidence” while other indicators such as practice exercises; assessment exercises and skills showed “little evidence” due to:

(1) Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). In some lessons, the majority of practice-exercises are related to real-life situations whereas in other lessons the majority of exercises are not related to real-life situations. The analysis showed that technology is not used, there are no illustrations associated to the exercises (thus, the way the exercises are presented is not motivating). The analysis also showed that there is no emphasis on using different strategies. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.



(2) Around 50% of the exercises are related to real life context. On the other hand, there is no request to solve the problems using more than one strategy. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to activities introduced in the chapter: solve the following equation:  $d+9=14$ .

(3) Small number of activities involves students in high level thinking whereas most of the other activities are direct applications. Also, students are not involved in group work and few activities involve the students in writing stories about a real life situation and using the procedure being studied in the lesson to solve the situation. In addition, students are not involved collecting and organizing data. There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In chapter 1, one lesson emphasizes problem solving and using a specific strategy.

#### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.





### Report about mathematics textbooks in grade 6second semester

The following report is an evaluation of math books in grade 6, second semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book, and teachers' guidebook. Each of these books is divided into five chapters. Two chapters were analyzed: (1) Chapter 6: ratio and (2) Chapter 7: Percentage and probability.

One evaluation form was filled out for each chapter. The evaluation form consisted of four rubrics. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States . The scale in each of the four rubrics was rated as: "satisfactory evidence"; "almost satisfactory evidence"; "little evidence"; or "no evidence".

The results of the following report are based on the evaluation forms. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** There is "little evidence" that the content of the chapters, activities, practice exercises, assessment exercises, and skills are aligned with the philosophy of the original book. The analysis also showed that there is "no evidence" that the objectives are aligned with the philosophy of the original book.

The philosophy is stated at the beginning of student textbook and focuses on the central role of the student in the learning process. The philosophy gives weight to several criteria which are discussed in the following paragraphs according to the analysis of the books:

(1) *Building connections between the content of mathematics and real-life situations* – In chapter 6, most of the tasks are connected to real-life situations. This is not the case in chapter 2. The analysis showed that most of the activities in lessons that focus on the percentage are not connected to real-life situations whereas the majority of activities in the other lessons that introduce the concept of probability are connected to real-life situations.

(2) *Showing the content of the books in a motivating way*– the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are shown in a non-motivating way and no illustrations are integrated in the practice book.

(3) *Developing different types of skills including high level thinking and justifying or looking backwards*– the analysis showed that most activities in the two chapters can be solved in a routine way. These activities are direct applications to the procedures learned at the beginning of each lesson. On the other hand, less than 15% of activities are categorized as High-Level-Thinking-Questions are introduced at the end of each lesson. However, some of these questions are not of high level since the task can be solved in a routine way. For example, in lesson 1 (chapter 7) "write 3 fractions that could be represented by percentages that are between 50% and 75%. Justify". This activity does not involve students in high level thinking since it mainly involves students in using the procedure of the lesson.

(4) *Using different strategies to solve the mathematical activities and exercises* -Several strategies are introduced throughout the chapter. However, in each lesson one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. Furthermore, students are not requested to use more than one strategy to solve a problem. For example, in lesson 3 of chapter 7, students are introduced to the concept



of probability and how to find probability theoretically and practically. Students are shown several solved activities at the beginning of the lesson, then the students are involved in solving most of the other activities by using the same procedure.

(5) *Using technology in solving mathematical exercises*—Little evidence to using technology in alignment with the philosophy. Using technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).

(6) *Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences* - The analysis showed different types of assessments are included in teacher's manual (project to accomplish, end of chapter assessment, end of semester assessment, homework, etc.). However, the assessments that are usually written at the end of the chapter are mostly formed of low-level exercises that are not related to real-life contexts and can be solved in routine ways. Also, students are not asked to solve the assessment exercises using more than one strategy. For example, the following assessment exercise is similar to activities introduced in the chapter: write the ratio in the form of a fraction: 12 red cakes between 20 cakes.

(7) *The central and active role of the student in the learning process* – the analysis showed that the definitions and procedures to be learned are not constructed by the students. Instead, these definitions and procedures are modeled at the beginning of each lesson by presenting to the students solved activities and examples. For example, to teach the students about the strategy: using a simpler case, a solved activity is shown to the students at the beginning of the lesson.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is “almost satisfactory evidence” that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students in all the indicators except the one concerning the “diversity of language structures” (only in chapter 7). Seven of the eight indicators in the rubric showed “almost satisfactory evidence” in the two chapters: (1) length of the sentences, (2) complexity of sentences; (3) number of concepts per chapter, (4) reuse of technical terms in subsequent lessons; (5) redundancy of terms and sentences with no educational benefit; (6) using concrete examples to illustrate concepts and (7) “clarity of definitions of technical words”. In contrast, the analysis showed that there is “little evidence” in the “diversity of language structures” in chapter 7 since some of the word-problems have similar structure. For example, “if ... so how much/how many/ what is the probability?” questions are used frequently (Student textbook pages 48, 56, 57). For example, “if one of the airplane that arrived to the airport randomly, what is the probability that it did not arrive on time?”

**Suitability of the Arabization of the translated textbooks to serve the math concepts:**

Three indicators (the illustrations, content and activities) in the rubric showed “almost satisfactory evidence”. However, other indicators such as practice exercises; assessment exercises and skills showed “little evidence” due to the following:

(1) Most of the practice exercises are direct applications and can be solved in a routine way and there is no emphasis on using different strategies in the same lesson. Also, technology is not used and the exercises are presented in a non motivating way since there is no real-life illustrations associated to the exercises. No explanation or justification is required from the students. For example, in lesson 1, all the practice exercises involve the students in finding ratios. Note that most practice exercises in chapter 6 and in some lessons of chapter 7 are connected to real-life situations.

(2) Most of the assessment activities are of low level and can be solved in a routine way. Also, most of the assessment exercises are not related to real life context and students are not requested to solve the assessment exercises using more than one strategy. For example, the



following assessment exercise is similar to the activities introduced in lesson 1 (chapter 7): “write the percentages in the form of a fraction in its simplified form: 42%”.

(3) Concerning skills, most of the activities do not involve the students in high level thinking and can be solved in a routine way and the students do not need procedures and concepts other than the ones used during the lesson. For example, in lesson 6 (chapter 6) students are involved in the following activity: Tarek and Sultan have found the ratio of 108 Riyals in 6 weeks. Tarek wrote:  $108/6 = 18/1$ . Sultan wrote:  $108/6 = 54/3$ . Which one has the correct answer?” This activity is of low level and involves students in procedures that they have used in several activities. Also, there is “no evidence” of group work and there is “little evidence” of involving students in justifying and explaining since these skills are sometimes emphasized at the end of each lesson in the section entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems.

#### **Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.





<b>Book Evaluation Form</b>	Subject:			
	Grade: 6 – Semester 1			
	Textbook Title:			
	Chapter Title: Chapter 1: algebra: tables and numeric patterns			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>52. Alignment of the translated texts to the philosophy of the original textbook</b>				
52.1. <i>Content of the Chapter</i>		✓		
52.2. <i>Activities included in the chapter</i>		✓		
52.3. <i>Learning objectives</i>	✓			
52.4. <i>Practice exercises</i>		✓		
52.5. <i>Assessment exercises</i>		✓		
52.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>In each lesson (which corresponds to a process or concept) one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, lesson 3 introduces “powers” and a real-life example is shown at the beginning of the lesson and one way is modeled to solve the problem.</p> <p>Also, solving the activities and practice exercises does not require the student to use more one strategy. On the other hand, 1 lesson focuses on problem solving and on using the strategy of estimating and checking.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of connection to <b>real-life situations</b> in some lessons (in lessons 2, 3, 4 and 8 most of the activities are not related to real-life. In contrast, whereas most of the activities in lessons 1 and 7 are related to real-life examples whereas about 50% of activities in lesson 6 are connected to real-life situations) in contrast to the philosophy of the book which emphasizes on learning based on solving problems related to real-life contexts.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish</p>				



the activities are shown. For example, to teach the students how to solve a problem by using four steps, several activities are solved using four steps.

Little evidence of **developing skills** (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter are direct applications to the procedure learned at the beginning of each section and can be solved in a routine way similar to the one shown in the examples at the beginning of the lesson. For example, most of the activities in lesson 4 involve the students in organizing the operations to be done consecutively. Only the activities that are listed at the end of each section under the title High-Level-Thinking-Questions (3 to 4 exercises) may involve the students in explaining or justifying.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn how to write algebraic expressions, with no further indication concerning the criteria mentioned in the philosophy.

### 1.4. Practice Exercises

In some lessons, the majority of practice-exercises are related to real-life situations whereas in other lessons the majority of exercises are not related to real-life situations. The analysis showed that technology is not used, there are no illustrations associated to the exercises (thus, the way the exercises are presented is not motivating). The analysis also showed that there is no emphasis on using different strategies.

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Around 50% of the exercises are related to real life context. On the other hand, there is no request to solve the problems using more than one strategy. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to activities introduced in the chapter: solve the following equation:  $d+9=14$ .

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in students' textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson is around 3 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 5 are involved in the following activity: choose the expression which is different than the others:  $7s$ ;  $6+8$ ;  $sh$ ;  $2+3a$ .

There are different types of high-level-questions. One type is open-ended where students may



provide different answers. Another type involves students in choosing one out of two arguments and in indicating why it is correct and the other argument is wrong. A third type of high-level-questions involves students in writing a story about a specific situation where the concept or procedure being taught in the lesson should be used in the story.

**Little evidence to skills of communication.** There are no tasks written in student's textbook or practice book which require the students to work in groups. A small number of tasks request the student to write (this may be found at the end of the chapter where the student is requested to write a story about a real life situation by using the procedure or concept being studied in the lesson. For example, in lesson 4, students are asked to write about a real-life situation where the students should change milliliters into liters then solve the situation.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except in the introduction of lessons where there is focus on teaching problem solving. In this chapter, two lessons emphasize problem solving. Only, at the introduction of the lesson, there is emphasis on using four steps to solve the problem such that the fourth step involves students in checking the answer.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>30. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>30.1.Length of sentences</i>			✓	
<i>30.2.Complexity of sentences</i>			✓	
<i>30.3.Diversity of language structures</i>			✓	
<i>30.4.Number of concepts per chapter</i>			✓	
<i>30.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>30.6.Clarity of definitions of technical terms</i>			✓	
<i>30.7.Using concrete examples to illustrate concepts</i>			✓	
<i>30.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at least one example any indicator of criterion 2 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>59. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
59.1. <i>Illustrations</i>			✓	
59.2. <i>Content</i>			✓	
59.3. <i>Activities</i>			✓	
59.4. <i>Practice Exercises</i>		✓		
59.5. <i>Assessment exercises</i>		✓		
59.6. <i>Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises). In some lessons, the majority of practice-exercises are related to real-life situations whereas in other lessons the majority of exercises are not related to real-life situations. The analysis showed that technology is not used, there are no illustrations associated to the exercises (thus, the way the exercises are presented is not motivating). The analysis also showed that there is no emphasis on using different strategies. No explanation or justification is required from the student and one line space is given to write the answer in almost all the practice exercises.

### 3.5 Assessment Exercises

Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Around 50% of the exercises are related to real life context. On the other hand, there is no request to solve the problems using more than one strategy. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to activities introduced in the chapter: solve the following equation:  $d+9=14$ .

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. The number of exercises under the title “high level questions”, in each lesson, is around 3 questions written at the end of the lesson in student textbook. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, For example, students in lesson 5 are involved in the following activity: choose the expression which is different than the others:  $7s$ ;  $6+8$ ;  $sh$ ;  $2+3a$ .

Most of the tasks do not involve the students in group work. Few activities involve the students in writing stories about a real life situation and using the procedure being studied in the lesson to solve the situation. Also, students are not involved collecting and organizing

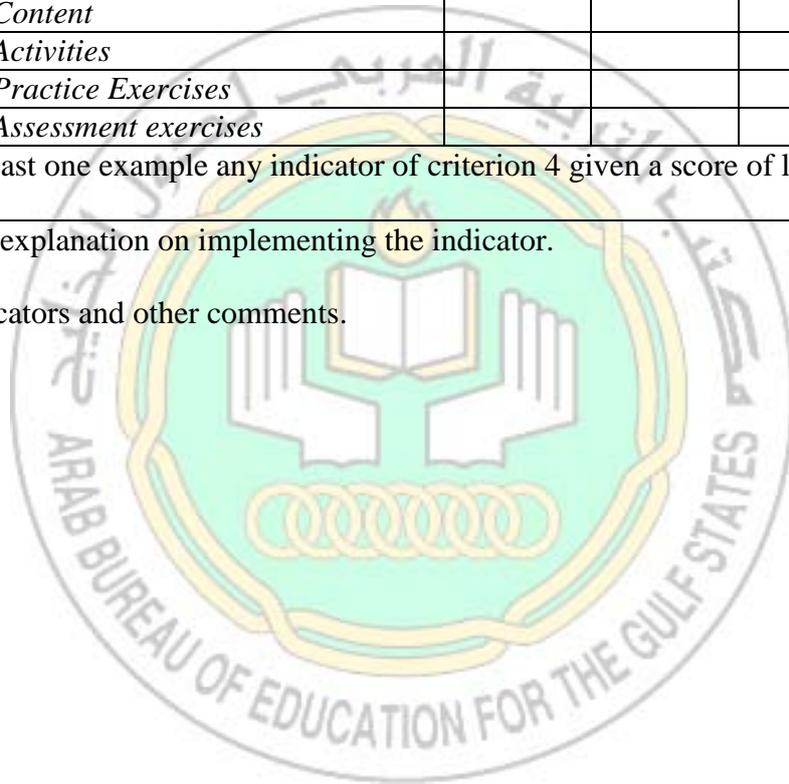


data. There is no emphasis on justification or looking backward when solving a problem except in the lessons where there is a focus on teaching about a specific strategy. In this chapter, one lesson emphasizes problem solving. Only, at the introduction of the lesson, there is emphasis on using four steps to solve the problem such that the fourth step involves students in checking the answer.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>60. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
60.1. <i>Illustrations</i>				✓
60.2. <i>Content</i>				✓
60.3. <i>Activities</i>				✓
60.4. <i>Practice Exercises</i>				✓
60.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject:			
	Grade: 6 – Semester 1			
	Textbook Title:			
	Chapter Title: Chapter 2: Statistics			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>53. Alignment of the translated texts to the philosophy of the original textbook</b>				
53.1. <i>Content of the Chapter</i>			✓	
53.2. <i>Activities included in the chapter</i>			✓	
53.3. <i>Learning objectives</i>	✓			
53.4. <i>Practice exercises</i>			✓	
53.5. <i>Assessment exercises</i>		✓		
53.6. <i>Skills</i>			✓	
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u>            Several strategies are used to represent data (bar graphs, line graph, points, cubes, etc.). Furthermore, one lesson focuses on problem solving and using a specific strategy (using tables).</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Satisfactory evidence of connection to real-life situations in all the lessons of this chapter.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how to represent data by using bar graphs in lesson 2, students are shown 2 examples that are solved.</p> <p><u>1.3 Learning Objectives</u>            The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, the learning objective of this chapter indicates that students will learn how to represent and analyze data.</p>				



#### 1.4. Practice Exercises

The majority of practice-exercises are related to real-life situations. The analysis showed that technology is not used. On the other hand, different strategies (representations) are used in the chapter to represent data.

#### 1.5 Assessment Exercises

The assessment exercises are related to real-life situations. However, little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing). In addition, all the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested.

#### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in students' textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson is around 4 questions written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 5 are involved in the following activity: if the number of grade 6 students is as follows: 3, 0, 1, 1 ... Identify whether the following sentences are correct or not. The questions that are asked are directly related to the lesson.

**Almost satisfactory evidence to skills of collecting and organizing data.**

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>31. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>31.1.Length of sentences</i>			✓	
<i>31.2.Complexity of sentences</i>			✓	
<i>31.3.Diversity of language structures</i>			✓	
<i>31.4.Number of concepts per chapter</i>			✓	
<i>31.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>31.6.Clarity of definitions of technical terms</i>			✓	
<i>31.7.Using concrete examples to illustrate concepts</i>			✓	
<i>31.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>61. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
61.1. <i>Illustrations</i>			✓	
61.2. <i>Content</i>			✓	
61.3. <i>Activities</i>			✓	
61.4. <i>Practice Exercises</i>			✓	
61.5. <i>Assessment exercises</i>			✓	
61.6. <i>Skills</i>			✓	
Illustrate by at least one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>62. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
62.1. <i>Illustrations</i>				✓
62.2. <i>Content</i>				✓
62.3. <i>Activities</i>				✓
62.4. <i>Practice Exercises</i>				✓
62.5. <i>Assessment exercises</i>				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject:			
	Grade: 6 – Semester 2			
	Textbook Title:			
	Chapter Title: Chapter 6: ratio			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>54. Alignment of the translated texts to the philosophy of the original textbook</b>				
54.1. <i>Content of the Chapter</i>		✓		
54.2. <i>Activities included in the chapter</i>		✓		
54.3. <i>Learning objectives</i>	✓			
54.4. <i>Practice exercises</i>		✓		
54.5. <i>Assessment exercises</i>		✓		
54.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content and activities of the chapter</u></p> <p>Most of the activities are connected to <b>real-life situations</b> in the different lessons forming this chapter.</p> <p>The analysis showed that in all the lessons, solving the activities and practice exercises does not require the student to use more one strategy. In most of the lessons one strategy is used in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems. For example, lesson 4 involves students in solving equations; a real-life example is shown at the beginning of the lesson and one way is modeled to solve the problem. In contrast, lesson 2 involves students in looking at tables and solving the problem in two different ways at the beginning of the chapter. On the other hand, 1 lesson focuses on problem solving and on using the strategy of looking for patterns. Finally, the students are involved in using different strategies corresponding to different procedures throughout the chapter.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students how to solve a problem by using ratios students are presented with solved activities at the beginning of lesson 2.</p>				



Little evidence of **developing skills** (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter are direct applications to the procedure learned at the beginning of each section and can be solved in a routine way similar to the one shown in the examples at the beginning of the lesson. For example, most of the activities in lesson 1 involve the students in finding ratios. Only the activities that are listed at the end of each section under the title High-Level-Thinking-Questions (around 4 activities) or the activities that are introduced in lesson 5 (strategy: looking for a pattern) may involve the students in explaining or justifying.

### 1.3 Learning Objectives

The learning objectives focus on what students should learn as concepts and procedures in the chapter with no evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the learning objectives of this chapter indicates that students will learn how to write algebraic expressions, with no further indication concerning the criteria mentioned in the philosophy.

### 1.4. Practice Exercises

The majority of practice-exercises are related to real-life situations. The analysis showed that technology is not used and that the way the exercises are presented is not motivating since there are no illustrations associated to the exercises. The analysis also showed that there is no emphasis on using different strategies since students are not requested to solve the practice exercises by using more than one strategy.

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the assessment exercises are related to real-life situations. On the other hand, there is no request to solve the problems using more than one strategy. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to activities introduced in the chapter: write the ratio in the form of a fraction: 12 red cakes between 20 cakes.

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** High level tasks are only found in students' textbook and not in the practice book. The number of exercises under the title "high level questions", in each lesson is around 4 questions (less than 15% of the total number of exercises presented in the student textbook) written at the end of the lesson. Some of these questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, students in lesson 6 are involved in the following activity: Tarek and Sultan have found the ratio of 108 Riyals in 6 weeks. Tarek:  $108/6 = 18/1$ . Sultan:  $108/6 = 54/3$ . Which one has the correct answer?

**Little evidence to skills of communication.** A small number of tasks (around 2 tasks) request



the student to write. For example, in lesson 3, students are asked to describe 3 different ways in order to decide whether two ratios are equal or not, given that: Layla pays 45 Riyals for one piece of a cake and 84 Riyals for 4 pieces of a cake.

**Little evidence to skills of collecting and organizing data.** There are no tasks written in student's textbook or practice book that require students to collect and organize data.

**Little evidence to skills of mathematical sense.** There is no emphasis on justification or looking backward when solving a problem except at the introduction of lessons that focus on problem solving. In this chapter, one lesson emphasizes problem solving: looking for a pattern.

	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>32. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>32.1.Length of sentences</i>			✓	
<i>32.2.Complexity of sentences</i>			✓	
<i>32.3.Diversity of language structures</i>			✓	
<i>32.4.Number of concepts per chapter</i>			✓	
<i>32.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>32.6.Clarity of definitions of technical terms</i>			✓	
<i>32.7.Using concrete examples to illustrate concepts</i>			✓	
<i>32.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>63. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>63.1. Illustrations</i>			✓	
<i>63.2. Content</i>			✓	
<i>63.3. Activities</i>			✓	
<i>63.4. Practice Exercises</i>		✓		
<i>63.5. Assessment exercises</i>		✓		
<i>63.6. Skills</i>		✓		

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

### 3.4 Practice exercises

In contrast to the other chapters, the majority of practice-exercises are related to real-life situations. However, little evidence of the suitability of the Arabization of the translated



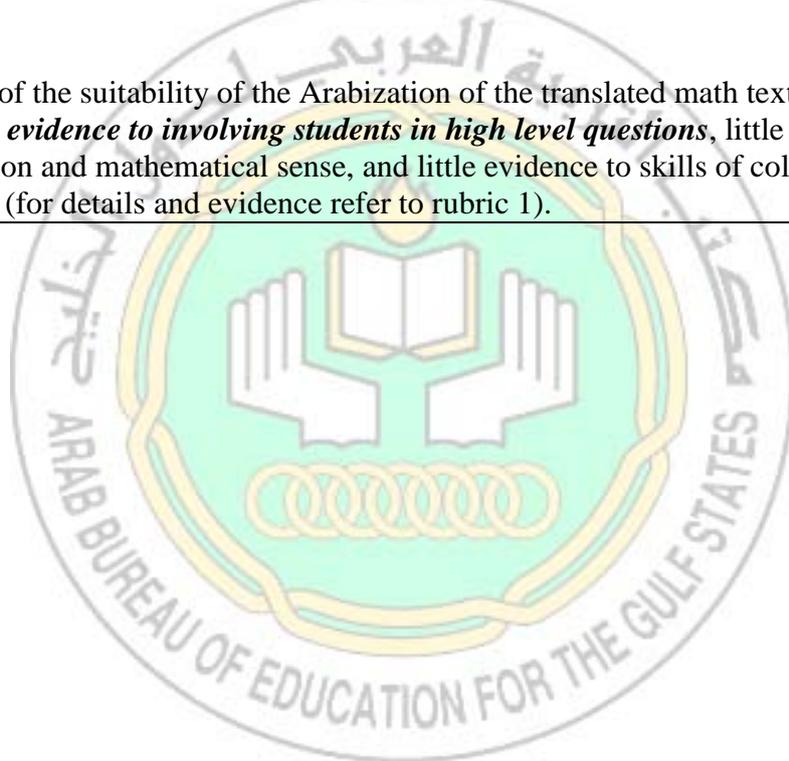
practice exercises to serve the math concepts due to several reasons. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and there is no emphasis on using different strategies in the same lesson. Also, technology is not used and the exercises are presented in a non motivating way since there is no real-life illustrations associated to the exercises. No explanation or justification is required from the students.

### 3.5 Assessment Exercises

Most of the assessment exercises are related to real-life situations. However, little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts due to several reasons. All the assessment exercises are similar to the routine activities introduced in the different lessons of the chapter and no high-level thinking questions are requested. For example, the following assessment exercise is similar to activities introduced in the chapter: write the ratio in the form of a fraction: 12 red cakes between 20 cakes. Also, there is no request to solve the problems using more than one strategy.

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. **Little evidence to involving students in high level questions**, little evidence to skills of communication and mathematical sense, and little evidence to skills of collecting and organizing data (for details and evidence refer to rubric 1).





	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>64. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
64.1. <i>Illustrations</i>				✓
64.2. <i>Content</i>				✓
64.3. <i>Activities</i>				✓
64.4. <i>Practice Exercises</i>				✓
64.5. <i>Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject:			
	Grade: 6 – semester 2			
	Textbook Title:			
	Chapter Title: Chapter 7 Percentage and probability			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>55. Alignment of the translated texts to the philosophy of the original textbook</b>				
55.1. <i>Content of the Chapter</i>		✓		
55.2. <i>Activities included in the chapter</i>		✓		
55.3. <i>Learning objectives</i>	✓			
55.4. <i>Practice exercises</i>		✓		
55.5. <i>Assessment exercises</i>		✓		
55.6. <i>Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u><i>1.1 and 1.2 Content and activities of the chapter</i></u></p> <p>The students are involved in different processes. However, one strategy is taught in each lesson in contrast to the philosophy of the book which emphasizes the usage of different strategies to solve problems; students are not requested for more than one strategy which is usually shown at the beginning of the lesson. In each lesson, several activities are solved to show the students the process. For example, in lesson 3 students are introduced to the concept of probability and how to find probability theoretically and practically. Students are shown several activities that are solved. Most of the activities in this lesson involve the student in applying the same procedure.</p> <p>Little evidence of using <b>technology</b> in contrast to the philosophy of the book which emphasizes the usage of technology to solve problems. The usage of technology is limited to a reference of website to do more practice: <a href="http://www.obeikaneducation.com">www.obeikaneducation.com</a></p> <p>Most of the activities in lessons that focus on the percentage concept are not connected to real-life situations whereas the majority of activities in the other lessons that introduce the concept of probability to the students are connected to real-life situations.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures to be learned during the lessons are modeled at the beginning each lesson by presenting to the students solved activities. Also, the different steps to accomplish the activities are shown. For example, to teach the students about the strategy: using a simpler</p>				



case, a solved activity is shown to the students at the beginning of the lesson.

Little evidence of **developing skills** (high level thinking, mathematical sense, communication, collecting and analyzing data) in contrast to the philosophy of the book which emphasizes on developing skills. Most activities in the chapter can be solved in a routine way where students need only to know the procedure of performing the steps showed in the examples at the beginning of the lesson. These activities are direct applications to the procedure learned at the beginning of each section. For example, most of the activities in lesson 2 involve the students in writing the fraction form in a % form. Students are rarely asked to justify or explain their response or to cooperate with others. Only around 4 activities that are listed at the end of each lesson involve the student in high-Level-Thinking-Questions. For example, at the end of lesson 1, 4 high-level-questions involve the students in high level thinking. .

### 1.3 Learning Objectives

The learning objective of this chapter indicates that students will learn to solve problems about percentages and probability with no evidence to the indicators that are listed in the philosophy of the book including: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process.

### 1.4. Practice Exercises

In the first two lessons (concerning percent), the majority of exercises that are not related to real-life situations is larger than the one related to real-life. In the other lessons (about probability) the majority of exercises are related to real-life activities.

The analysis also showed that students are not involved in using technology. Also, the exercises are introduced in a non-motivating way since no illustrations are associated with the exercises. Furthermore, students are not requested to solve the exercises by using different strategies.

### 1.5 Assessment Exercises

Little evidence to (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) using different strategies to solve a problem. All the assessment exercises are similar to the ones given in student textbook. Also, these exercises can be solved in a traditional way. For example, the following assessment exercise is similar to the exercises introduced in lesson 1: “write the percentages in the form of a fraction in its simplified form: 42%”.

### 1.6. Skills

The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level questions.** Around 4 high level tasks are at the end of the each lesson. Some of these tasks are not of high level since it can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, in lesson 1 “write 3 fractions that could be represented by percentages that are between 50% and 75%. Justify.”

**Little evidence to skills of communication and mathematical sense.** A small number of tasks request the student to explain or justify. For example, in lesson 3, students are involved in identifying one of the following claims to be true and to justify: “Each of Salem and Ahmad calculated the probability of the appearance of 3 when throwing a dice. Salem:  $\frac{1}{5}$ ; Ahmad



1/6. Which one has the correct answer? Justify.” Also, in lesson 6 (using the strategy: solving a simple problem) emphasizes the four steps in problem solving such that the last step is looking backwards and checking the answer.  
**Little evidence to skills of collecting and organizing data.** The tasks in this chapter do not involve students in collecting and organizing data.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>33. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>33.1.Length of sentences</i>			✓	
<i>33.2.Complexity of sentences</i>			✓	
<i>33.3.Diversity of language structures</i>		✓		
<i>33.4.Number of concepts per chapter</i>			✓	
<i>33.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>33.6.Clarity of definitions of technical terms</i>			✓	
<i>33.7.Using concrete examples to illustrate concepts</i>			✓	
<i>33.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	

Illustrate by at least one example any indicator of criterion 2 given a score of less than 3

2.3 Diversity of language structure.

Some of the word-problems have similar structure. For example, “if ... so how much/how many/ what is the probability?” questions are used frequently (Student textbook pages 48, 56, 57). For example, “if one of the airplane that arrived to the airport randomly, what is the probability that it did not arrive on time?”

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>65. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>65.1. Illustrations</i>			✓	
<i>65.2. Content</i>			✓	
<i>65.3. Activities</i>			✓	
<i>65.4. Practice Exercises</i>		✓		
<i>65.5. Assessment exercises</i>		✓		
<i>65.6. Skills</i>		✓		

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3



### 3.4 Practice exercises

Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts due to several reasons. Most of the practice exercises are direct applications and can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and there is no emphasis on using different strategies in the same lesson. Also, technology is not used and the exercises are presented in a non motivating way since there is no real-life illustrations associated to the exercises. No explanation or justification is required from the students.

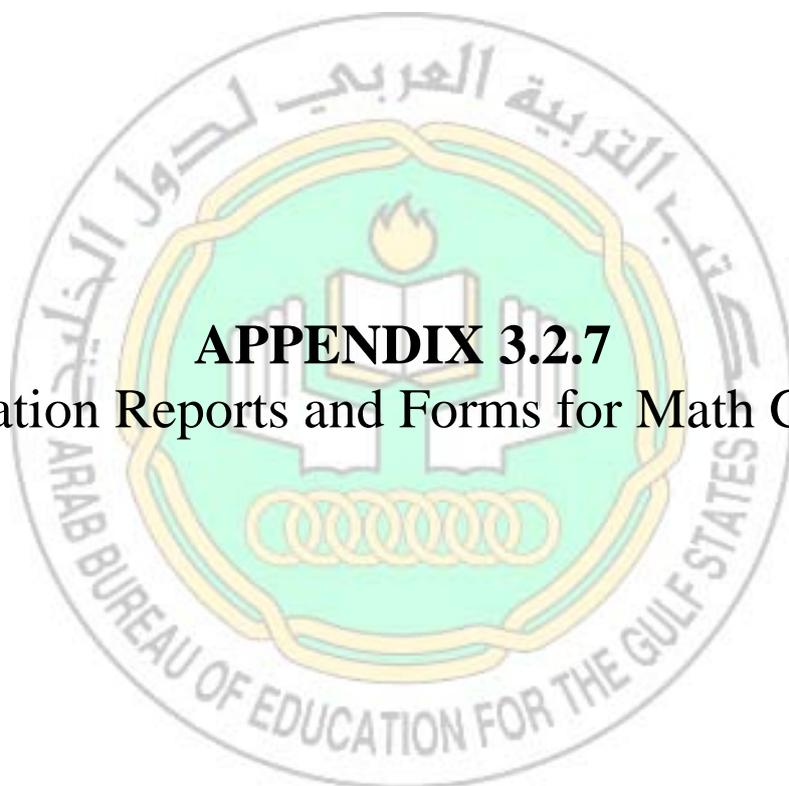
### 3.5 Assessment Exercises

Most of the assessment exercises are related to real-life situations. However, little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts due to several reasons. All the assessment exercises are similar to the ones given in student textbook. Also, these exercises can be solved in a traditional way. For example, the following assessment exercise is similar to the exercises introduced in lesson 1: “write the percentages in the form of a fraction in its simplified form: 42%”. .

### 3.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills due to lack of activities that involve students in high level thinking, communication and mathematical sense, and in collecting and organizing data (for details and evidence refer to rubric 1).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>66. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
66.1. Illustrations				✓
66.2. Content				✓
66.3. Activities				✓
66.4. Practice Exercises				✓
66.5. Assessment exercises				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3  Crocodile (example + illustration) page 65 page 71 animal lives in north Comments and explanation on implementing the indicator.  Additional indicators and other comments.				



**APPENDIX 3.2.7**  
Evaluation Reports and Forms for Math Grade 7



## Grade 7 – Math Connects – Concepts, skills and problem solving – Course 2

### Tables of content

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “Fractions, decimals, and percents”, “applying fractions” and “geometry and measurement” are the chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- The chapters in the original textbook are listed under **units** whereas in the translated version there are no units.





<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 7		Semester: 1		
	Textbook Title:				
	Chapter Title: Integers and absolute value				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>56. Agreement of the translated Arabic book with that of the English book</b>					
56.1.	<i>Definitions and explanations in the chapter</i>				✓
56.2.	<i>Activities included in the chapter</i>				✓
56.3.	<i>Learning objectives</i>				✓
56.4.	<i>Practice exercises</i>				✓
56.5.	<i>Assessment exercises</i>				✓
<i>1.6 Figures, pictures and illustrations</i>					
<b>57. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
57.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

1.1 Definitions and explanations in the chapter

The analysis of this chapter showed that there is no difference between the definitions and explanations in both textbooks. Some differences in the examples that do not affect students' understanding were found at the beginning of several lessons are due to cultural reasons.

1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed little difference in the activities included in the chapter. This is due to the existence in the original textbook of several practice and problem solving activities that do not appear in the Arabic version. Also, several other activities that are found in both textbooks are different due to cultural reasons. Also, there is a section in the original textbook that is not found in the translated one: Start smart. This section contains activities that are not found in the translated version.

1.3 Learning objectives

There is no difference between the alignment of objectives in the original and translated textbooks.

1.4 Practice exercises



The analysis of this chapter in both textbooks has showed little difference in the practice exercises. This is due to the existence in the original textbook of several practice exercises that do not appear in the Arabic version. For example, on page 82, there are two exercises (Golf and Pets) that do not appear in the translated version. Also, several other activities that are found in both textbooks are different due to cultural reasons.

Also, in student handbook there are “mixed problem solving” exercises and “concepts and skills bank” exercises that appear only in the original textbook.

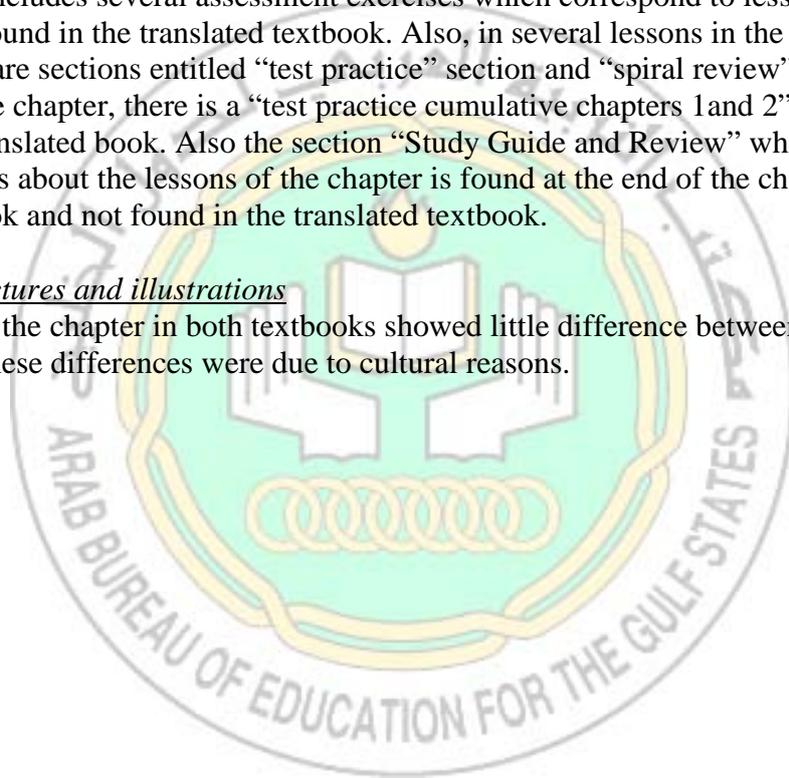
Note that the extra practice exercises in student handbook in both versions are of low level.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar, large difference is coded in the rubric due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in several lessons in the original textbook there are sections entitled “test practice” section and “spiral review” section. Also, at the end of the chapter, there is a “test practice cumulative chapters 1 and 2”. This is not found in the translated book. Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed little difference between the figures and illustrations. These differences were due to cultural reasons.





<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 7		Semester: 2		
	Textbook Title:				
	Chapter Title: Probability				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>58. Agreement of the translated Arabic book with that of the English book</b>					
58.1. <i>Definitions and explanations in the chapter</i>					
		✓			
58.2. <i>Activities included in the chapter</i>					
	✓				
58.3. <i>Learning objectives</i>					
		✓			
58.4. <i>Practice exercises</i>					
		✓			
58.5. <i>Assessment exercises</i>					
		✓			
1.6 <i>Figures, pictures and illustrations</i>					
			✓		
<b>59. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
59.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

1.1 Definitions and explanations in the chapter

The analysis of this chapter showed that there is no difference between the definitions and explanations in the lessons that appear in both textbooks. However, some lessons appear in the original textbook and do not appear in the translated book. For example, “Permutations” “Combinations”, “Probability lab simulations” and “compound events” are four lessons that appear only in the original textbook.

1.2 Activities included in the chapter

The analysis of this chapter has showed large difference in the activities. This is due to the existence of several important lessons in the original textbook that are absent from the Arabic version. For example, , “Permutations” “Combinations”, “Probability lab simulations” and “compound events” are four lessons that appear only in the original textbook. On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons. Also, several activities that appear in the original textbook are not introduced in the translated version.

1.3 Learning objectives



There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in lessons that are only introduced in the original textbook. For example, , “Permutations”(objective: find the number of permutations of a set of objects and find probabilities”), “Combinations” (find the number of combinations of a set of objects and find probabilities), “Probability lab simulations” (investigate experimental probability by conducting a simulation) and “compound events” (find the probability of independent and dependent events) are four lessons that appear only in the original textbook. These lessons have objectives that are not introduced in the Arabic version.

On the other hand, the objectives in the sections that appear in both versions are similar.

#### 1.4 Practice exercises

The analysis of this chapter in both textbooks has showed little difference in the practice exercises. This is due to: (1) introducing several lessons in the original textbook only. For example, , “Permutations” “Combinations”, “Probability lab simulations” and “compound events” are four lessons that appear only in the original textbook; (2) the existence of several practice exercises in the original textbook that do not appear in the Arabic version. For example, on page 463, there are several practice exercises that do not appear in the translated version; (3) cultural reasons.

Also, in student handbook there are “mixed problem solving” exercises and “concepts and skills bank” exercises that appear only in the original textbook.

Note that the extra practice exercises in student handbook in both versions are of low level.

#### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar, little difference in the assessment exercises appear in both textbooks due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 4” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 4. This section is not found in the translated textbook. Also, in several lessons in the original textbook there are sections entitled “test practice” section and “Spiral review” section. Also the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook and not found in the translated textbook.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that there differences between the figures and illustrations were due to cultural reasons.



## Report

### Mathematics – Math Connects Course 2 – Grade 5 – Semester 1

The following report is an evaluation of grade 5 - semester 1 set of books (textbook, practice and teacher's manual). Two out of the five chapters were evaluated chapter 2: integers, and chapter 4: ratios and proportionality. For each set of books, the textbook and practice book, were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

#### **Alignment of the translated texts to the philosophy of the original textbook**

##### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, problem solving, and higher order thinking.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy. In fact, all the indicators show almost satisfactory evidence of alignment with the philosophy, and the skills are aligned with the philosophy.

To begin with, the content of the chapters and activities seem to be well aligned with the textbook philosophy. In fact, the chapters are divided into several lessons of average length each (3-5 pages depending on topic), and almost 2 sessions are assigned for the teaching of each lesson which is an appropriate pace to cover the main and few concept(s) of each lesson with 7th graders. Most activities and concepts are linked to real life applications, and this is possible thanks to the themes of the analyzed chapters, which makes the learning much easier and more interesting (despite some redundancy in topics depending on chapters). Also, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties & application exercises). Many pictures, graphs, tables and drawings are used.

Regarding the objectives, they are not explicitly mentioned in the textbook; instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section. In the teacher's manual, the objectives of each lesson are listed at the beginning of every chapter, however they are purely mathematical and have no mention of applications to real situations. There is also explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 & 8).

Concerning modern teaching methods, there is no use of technology in the two analyzed chapters (except the mention of the website at the start of each lesson of the textbook) however this does not necessarily apply to all other chapters of this set (taking a quick look at the other chapters, some activities involving the use of a calculator are found). However, hands-on activities and research are used for discovery and learning. In addition, there is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty. There are also grids to help teachers identify and remediate students' difficulties based on their results in pre-chapter test and end of chapter test. Adding to that, in the teacher's manual there are extra activity suggestions targeting students' different learning styles (visual learners, verbal learners, rational learners, interactive learners...), referred to as "diversified teaching". There are several suggestions for teacher's to use pair work for exercises or even homework which reflects the importance of cooperative learning. There are also many suggestions for extra exercises, examples, extra visual aids, alternative methods and even an extra end of chapter test.

As for the exercises and problems, there are many (in both the textbook and practice book) word problems linking the concepts of the chapters to their use in real life, with several very interesting applications. In general, there is a variety of topics used ranging from sports, cooking, financial issues, games... and this is mainly thanks to the themes of the chapters as mentioned above. However, although the exercises found in the textbook and practice book reflect a variety in the tasks which correspond to the variety of concepts found in the chapters, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly. Moreover, there are few higher order tasks in each lesson (only 3 or 4), which is probably because this is a grade 7 book. Some of these tasks are of a certain level of difficulty requiring higher order thinking.



However, sometimes these tasks are very simple and do not require much advanced thinking. In addition, the exercises in the end of chapter test are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge. It is important to note that there are no mid chapter test in this set of books, nor cumulative tests at the end of every chapter (only at the middle and end of the book i.e. chaps 3&5), although these would be much more beneficial in lower grades than in secondary grades where they are found in every chapter.

Most importantly, several key skills are clearly emphasized in the teacher's manual and textbook such as making summaries, taking notes, discussions, group work, decision making... To start with, the foldables suggested in these chapters are of great use to students (unlike foldables in secondary grade books), as they are used to note summaries of main concepts, and keep track of vocabulary words and definitions, examples, difficulties, personal notes... Teachers are asked to follow up and remind students of using them at the end of every lesson of the chapter. In addition, the fact that no summaries of concepts or vocabulary terms are found at the end of the chapters shows that one goal is to train students to make their own summaries, mainly through the foldables. This should have been the same in secondary grades, where students must be able to do that alone instead of having everything provided throughout the chapter. Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter. Thirdly, group discussions are encouraged in brainstorming and listing activities used as lesson warm-up for example, and more importantly the students are encouraged to reflect and make decisions and choices about preferred methods of solving for example. . Finally, in every chapter, there is a section in the textbook called "problem solving strategy" where students are exposed to strategies such as backward solving, trial and error, drawing diagrams... and are taught to use them in order to solve exercises related to the chapter concepts. There are also extra sections in all chapters called discovery or expand your learning where students learn concepts related to the chapter through interactive learning tools or math lab...

There aren't any specific comments regarding the last three evaluation criteria in the two chapters that were analyzed, which could probably be generalized to the other three chapters of this set.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language).

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence).

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities, exercises and illustrations pertaining to the country and the culture.



## Report

### Mathematics – Math Connects Course 2 – Grade ٧ – Semester 2

The following report is an evaluation of grade ٧ - semester 1 set of books (textbook, practice and teacher's manual). Two out of the five chapters were evaluated chapter 7: probability, and chapter 8: polygons. For each set of books, the textbook and practice book, were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, problem solving, and higher order thinking.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy. Depending on the chapter, the indicators show little evidence to almost satisfactory evidence of alignment with the philosophy, and the skills in both analyzed chapters show satisfactory evidence of alignment with the philosophy.

To begin with, the content of the chapters, activities and learning objectives are well aligned with the textbook philosophy in both chapters, which could be generalized to the whole set. In fact, the chapters are divided into several lessons of average length each (3-5 pages depending on topic), and almost 2 sessions are assigned for the teaching of each lesson which is an appropriate pace to cover the main concept(s) of each lesson with 7th graders. Most activities and concepts are linked to real life applications, with varying degrees depending on the chapter (less real life situations in the chapter about polygons, although this shouldn't be the case since there are so many applications of geometric figures around us), which makes the learning much easier and more interesting. Also, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties & application exercises). Many pictures, graphs, tables and drawings are used.

Regarding the objectives, they are not explicitly mentioned in the textbook; instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section. In the teacher's manual, the objectives of each lesson are listed at the beginning of every chapter, however they are purely mathematical and have no mention of applications to real situations. There is also explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 & 8).

Concerning modern teaching methods, there is no use of technology in the two analyzed chapters (except the mention of the website at the start of each lesson of the textbook) however this does not necessarily apply to all other chapters of this set. However, discovery learning is a method of great interest in this set of book, and it is reflected through the numerous hands-on activities ("discovery math labs" and "expand your learning" sections found in almost every chapter of this set) and research tasks in which students are engaged and where they learn concepts related to the chapter through interactive learning tools. Another important modern teaching method which is prominent is cooperative learning and group work. Examples reflecting this type of learning are found in the teacher's manual (working in small groups to create and solve problems, using pair work for exercises and homework). This emphasizes the importance of the student's involvement in the learning process.

In addition, there is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty. There are also grids to help teachers identify and remediate students' difficulties based on their results in pre-chapter test and end of chapter test. Adding to that, in the teacher's manual there are extra activity suggestions targeting students' different learning styles (visual learners, verbal learners, rational learners, interactive learners...), referred to as "diversified teaching". There are also many suggestions for extra exercises, examples, extra visual aids, alternative methods and even an extra end of chapter test in some chapters.

As for the exercises and problems, there are many (in both the textbook and practice book) word problems linking the concepts of the chapters to their use in real life and a variety



of topics used, again the number of which depends on the chapter, with several very interesting applications. However, although the exercises found in the textbook and practice book reflect a variety in the tasks which correspond to the different of concepts found in the chapters, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly. Moreover, there are few higher order tasks in each lesson (only 3 or 4), which is probably because this is a grade 7 book. Some of these tasks are of a certain level of difficulty requiring higher order thinking. However, sometimes these tasks are very simple and do not require much advanced thinking. In addition, the exercises in the end of chapter test are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge. It is important to note that there are no mid chapter test in this set of books, and cumulative tests are not used at the end of every chapter, but only at the middle and end of the book i.e. chaps 7&9), although these would be much more beneficial in lower grades than in secondary grades where they are found in every chapter.

Most importantly, several key skills are highly emphasized in the teacher's manual and textbook such as making summaries, taking notes, discussions, group work, decision making... To start with, the foldables suggested some of the chapters are very useful to students (unlike foldables in secondary grade books), as they are used to note summaries of main concepts, and keep track of vocabulary words and definitions, new symbols, examples, difficulties, personal notes.... Even if the foldables are not used for this purpose, students are still encouraged to create their own glossaries and revision sheets as they progress in the chapter. Teachers are asked to follow up and remind students of using/updating them at the end of every lesson of the chapter. Hence, no summaries of concepts or vocabulary terms are found at the end of the chapters. This should have been the same in secondary grades, where students must be able to do that alone instead of having everything provided throughout the chapter. Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter. Thirdly, group discussions, reflections and decision making are appreciated, and student collaboration is encouraged, mainly through peer teaching and group work. Hence, this shows again that the student plays a major role in constructing in his own learning. Finally, in every chapter, there is a section in the textbook called "problem solving strategy" where students are exposed to strategies such as simulations and data representation, deductive and inductive reasoning, testing the reasonableness of a result... and are taught to use them in order to solve exercises mostly related to the chapter concepts.

There aren't any specific comments regarding the last three evaluation criteria in the two chapters that were analyzed, which could probably be generalized to the other three chapters of this set.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms and symbols to be learned in each chapter (a sort of language specific to the topic of each chapter), however they are well defined, illustrated and repeated throughout chapter.



### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence).

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities, exercises and illustrations pertaining to the country and the culture.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 7 – Semester 1			
	Textbook Title: Math Connects Course 2			
	Chapter Title: Integers – chap2			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>60. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>60.1. Content of the Chapter</i>				
<i>60.2. Activities included in the chapter</i>				
<i>60.3. Learning objectives</i>				
<i>60.4. Practice exercises</i>				
<i>60.5. Assessment exercises</i>				
<i>60.6. Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter and activities seem to be well aligned with the textbook philosophy. In fact, the chapter is divided into 8 short lessons (3-4 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 44A) which is an appropriate pace to cover the few concepts of each lesson with 7<sup>th</sup> graders. All activities and concepts are linked to real life applications; however the topics used in the examples given are limited to variations of temperature (pp 46, 50, 51...), gain &amp; loss, expenses, and heights &amp; depths (p 46, 60...), which could be redundant, although so many other examples from life could have been used. Also, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Some pictures and drawings are used, but there could have been more in a 7<sup>th</sup> grade book.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p44 "I add integers, and subtract and multiply them, and divide them to solve problems in relevance and justify the solution"). In the teacher's manual (p 44A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 &amp; 8) in the teacher's manual (p 44B).</li> <li>- (1.3) There is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook); instead the counting kit is used as a learning/exploration tool for addition, subtraction, division and multiplication of</li> </ul>				



integers (textbook pp 56, 57, 62, 63, 67 & 73).

- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 48, 51, 66, 69...). There are also grids to help teachers identify and remediate students' difficulties based on their results in pre-chapter test and end of chapter test (teacher's manual pp 45 & 77). Adding to that, in the teacher's manual (pp 46A, 46, 49A, 51, 69...) there are extra activity suggestions targeting students' different learning styles (visual learners, verbal learners, rational learners, interactive learners...), referred to as "diversified teaching". There are several suggestions for teacher's to use pair work for exercises or even homework which reflects the importance of cooperative learning (teacher's manual pp 50, 69...). There are also many suggestions for extra exercises, examples & even an end of chapter test (pp 77 A&B), and references to extra visual aids (p 49A) and alternative methods (p 67A).
  
- (1.4 & 1.5) There are many word problems linking integers to their use in real life, despite the redundancy of the themes mentioned above (in the practice book 15 out of the 33 exercises and in the end of chapter test 4 out the 11 exercises are word problems). Some applications are very interesting such as the use of GPS maps to give directions, application to coordinate systems (textbook p52). However, although the exercises found in the textbook and practice book reflect a variety in tasks which corresponds to the variety of concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used (for example textbook p 48 ex 1-24 same as pp 50-51 ex 1-14, and same as practice book p 14 ex 1-15).
- (1.4) There are few higher order tasks in each lesson (only 3 or 4), which is probably because this is a grade 7 book. Some these tasks are of a certain level of difficulty requiring higher order thinking, and they usually push students to find new solving strategies or general properties not found in the lesson (for example textbook p 51 ex 26, arranging negative integers in increasing order without using the number line, or p 55 ex 32 determining the quadrant in which a point is located without using the coordinate system). However, sometimes these tasks are very simple and do not require much advanced thinking (for example textbook p 61 ex 22, finding the correct answer between  $-12+15=3$  or  $-12+15=-3$ , same thing p 66 ex 32 between  $-15-(-18)=3$  or  $-15-(-18)=-33$ ...). In addition, the exercises in the end of chapter test are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
  
- (1.6) Two important skills which are clearly emphasized in the teacher's manual and textbook respectively are making summaries & taking notes. To start with, the foldables suggested in this chapter (teacher's manual p 44) are of great use to students, as they are used to keep track of vocabulary words and definitions, examples, difficulties, personal notes... Teachers are asked to follow up and remind students of using them throughout the chapter (teacher's manual pp 55, 70...). Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... (for example textbook p 48 ex 29)
- (1.6) There is a section in the textbook called "problem solving strategy" (pp 71,72) where students are taught to identify patterns in order to solve exercises about integers



	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>34. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>34.1. Length of sentences</i>				<b>X</b>
<i>34.2. Complexity of sentences</i>				<b>X</b>
<i>34.3. Diversity of language structures</i>				<b>X</b>
<i>34.4. Number of concepts per chapter</i>				<b>X</b>
<i>34.5. Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>34.6. Clarity of definitions of technical terms</i>				<b>X</b>
<i>34.7. Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>34.8. Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

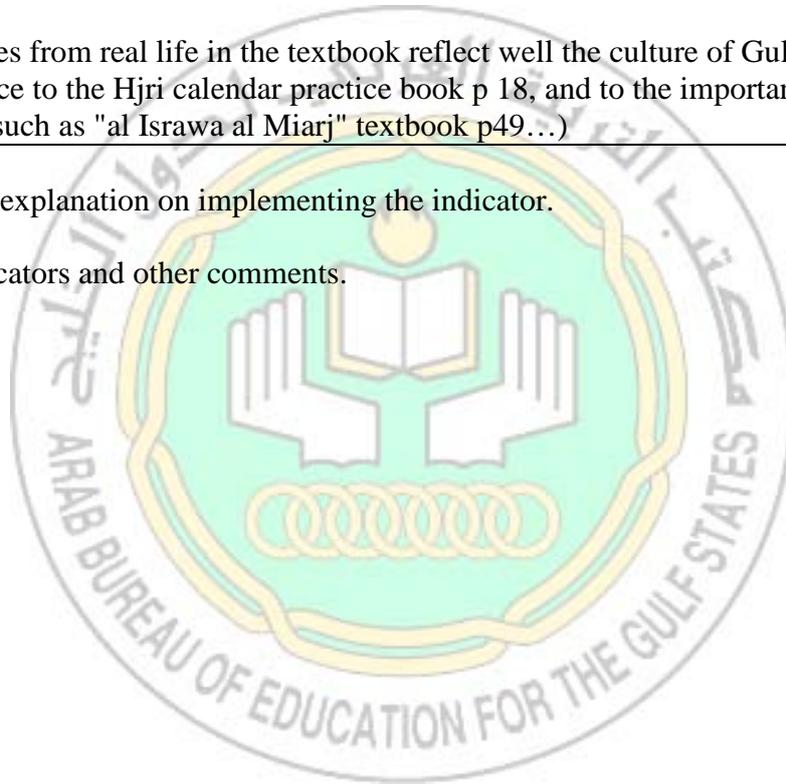
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>67. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>67.1. Illustrations</i>				<b>X</b>
<i>67.2. Content</i>				<b>X</b>
<i>67.3. Activities</i>				<b>X</b>
<i>67.4. Practice Exercises</i>				<b>X</b>
<i>67.5. Assessment exercises</i>				<b>X</b>
<i>67.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>68. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
68.1. <i>Illustrations</i>				<b>X</b>
68.2. <i>Content</i>				<b>X</b>
68.3. <i>Activities</i>				<b>X</b>
68.4. <i>Practice Exercises</i>				<b>X</b>
68.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3 <ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (reference to the Hجري calendar practice book p 18, and to the important dates in Islamic history such as "al Israwa al Miarj" textbook p49...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 7 – Semester 1			
	Textbook Title: Math Connects Course 2			
	Chapter Title: Ratios and proportionality – chap4			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>61. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>61.1. Content of the Chapter</i>				
<i>61.2. Activities included in the chapter</i>				
<i>61.3. Learning objectives</i>				
<i>61.4. Practice exercises</i>				
<i>61.5. Assessment exercises</i>				
<i>61.6. Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter and activities seem to be well aligned with the textbook philosophy. In fact, the chapter is divided into 9 lessons of average length (4-5 pages each), and almost 2 sessions are assigned for the teaching of each lesson (teacher's manual p 116A) which is an appropriate pace to cover the main concept(s) of each lesson with 7<sup>th</sup> graders. All activities and concepts are linked to real life applications thanks to the topic of the chapter, which makes the learning much easier and more interesting. Also, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Many pictures, graphs, tables and drawings are used.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p116 "I use ratios and proportionality to solve problems"). In the teacher's manual (p 116A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 &amp; 8) in the teacher's manual (p 116B). There is also a table which summarizes all the concepts of the chapter and which lessons they are found in (p116).</li> <li>- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, there are many hands-on activities used for discovery and learning such as</li> </ul>				



measuring objects in a classroom and drawing a map to scale showing their display (textbook p 146), or using research, through internet or interview, to learn more about an architect's design maps (teacher's manual p 146A)...

- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 120, 124, 128...). There are also grids to help teachers identify and remediate students' difficulties based on their results in pre-chapter test and end of chapter test (teacher's manual p 155). Adding to that, in the teacher's manual (pp 120, 145, 151A, 153...) there are extra activity suggestions targeting students' different learning styles (visual learners, verbal learners, rational learners, interactive learners...), referred to as "diversified teaching". There are several suggestions for teacher's to use pair work for exercises or even homework which reflects the importance of cooperative learning (teacher's manual pp 120, 124, 128...). There are also many suggestions for extra exercises, examples & even an end of chapter test (pp 155 A&B).
  
- (1.4 & 1.5) The large majority of the exercises and problems of the textbook and practice book are word problems linking fractions and proportionality to their use in real life, or are at least situations using conversion on measurements units (except practice book p34 ex 3-11 & p 37 ex 1-21 which consists in converting fractions into percentages or vice versa without any meaningful context). There is a wide variety of topics used ranging from speeds to cooking to sports to toys... and this is due to the chapter theme a mentioned above. However, although the exercises found in the textbook and practice book reflect a variety in tasks which corresponds to the variety of concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly (for instance in textbook examples p 122-123 same as check your understanding exercises p 124, same as practice exercises p 125, and same as practice book p 30, most of them consist in simplifying fractions to find a unit average).
  
- (1.4) There are few higher order tasks in each lesson (only 3 or 4), which is probably because this is a grade 7 book. Some these tasks are of a certain level of difficulty requiring higher order thinking. However, sometimes these tasks are very simple and do not require much advanced thinking (for example textbook p 121 ex 24 completing the pattern: 20, 40, 120, 480, or p 137 ex 34 finding the correct conversion from kg to g...). In addition, the exercises in the end of chapter test (p155) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
  
- (1.6) Several important skills are clearly emphasized in the teacher's manual and textbook: making summaries & taking notes, mathematical writing, discussion & reflection. To start with, the foldables suggested in this chapter (teacher's manual p 116) are of great use to students, as they are used to note summaries of main concepts, and keep track of vocabulary words and definitions, examples, difficulties, personal notes... Teachers are asked to follow up and remind students of using them at the end of every lesson of the chapter (teacher's manual pp 121, 125, 129, 133...). Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... Using mathematical terms and concepts covered in the chapter (for example textbook p 129 ex 12, p 144 ex 2). As for the last important skill, group discussions are encouraged in



brainstorming and listing activities used as lesson warm-up for example (teacher's manual p118A), and more importantly the students are given the flexibility to reflect and make decisions and choices about preferred methods of solving when multiple methods are taught or possible (teacher's manual p 119).

- (1.6) There is a section in the textbook called "problem solving strategy" (pp 144,145) where students are taught to used diagrams in order to solve exercises related to proportions.

	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>35. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>35.1.Length of sentences</i>				<b>X</b>
<i>35.2.Complexity of sentences</i>				<b>X</b>
<i>35.3.Diversity of language structures</i>				<b>X</b>
<i>35.4.Number of concepts per chapter</i>				<b>X</b>
<i>35.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>35.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>35.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>35.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

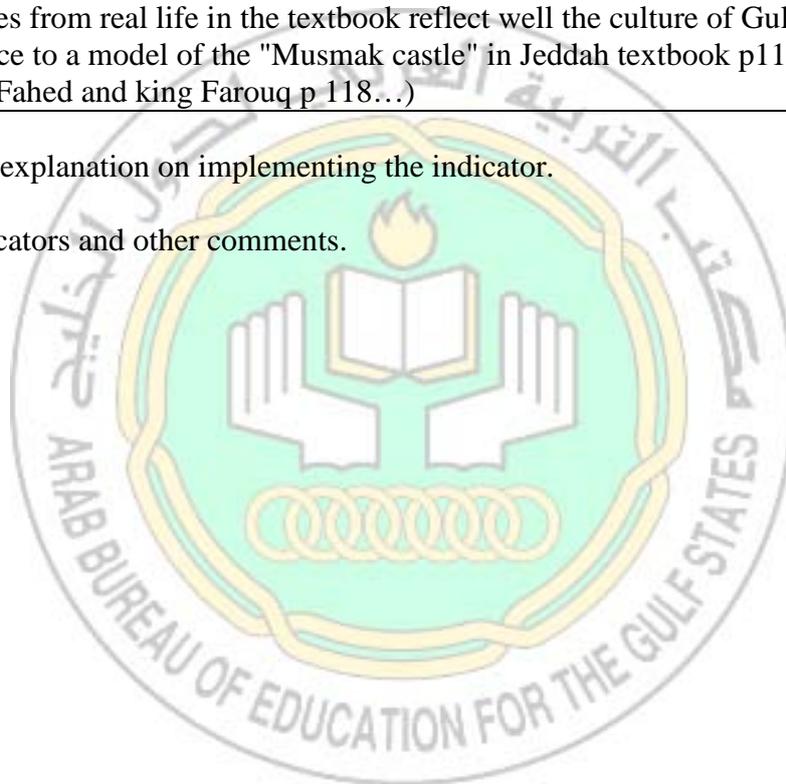
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>69. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>69.1. Illustrations</i>				<b>X</b>
<i>69.2. Content</i>				<b>X</b>
<i>69.3. Activities</i>				<b>X</b>
<i>69.4. Practice Exercises</i>				<b>X</b>
<i>69.5. Assessment exercises</i>				<b>X</b>
<i>69.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>70. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
<i>70.1. Illustrations</i>				<b>X</b>
<i>70.2. Content</i>				<b>X</b>
<i>70.3. Activities</i>				<b>X</b>
<i>70.4. Practice Exercises</i>				<b>X</b>
<i>70.5. Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3  - Examples from real life in the textbook reflect well the culture of Gulf States (reference to a model of the "Musmak castle" in Jeddah textbook p116, or the schools of king Fahed and king Farouq p 118...)				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 7 – Semester 2			
	Textbook Title: Math Connects Course 2			
	Chapter Title: Probability – chap7			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>62. Alignment of the translated texts to the philosophy of the original textbook</b>			<b>X</b>	
62.1. <i>Content of the Chapter</i>			<b>X</b>	
62.2. <i>Activities included in the chapter</i>			<b>X</b>	
62.3. <i>Learning objectives</i>			<b>X</b>	
62.4. <i>Practice exercises</i>			<b>X</b>	
62.5. <i>Assessment exercises</i>			<b>X</b>	
62.6. <i>Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter and activities seem to be well aligned with the textbook philosophy. In fact, the chapter is divided into 5 lessons of average length (3-4 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 40A) which is an appropriate pace to cover the main concept(s) of each lesson with 7<sup>th</sup> graders. All activities and concepts are linked to real life applications thanks to the topic of the chapter, which makes the learning much easier and more interesting. Also, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Many pictures, graphs, tables and drawings are used.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p40 "I use experimental and theoretical probabilities to make predictions about specific events"). In the teacher's manual (p 40A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 &amp; 8) in the teacher's manual (p 40B).</li> <li>- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, there are many hands-on activities in which students are engaged, used for discovery and learning such as: a game which consists in drawing colored marbles from bags repeatedly and finding probability of outcomes (textbook p46), a simulation in which 2 dice are thrown many times to compare experimental probability of a</li> </ul>				



certain output to its theoretical probability (textbook p55), an extra activity involving pair work experiments using a dice (teacher's manual p 45), a surveying activity conducted in small groups around the class (teacher's manual p 55A) ...

- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 44, 48, 51...). There is also a grid to help teachers identify and remediate students' difficulties based on their results in end of chapter test (teacher's manual p 59). Adding to that, in the teacher's manual (pp 45, 58...) there are extra activity suggestions targeting students' different learning styles (active learners, mechanical learners ...), referred to as "diversified teaching". There are also many suggestions for extra exercises, and examples, and an extra end of test (teacher's manual p 101A).
- (1.3 & 1.6) The student is given an important role in his own learning process. In fact, there are suggestions for students to use peer teaching in order to explain certain concepts to their classmates (teacher's manual p50A). The hands-on activities mentioned above involve the student in building his understanding. And more important are the many opportunities for cooperative learning and student collaboration: whole class discussion are encouraged (teacher's manual p142), small group work activities, pair work for exercises or even homework (teacher's manual pp 44, 48, 51...).
- (1.4 & 1.5) All the exercises and problems of the textbook and practice book are word problems linking probability to its use in real life. Thanks to the nature of the chapter, there is a remarkable variety in the topics and situations of exercises, all branching from real life. However, although the exercises found in the textbook and practice book reflect a variety in tasks which corresponds to the variety of concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly (for instance in textbook examples p 46-47 same as check your understanding exercises p 48 ex 1-4, same as practice exercises p 49 ex 5-10, and same as practice book p 12 ex 1-3, all are about finding the sample space of an experiment using tree diagrams or tables). There is also redundancy in the exercises of the practice book: for example p 13 ex 11-7 all are about using the basic counting principle to find the number of possible options of a mix and match type of experiment.
- (1.4) There are few higher order tasks in each lesson (only 2 or 3), which is probably because this is a grade 7 book. Some these tasks are of a certain level of difficulty requiring higher order thinking. However, sometimes these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p 45 ex 27 finding the intruder in a list of probability couples of an event and its complement, or p 49 ex 18 representing sample spaces and finding the probability of a person answering two True or False questions correctly...). In addition, the exercises in the end of chapter test (p59) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 40) are of great use to students, as they are used as a tool for students to express their understanding and difficulties in each lesson, as well as write examples of links to their daily life.... Teachers are asked to



follow up and remind students of using them at the end of every lesson of the chapter (teacher's manual pp 44, 49...). Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example 49 ex 19 describing a fair game involving 2 people using a coin, p58 ex 14 comparing theoretical and experimental probability). Also, students are encouraged to create revision/reference sheets where they record notes about reading symbols and examples on how to use them (teacher's manual p 42A). Students are also well trained to create and use multiple representations for the same situation – mainly tree diagrams & tables– to find sample spaces and calculate probabilities.

- (1.6) There is a section in the textbook called "problem solving strategy" (pp 53,54) where students are taught to use simulations and data representation (repeating the same experiment several times and counting the frequency of the different outputs) to find experimental the probability of an event.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>36. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>36.1.Length of sentences</i>				<b>X</b>
<i>36.2.Complexity of sentences</i>				<b>X</b>
<i>36.3.Diversity of language structures</i>				<b>X</b>
<i>36.4.Number of concepts per chapter</i>				<b>X</b>
<i>36.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>36.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>36.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>36.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

- There are many new vocabulary terms and symbols to learn in this chapter, a language which is particular to probability, however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for example, textbook p 44 note about writing and reading probability of complementary events). Also, as mentioned before, students are encouraged to make reference sheets as they progress through the chapter, where they note all the symbols and how they are read and used.





	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>71. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>71.1. Illustrations</i>				<b>X</b>
<i>71.2. Content</i>				<b>X</b>
<i>71.3. Activities</i>				<b>X</b>
<i>71.4. Practice Exercises</i>				<b>X</b>
<i>71.5. Assessment exercises</i>				<b>X</b>
<i>71.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>72. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
<i>72.1. Illustrations</i>				<b>X</b>
<i>72.2. Content</i>				<b>X</b>
<i>72.3. Activities</i>				<b>X</b>
<i>72.4. Practice Exercises</i>				<b>X</b>
<i>72.5. Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				
<ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (reference to pilgrimage p 43, and travelling between cities in KSA like Jeddah and Riyadh p 13 ex 8...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 7 – Semester 2			
	Textbook Title: Math Connects Course 2			
	Chapter Title: Polygons – chap8			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>63. Alignment of the translated texts to the philosophy of the original textbook</b>			<b>X</b>	
63.1. <i>Content of the Chapter</i>			<b>X</b>	
63.2. <i>Activities included in the chapter</i>			<b>X</b>	
63.3. <i>Learning objectives</i>			<b>X</b>	
63.4. <i>Practice exercises</i>		<b>X</b>		
63.5. <i>Assessment exercises</i>		<b>X</b>		
63.6. <i>Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter and activities seem to be fairly aligned with the textbook philosophy. In fact, the chapter is divided into 8 lessons of average length (4-5 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 62A) which is an appropriate pace to cover the main concept(s) of each lesson with 7<sup>th</sup> graders. Not all activities and concepts are linked to real life applications, it depends on the topic of the lesson (for example lesson 8.3 pp 72-76 is about circular diagrams so it is entirely based on real life examples such as the composition of recyclable garbage or components of the atmosphere, but lessons 8.1 &amp; 8.2 pp 64-71 cover types and properties of angles and hence very few real examples are used). The content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Pictures, graphs, tables and drawings are used mostly in the sections which have real life applications.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p62 "I discover and describe the properties of two-dimensional shapes"). In the teacher's manual (p 62A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 &amp; 8) in the teacher's manual (p 62B).</li> <li>- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook).</li> </ul>				



However, discovery learning is a method of great interest in this set with many hands-on activities in which students are engaged: an activity where students gather data about a certain topic from classmates and present it in the form of a circular diagram (textbook p 76 ex 20), an extra warm-up activity about finding angles between the pointers of a watch indicating specific times (teacher's manual p 67), an activity that trains students to the use of a protractor to draw and measure angles (teacher's manual p 71A), an activity where students create their own flooring pattern it, color it and use it (teacher's manual p 55A). Two more activities of a different nature are worth mentioning: an activity entitled "discovery-geometry lab" helps students discover properties of quadrilaterals by drawing figures and measuring angles and sides before formally learning them in the lesson (textbook p84); an activity entitled "expand" found at the very end of the chapter engages students in drawing and cutting patterns to form a flooring (textbook p100). Another important modern teaching method which is prominent is cooperative learning and group work. Examples reflecting this type of learning are found in the teacher's manual: p 76 small groups using the internet to research data that can be represented using circular diagrams, p 82 working in small groups to write and solve a problem which using deductive reasoning... Also using pair work for exercises or even homework is encouraged (teacher's manual pp 66, 70, 75, 80...).

- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 66, 70, 75, 80...). There is also a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 63 & 101). Adding to that, in the teacher's manual (pp 76, 83, 91, 94...) there are extra activity suggestions targeting students' different learning styles (social learners, verbal learners, mechanical learners ...), referred to as "diversified teaching". There are also many suggestions for extra exercises, and examples.
- (1.3 & 1.6) The student is given an important role in his own learning process. In fact, there are suggestions for students to use peer teaching in order to explain certain concepts to their classmates (teacher's manual p77A students who have acquired a good understanding of angles and properties are asked to explain these concepts to small groups). The hands-on activities and student collaboration opportunities mentioned above are also examples of situation that involve the student in building and developing his own learning and understanding.
- (1.4 & 1.5) Not many exercises and problems of the textbook and practice book are word problems linking probability to its use in real life. In fact, it depends on the lesson topic as mentioned previously; some topics like circular diagrams & properties of triangles have more examples linked to real life situations and objects than basic angle types and properties. In addition, although the exercises found in the textbook and practice book reflect multiple tasks which correspond to the different concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly (for instance in textbook examples pp 64-65 same as check your understanding exercises pp 66-67 ex 1-3, same as practice exercises pp 66-67 ex 1-12, and same as practice book p 16 ex 1-12, all are about identifying types of angles; the same situation applies to textbook pp 68-71 and practice book p17 where all exercises



are about determining supplementary and complementary angles and/or calculating the value of an angle...).

- (1.4) There are few higher order tasks in each lesson (only 3 or 4 tasks per section), which is probably because this is a grade 7 book. Some these tasks are of a certain level of difficulty requiring higher order thinking (for example textbook p 94 ex 16-17: the sides of two rectangles are of ratio 1 to 4, what are the ratios of their perimeters and areas?). However, sometimes these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p 71 ex 23: if A and B are supplementary such that  $A=C-10$  and  $B=C+20$ , find A,B and C; or p 81 ex 33-34: True or False a triangle can have 2 right angles/2 obtuse angles...). In addition, the exercises in the end of chapter test (p59) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, although the foldables suggested in this chapter (teacher's manual p 62) are not of much interest, students are encouraged and constantly reminded to write small summaries of properties, and to create their own glossary as they progress through the chapter, where they would note all new vocabulary terms, symbols, examples, definitions, properties... (teacher's manual pp 65A, 85A, 90A, 95A). Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example writing a comparison between adjacent and vertically opposite angles textbook p 67 ex 22, or writing a real life situation which involves similarity and using chapter concepts to solve it textbook p 94 ex 18).
- (1.6) There is a section in the textbook called "problem solving strategy" (pp 82,83) where students are taught to use deductive reasoning to find properties of angles in isosceles triangles (however the application exercises are not really related to the chapter concepts). Also another strategy entitled "testing the reasonableness of a result" is referred to pp86-87 (measuring angles and sides to verify the construction of a square) and p 74 (solving an exercise using a different method to check the result).

	e	nc	de	cv												
<b>37. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																<b>X</b>
<i>37.1.Length of sentences</i>																<b>X</b>
<i>37.2.Complexity of sentences</i>																<b>X</b>
<i>37.3.Diversity of language structures</i>																<b>X</b>
<i>37.4.Number of concepts per chapter</i>																<b>X</b>
<i>37.5.Reuse of technical terms in subsequent lessons and chapters</i>																<b>X</b>
<i>37.6.Clarity of definitions of technical terms</i>																<b>X</b>



37.7. <i>Using concrete examples to illustrate concepts</i>				<b>X</b>
37.8. <i>Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There are many new vocabulary terms and symbols to learn in this chapter (the language of geometry), some have already been encountered in previous grade levels and others are new. However, they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for example, students are taught how to represent and name angles textbook pp 64-65&amp;68, how to designate equal and parallel sides textbook pp 78 &amp;85). Also, as mentioned before, students are encouraged to create their own glossary as they progress through the chapter, where they note all the new terms and definitions, as well as symbols and how they are read and used.</li> </ul>				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>73. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
73.1. <i>Illustrations</i>				<b>X</b>
73.2. <i>Content</i>				<b>X</b>
73.3. <i>Activities</i>				<b>X</b>
73.4. <i>Practice Exercises</i>				<b>X</b>
73.5. <i>Assessment exercises</i>				<b>X</b>
73.6. <i>Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p>				

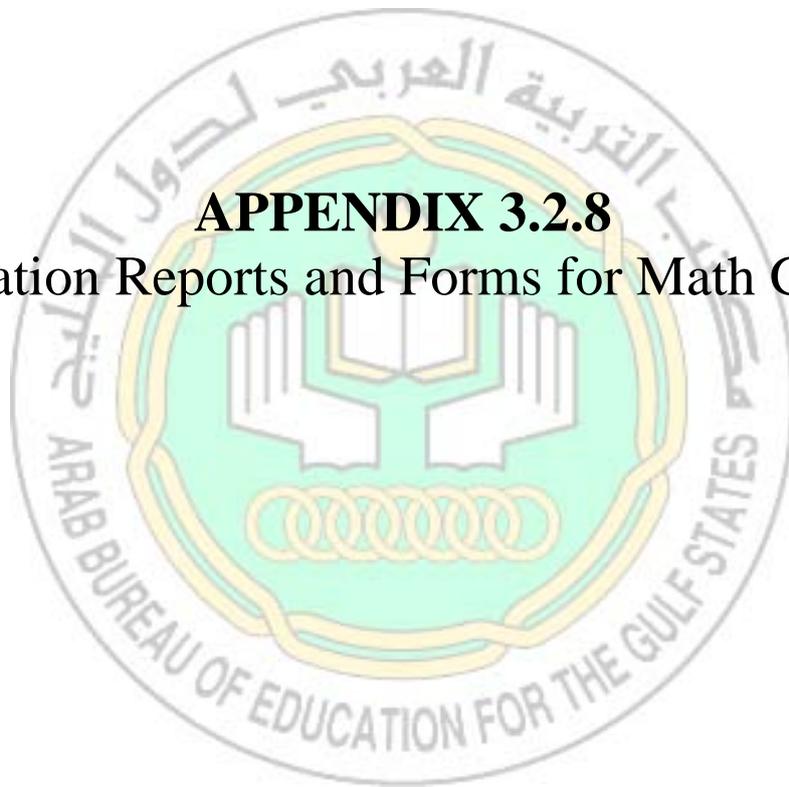
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>74. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
74.1. <i>Illustrations</i>				<b>X</b>
74.2. <i>Content</i>				<b>X</b>
74.3. <i>Activities</i>				<b>X</b>
74.4. <i>Practice Exercises</i>				<b>X</b>
74.5. <i>Assessment exercises</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 4 given a score of less than 3</p>				

Comments and explanation on implementing the indicator.  
 Additional indicators and other comments.



## **APPENDIX 3.2.8**

### Evaluation Reports and Forms for Math Grade 8





### Tables of content

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “Algebra: Integers” and “Algebra: Nonlinear functions and polynomials” are the chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- The chapters in the original textbook are listed under **units** whereas in the translated version there are no units.





<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 8		Semester: 1		
		Textbook Title: Math Connects – Concepts, skills and problem solving – Course 3				
		Chapter Title: Ratios and Percents				
		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>						
<b>64. Agreement of the translated Arabic book with that of the English book</b>						
64.1. <i>Definitions and explanations in the chapter</i>			✓			
64.2. <i>Activities included in the chapter</i>			✓			
64.3. <i>Learning objectives</i>			✓			
64.4. <i>Practice exercises</i>			✓			
64.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>					✓	
<b>65. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
65.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

### 1.1 Definitions and explanations in the chapter

Although the definitions and explanations in the lessons that appear in both textbooks are similar, large differences appeared between the two chapters due to the existence of several lessons and activities in the original textbook that are not introduced in the translated one. For example, “ratios and percents” (objective: write ratios as percents and vice versa), “comparing fractions, decimals, and percents” (write percents as fractions and decimals and vice versa), “algebra the percent proportion” (solve problems using the percent proportion), “simple interest” (solve problems involving simple interest) and “Spreadsheet lab: compound interest” (objective: find compound interest) are lessons that appear only in the original textbook.

### 1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed large difference in the activities included in the chapter. This is due to the existence in the original textbook of several



practice and problem solving activities that do not appear in the Arabic version. Also, this is due to the existence of several lessons in the original textbook: For example, “ratios and percents”, “comparing fractions, decimals, and percents”, “algebra the percent proportion”, “simple interest” and “Spreadsheet lab: compound interest” are lessons that appear only in the original textbook.

### 1.3 Learning objectives

The objectives in the lessons that appear in both versions are similar. However, there is large difference between the objectives in the original and translated textbooks due to the existence of several lessons in the original textbook without introducing them in the translated one. For example, “ratios and percents” (objective: write ratios as percents and vice versa), “comparing fractions, decimals, and percents” (objective: write percents as fractions and decimals and vice versa), “algebra the percent proportion” (objective: solve problems using the percent proportion), “simple interest” (objective: solve problems involving simple interest) and “Spreadsheet lab: compound interest” (objective: find compound interest) are lessons that appear only in the original textbook.

### 1.4 Practice exercises

The analysis of this chapter in both textbooks has showed little difference in the practice exercises. This is due to: (1) introducing lessons that only appear in the original textbook. For example, “ratios and percents”, “comparing fractions, decimals, and percents”, “algebra the percent proportion”, “simple interest” are lessons that appear only in the original textbook; (2) the existence in the original textbook of several practice exercises that do not appear in the Arabic version. For example, on page 270, there is an exercise (Money) that does not appear in the translated version. Also, several other activities that are found in both textbooks are different due to cultural reasons.

Also, in student handbook there are “mixed problem solving” exercises and “concepts and skills bank” exercises that appear only in the original textbook.

Note that the extra practice exercises in student handbook in both versions are of low level.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar, large difference in the assessment exercises appeared in both textbooks due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in several lessons in the original textbook there are two sections entitled “test practice” and “spiral review”. Also, at the end of the chapter in the original book, there is a “test practice cumulative chapters 1-5”. Also, the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook. All these assessment exercises are not found in the translated textbook.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed little difference between the figures and illustrations. The differences are mainly due to cultural reasons.



<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 8		Semester: 2		
	Textbook Title: Math Connects – Concepts, skills and problem solving – Course 3				
	Chapter Title: Simplifying algebraic expressions				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>66. Agreement of the translated Arabic book with that of the English book</b>					
66.1. <i>Definitions and explanations in the chapter</i>					
66.2. <i>Activities included in the chapter</i>					
66.3. <i>Learning objectives</i>					
66.4. <i>Practice exercises</i>					
66.5. <i>Assessment exercises</i>					
1.6 <i>Figures, pictures and illustrations</i>					
<b>67. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
67.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

### 1.1 Definitions and explanations in the chapter

Although the definitions and explanations in the lessons that appear in both textbooks are similar, little difference appeared between the two chapters due to the existence of one lesson and to the appearance of activities in the original textbook that are not introduced in the translated one: “solving inequalities” (objective: solve inequalities using the multiplication or division properties of inequalities).

### 1.2 Activities included in the chapter

The analysis of this chapter in both textbooks has showed little difference in the activities included in the chapter. This is due to the existence in the original textbook of one lesson “solving inequalities” that does not appear in the translated textbook. Also, due to the appearance of activities, in the original textbook, that are not introduced in the translated one.



For example, on page 443, there is an activity (sports) that does not appear in the translated version.

### 1.3 Learning objectives

The objectives in the lessons that appear in both versions are similar. However, little difference is coded in the rubric due to introducing a lesson in the original textbook: “solving inequalities” (objective: solve inequalities using the multiplication or division properties of inequalities). This lesson does not appear in the translated version.

### 1.4 Practice exercises

The analysis of this chapter in both textbooks has showed little difference in the practice exercises. This is due to: (1) introducing a lesson that only appears in the original textbook; (2) the existence in the original textbook of several practice exercises that do not appear in the Arabic version. For example, on page 448, there are exercises (Measurement; Find the data) that do not appear in the translated version. Also, several other activities that are found in both textbooks are different due to cultural reasons.

Also, in student handbook there are “mixed problem solving” exercises and “concepts and skills bank” exercises that appear only in the original textbook.

Note that the extra practice exercises in student handbook in both versions are of low level.

### 1.5 Assessment

Even though the assessment activities in the “chapter test” are similar, large difference in the assessment exercises appeared in both textbooks due to the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in several lessons in the original textbook there are two sections entitled “test practice” and “spiral review”. Also, at the end of the chapter in the original book, there is a “test practice cumulative chapters 1-8”. Also, the section “Study Guide and Review” which contains review activities about the lessons of the chapter is found at the end of the chapter in the original textbook. All these assessment exercises are not found in the translated textbook.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed little difference between the figures and illustrations. The differences are mainly due to cultural reasons.



## Report Mathematics – Math Connects Course 3 – Grade 8 – Semester 1

The following report is an evaluation of grade 8 - semester 1 set of books (textbook, practice and teacher's manual). Three out of the five chapters were evaluated chapter 2: real numbers and Pythagorean theorem, chapter 4: percentages, chapter 5: geometrical transformations. For each set of books, the textbook and practice book, were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, data collection, organization and interpretation skills, and higher order thinking skills.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy. Depending on the chapter, the indicators show little evidence to almost satisfactory evidence of alignment with the philosophy, and the skills in the three analyzed chapters show satisfactory evidence of alignment with the philosophy.

To begin with, the content of the chapters, activities and learning objectives are fairly aligned with the textbook philosophy in the three chapters (almost satisfactory to satisfactory evidence depending on the chapter), which could be generalized to the whole set. In fact, the chapter is divided into 5-7 lessons (including special sections: a problem solving strategy section in each chapter, and 1 or 2 explore and/or expand sections) of average length (3-5 pages each), and 2 sessions are assigned for the teaching of each lesson which is an appropriate pace to cover the main concept(s) of each lesson with 8th graders. Not all activities and concepts are linked to real life applications, it depends on the topic of the lesson (almost all the activities and examples in the chapter on percentages are linked to real life situations which makes the learning much easier and more interesting, whereas in the chapter about geometrical transformations, most activities and examples are mainly used to explain geometrical properties in a purely mathematical context). The content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties & application exercises). Pictures, graphs, tables and drawings are used to illustrate the examples and exercises.

Regarding the objectives, they are not explicitly mentioned in the textbook; instead the "general idea" of each chapter and lesson is presented at the beginning of each section. In the teacher's manual, the objectives of each lesson are listed at the beginning of every chapter, however they are purely mathematical and have no mention of applications to real situations. There is also explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 & 8) in the teacher's manual, at the beginning of the chapter and of every lesson.

Concerning modern teaching methods, there is no use of technology in the analyzed chapters (except the mention of the website at the start of each lesson of the textbook). However, discovery learning and cooperative learning are two methods of interest in this set. Using discovery as a tool for learning is reflected through several hands-on activities in which students are engaged and extra activities found in most chapters referred to as "expand your learning", where students go beyond the basic concepts of the chapters. As for cooperative learning and group work, it is also prominent in this set but to varying degrees according to the topics (and we can also say not as much as in other previously analyzed sets). Examples reflecting this type of learning are found in the teacher's manual: group work where students have to write a situation and solve it, students exchanging tasks they wrote and explaining to each other their solving methods, using group work to solve a set of assigned exercises and discuss problems, using pair work for homework... These methods emphasize the importance of the student's involvement in building and developing his own learning and understanding.

In addition, there is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty. There are also instructions (sometimes in the form of a grid) to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter



test. Adding to that, in the teacher's manual for every chapter, there are extra activity suggestions targeting students' different learning styles (visual learners, verbal & linguistic learners, mechanical learners, rational learners, natural learners...) In addition, teachers are advised to encourage students with learning difficulties and students with special needs by valuing their useful contributions in order to help them acquire self confidence. There are also many suggestions for extra exercises and examples, and depending on the chapters, there are extra tests or cumulative tests.

As for the exercises and problems, Relatively few exercises and problems of the textbook and practice book are word problems linking the mathematical concepts of the lessons to their use in real life, and most of these situations are very basic applications. This varies from chapter to chapter and depends on the lesson topic as mentioned previously, some topics like have more examples linked to real life situations and objects than others (in fact in the chapter about percentages, the majority of the exercises and problems of the textbook and practice book are word problems linking percentages to their use in real life and where a variety of topics is used, which is not at all the case in the chapters about geometry and real numbers where very few applications are found and only in some lessons).

In addition, although the exercises found in the textbook and practice book reflect multiple tasks which correspond to the different concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly. Moreover, there are few higher order tasks in each lesson (only 2 or 3 tasks per section). Some are interesting and are of a certain level of difficulty requiring higher order thinking, but most of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises. In addition, the exercises in the end of chapter test are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.. It is important to note that there are no mid chapter test in this set of books, and cumulative tests are not used at the end of every chapter, but only at the middle and end of the book i.e. chaps 3&5) although these would be much more beneficial in lower grades than in secondary grades where they are found in every chapter.

Most importantly, several skills are emphasized in the teacher's manual and textbook such as making summaries, taking notes, and mathematical writing. To begin with, the foldables suggested in this set are of great use as students use them to record formulas in words and symbols, notes, vocabulary terms, definitions, remarks and examples, hence they create review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson as they progress through the chapter. In addition, students are encouraged to create and use other tools (lists, tables, tree diagrams...) which help them organize and learn important concepts. Hence, no summaries of concepts or vocabulary terms are found at the end of the chapters. This should also be the case in secondary grades, where students must be capable to do that on their own instead of having everything provided in the manuals throughout the chapter.

Secondly, students are encouraged to develop the mathematical writing skill. In fact, they are given many opportunities to practice their writing skills through activities where they are asked to come up with exercises (i.e. write situations) and solve them. For instance, at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question (writing proofs, explanations, creating real life situations....) using mathematical terms and concepts covered in the chapter. Teachers also advise students to



express verbally previously learned concepts since it helps them better assimilate these concepts.

Teaching students to use different strategies and tricks to solve problem is also an important objective of this set. To start with, there is a section in every chapter of this set called "problem solving strategy" where students are taught to use specific strategies (induction/deduction/inference, testing the reasonableness of results Venn diagrams...) to solve certain problems and represent data (however the applications to this type of reasoning in the exercises that follow and in the practice book are not always related to the chapter topic). Students are also encouraged to use different strategies learned in previous chapters/grades (looking for a pattern, drawing, trial and error...). In addition, students are taught certain tricks to do some computations faster for example, or to understand difficult concepts by using different forms of representations (algebraic and visual) for the same concept.

Finally, students are encouraged to make choices and decisions involving them in the learning process. For instance, teachers are required to teach multiple methods when feasible and let students decide the method of their preference to use in applications

There aren't any specific comments regarding the last three evaluation criteria in the three chapters that were analyzed, which could probably be generalized to the other two chapters of this set.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms and symbols to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence).

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities and exercises pertaining to the country and the culture.

### **Other comments**

There is a typing mistake in one page of the textbook (first page of chapter 5) and a problem in the numbering of exercises (textbook p 148).



## Report Mathematics – Math Connects Course 3 – Grade 8 – Semester 2

The following report is an evaluation of grade 8 - semester 2 set of books (textbook, practice and teacher's manual). Two out of the five chapters were evaluated chapter 7: algebra (equations and inequalities), chapter 9: statistics. For each set of books, the textbook and practice book, were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### Alignment of the translated texts to the philosophy of the original textbook

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, data collection, organization and interpretation skills, and higher order thinking skills.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.

An overview of the five chapters of this set (considering the topics and taking a quick look at the content) allows us to categorize them as follows and make conjectures about the general analysis conclusions: chapter 6 geometry (conclusions should be similar to chapter 5



semester 1 analyzed in the first set), chapters 7&8 algebra (conclusions are expected to be similar), chapters 9&10 statistics and probability (also conclusions are expected to be similar).

In general, concerning the two analyzed chapters, there seems to be almost satisfactory evidence of alignment of the books with the philosophy. Depending on the chapter, the indicators show little evidence to satisfactory evidence of alignment with the philosophy, and the skills in the both chapters show satisfactory evidence of alignment with the philosophy.

To begin with, the content of the chapters is mostly aligned with the textbook philosophy in the two chapters (almost satisfactory to satisfactory evidence depending on the chapter), which could be generalized to the whole set. In fact, the chapter is divided into 7-8 lessons (including special sections: a problem solving strategy section in each chapter, and 1 or 2 explore and/or expand sections) of average length (3-7 pages each, the longer lessons having more graphs and tables hence the difference in number of pages), and 2 sessions are assigned for the teaching of each lesson which is an appropriate pace to cover the main concept(s) of each lesson with 8th graders. The content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties & application exercises). Pictures, graphs, tables and drawings are used to illustrate the examples and exercises (to a different extent depending on the chapter topic)

As for the activities, in general not all activities and concepts are linked to real life applications, things vary depending on the topic of the chapter and even that of the lesson. All activities and concepts are based on or linked to real life situations in the statistics chapter thanks to the topic of the chapter, with a wide variety of topics which makes the learning much easier and more interesting since students can relate to every single situation, whereas in the algebra chapter, few activities are linked to real life, in fact most activities and examples are mainly used to explain algebraic properties in a purely mathematical context.

Regarding the objectives, there is almost satisfactory to satisfactory evidence of alignment with the philosophy, again depending on the chapter.

To start with, the objectives are not explicitly mentioned in the textbook; instead the "general idea" of each chapter and lesson is presented at the beginning of each section. In the teacher's manual, the objectives of each lesson are listed at the beginning of every chapter, however they are purely mathematical and have no mention of applications to real situations. There is also explicit evidence of the alignment of objectives throughout grade levels (grades 6, 7 & 8) in the teacher's manual, at the beginning of the chapter and of every lesson.

Concerning modern teaching methods, technology is only used in the statistics chapter as a learning tool through the expand activities using excel sheets (to draw graphs and find indicators). This is the only trace of technology in this set of books (besides the mention of the website at the start of each lesson of the textbook). However, discovery learning and cooperative learning are two methods of interest in this set. Using discovery as a tool for learning is reflected through several hands-on activities and research tasks in which students are engaged and extra activities found in most chapters referred to as "expand your learning" and "explore", where students go beyond the basic concepts of the chapters. As for cooperative learning and group work, it is also prominent in this set. Examples reflecting this type of learning are found in the teacher's manual: group work where students have to write a situation and solve it, students exchanging tasks they wrote, switching roles and explaining to each other their solving methods, using group work to solve a set of assigned exercises and discuss problems, using pair work for homework... These methods emphasize the importance of the student's involvement in building and developing his own learning and understanding.

In addition, there is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned



at the end of each lesson according to different levels of difficulty. There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test. Adding to that, in the teacher's manual for every chapter, there are extra activity suggestions targeting students' different learning styles (visual learners, verbal & linguistic learners, mechanical learners, rational learners, natural learners, individualistic learners and self learners) There are also many suggestions for extra exercises and examples, and an extra test at the end of each chapter (also cumulative tests are found at the end of chapters 8 and 10 which were not analyzed).

As for the exercises and problems, evidence of alignment with the philosophy ranges from little evidence (algebra chapter) to almost satisfactory evidence (statistics chapter), with some variations between the lessons.

To start with, in the statistics chapter, all the exercises and problems of the textbook and practice book are based on data representing real life. Thanks to the nature of the chapter, there is a wide variety in the topics of exercises as mentioned before. In the algebra chapter, relatively few exercises and problems of the textbook and practice book are word problems linking algebraic expressions to their use in real life, and most of these situations are very basic applications. This also varies according to the lessons as mentioned previously; some lessons have more examples linked to real life situations than others, and some have very few applications.

A negative point common to both chapters is the fact that, although the exercises found in the textbook allow practicing the different skills tackled in the lessons, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice"). The same types of tasks are used repeatedly too many times. This is also the case with the practice book in the algebra chapter, but not at all the case in the statistics chapter where only few exercises are found in each section, reviewing the main tasks and skills of the lesson practiced in the textbook, without however creating redundancy, since each task is only explored once. The same distinction is to be made regarding the higher order tasks (which are few in both chapters). In the statistics chapter, many of these tasks are interesting and requiring creativity and higher order thinking, and of course some of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises. Whereas in the algebra chapter it's completely the opposite, some tasks are interesting and requiring multiple step solving, but most of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises. One common problem in both chapters is that the exercises in the end of chapter test are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.

Finally, the skills show evidence of good alignment with the textbook philosophy in both analyzed chapters.

A first set of skills (making summaries, taking notes, and mathematical writing) is emphasized in the teacher's manual and textbook. To begin with, the foldables suggested in this set are of great use as students use them to record formulas in words and symbols, notes, vocabulary terms, definitions, remarks and examples, hence they create review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson as they progress through the chapter. Students are encouraged as well to create and use other tools which help them organize and learn important concepts (lists, tables, charts, diagrams...) which help them organize and learn important concepts. Hence, no summaries of concepts or vocabulary terms are found at the end of the chapters. This should also be the case in secondary grades, where students must be capable to do that on their own instead of having everything provided in the manuals throughout the chapter. Secondly, students are encouraged to develop the mathematical writing skill. In fact, they are given



many opportunities to practice their writing skills through activities where they are asked to come up with exercises (i.e. write situations) and solve them. For instance, at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question (writing proofs, explanations, creating real life situations....) using mathematical terms and concepts covered in the chapter. Teachers also advise students to express verbally previously learned concepts since it helps them better assimilate these concepts.

Teaching students to use different strategies and tricks to solve problem is also an important objective of this set. To start with, there is a section in every chapter of this set called "problem solving strategy" where students are taught to use specific strategies (solving problems using charts, using trial and error to find results...) to solve certain problems and represent data. Students are also encouraged to use different strategies learned in previous chapters/grades to solve problems (such as mental calculations, estimations, creating tables, looking for patterns, drawing...), and are reminded to review concepts learned in previous lessons/grades which are useful and linked to the current chapter. In addition, students are taught certain tricks to check the results of their computations and avoid certain common computation mistakes, and are trained to link different forms of representations (algebraic and visual/graphical) of the same concept to better understand and learn difficult concepts.

To end with, students are encouraged to make choices and decisions involving them in the learning process. For instance, students are given the flexibility to choose a preferred method among several to solve a certain exercise. Student discussions are also encouraged (whole class and small groups), using questioning to introduce an activity or a lesson, and having students discuss and explain to each other concepts then exchange roles. Encouraging student choices and discussions also reflects the student's active role in the teaching and learning process.

There aren't any specific comments regarding the last three evaluation criteria in the two chapters that were analyzed, which could probably be generalized to the other three chapters of this set.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms and symbols to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapters so that students learn them and practice using them. Also, as mentioned before, students are encouraged to create vocabulary lists and use the foldables to write new terms with definitions and examples to help them learn these words.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence).

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities and exercises pertaining to the country and the culture.

### **Other comments**

There is possible typing mistake in the teacher's manual p 48B, probably due to translation.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 8 – Semester 1			
	Textbook Title: Math Connects Course 3			
	Chapter Title: Real numbers and Pythagorean theorem – chap2			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>68. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>68.1. Content of the Chapter</i>				
<i>68.2. Activities included in the chapter</i>				
<i>68.3. Learning objectives</i>				
<i>68.4. Practice exercises</i>				
<i>68.5. Assessment exercises</i>				
<i>68.6. Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter and activities seem to be fairly aligned with the textbook philosophy. In fact, the chapter is divided into 7 lessons (including 1 expand section, 1 discovery section and 1 problem solving strategy section) of average length (3-5 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 50A) which is an appropriate pace to cover the main concept(s) of each lesson with 8<sup>th</sup> graders. Not all activities and concepts are linked to real life applications, it depends on the topic of the lesson (for example the introductory activities of lessons 8.1 &amp; 8.2 about square roots are purely mathematical, whereas lessons 8.5 &amp; 8.6 about Pythagoras' theorem are based on real life situations). The content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Pictures, graphs, tables and drawings are used.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p50 "I apply the Pythagorean theorem to find distances in a coordinates system and solve problems"). In the teacher's manual (p 50A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before, in and after grade 8) in the teacher's manual, at the beginning of the chapter and of every lesson (pp 50B, 52, 55, 60...).</li> <li>- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter</li> </ul>				



(except the mention of the website at the start of each lesson of the textbook). However, discovery learning is a method of interest in this set with several hands-on activities in which students are engaged: an activity where students draw and cut squares using measures of diagonals to find irrational length of sides using the number line (textbook p 55), an extra similar warm-up activity using differences of square areas to find an approximation of an irrational number (teacher's manual p 55A), an activity entitled "discovery" which helps students discover the Pythagorean theorem by drawing square sides and areas (textbook p64); an activity entitled "expand-geometry lab " found towards the end of the chapter which teaches students how to represent irrational numbers on the number line using a compass and a ruler (textbook p73). Another important modern teaching method which is prominent is cooperative learning and group work. Examples reflecting this type of learning are found in the teacher's manual: p 60A students working with lists of irrational numbers, p64 a pair work to verify results of the discovery activity mentioned above, p69A a group work where students have to write a situation and solve it using the Pythagorean theorem, p 73 an activity by pairs about constructing triangles and finding the hypotenuse length... Also using pair work for exercises or even homework is encouraged (teacher's manual pp 54,57,63...). The hands-on activities and student collaboration opportunities mentioned above are also examples of situations that involve the student in building and developing his own learning and understanding.

- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 54, 57, 67...). There is also a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 51 & 79). Adding to that, in the teacher's manual (pp 55A, 57, 62, 67...) there are extra activity suggestions targeting students' different learning styles (visual learners, verbal & linguistic learners, mechanical learners, rational learners ...) and even a mention of an activity for students with special needs (p 55A), referred to as "diversified teaching". There are also many suggestions for extra exercises and examples.
- (1.4 & 1.5) Relatively few exercises and problems of the textbook and practice book are word problems linking real numbers and the Pythagorean Theorem to their use in real life, and most of these situations are very basic applications (for example taking a triangular object from daily life and applying the Pythagorean Theorem to find measures of its sides). In fact, it depends on the lesson topic as mentioned previously; some topics have more examples linked to real life situations and objects than others (for example p 53 linking the area of the base of a pyramid to its side, other examples p 54 ex 10 & 27 only, p 57 ex 16 & 26 only...). The end of chapter test for instance only has 2 out of 11 word problems which is very little. In addition, although the exercises found in the textbook and practice book reflect multiple tasks which correspond to the different concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly (for instance in textbook examples pp 61-62 same as check your understanding exercises p 63 ex 1-10, same as practice exercises p 63 ex 11-30, and same as practice book p 17 ex 1-22, all are about determining/comparing irrational numbers and calculating simple square roots; the same situation applies to textbook pp 74-78 and practice book p20 where all exercises



are about using coordinate systems to plot points and find distances...).

- (1.4) There are few higher order tasks in each lesson (only 2 or 3 tasks per section). Some these tasks are of a certain level of difficulty requiring higher order thinking. However, mostly these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p 54 ex 24 finding the value of  $(\sqrt{36})^2$  and  $(\sqrt{c})^2$ , or p57 ex 30 explaining how to represent  $\sqrt{18}$  on a number line which is the exact same task as the example on pp 55-56, or even finding a counter-example to the statement "all square roots are irrational numbers" which is the basic definition of the chapter...). In addition, the exercises in the end of chapter test (p79) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
  
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 50) are of great use as students use them to record notes, definitions, remarks and examples, hence they create review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson of the chapter (teacher's manual pp 54, 63, 68...). In addition, students are encouraged to create and use other tools which help them organize and learn important concepts: a list of all square roots from 1 to 225 to use as a reference (teacher's manual p 56), and a tree diagram representing number sets (teacher's manual p60A). Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example writing an explanation about how to represent  $\sqrt{87}$  on the number line textbook p 57 ex 30, explain how knowing the measures of any two sides of a right triangle can be used to find the measure of the third side textbook p68 ex 22...).
- (1.6) There is a section in the textbook called "problem solving strategy" (pp58,59) where students are taught to use Venn diagrams to represent data (however the application exercises of this section are not related to the chapter content). Also students are taught to use different forms of representations (algebraic and visual) for the same concept to understand difficult concepts (for example linking the square root of a number to the side of a square with area equal to the number teacher's manual p53).



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>38. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>38.1. Length of sentences</i>				<b>X</b>
<i>38.2. Complexity of sentences</i>				<b>X</b>
<i>38.3. Diversity of language structures</i>				<b>X</b>
<i>38.4. Number of concepts per chapter</i>				<b>X</b>
<i>38.5. Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>38.6. Clarity of definitions of technical terms</i>				<b>X</b>
<i>38.7. Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>38.8. Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

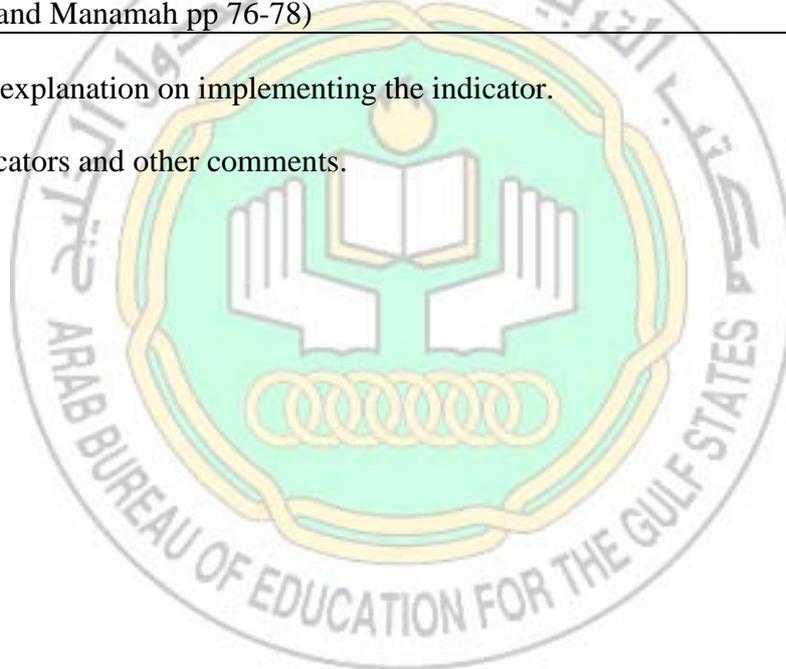
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>75. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>75.1. Illustrations</i>				<b>X</b>
<i>75.2. Content</i>				<b>X</b>
<i>75.3. Activities</i>				<b>X</b>
<i>75.4. Practice Exercises</i>				<b>X</b>
<i>75.5. Assessment exercises</i>				<b>X</b>
<i>75.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>76. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
76.1. <i>Illustrations</i>				<b>X</b>
76.2. <i>Content</i>				<b>X</b>
76.3. <i>Activities</i>				<b>X</b>
76.4. <i>Practice Exercises</i>				<b>X</b>
76.5. <i>Assessment exercises</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 4 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (for instance an example referring to famous skyscrapers in KSA textbook p62, an activity and an exercise about finding the distance between different cities in KSA such as Riyadh and Manamah pp 76-78)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 8 – Semester 1			
	Textbook Title: Math Connects Course 3			
	Chapter Title: Percentages – chap4			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>69. Alignment of the translated texts to the philosophy of the original textbook</b>				
69.1. <i>Content of the Chapter</i>				
69.2. <i>Activities included in the chapter</i>				
69.3. <i>Learning objectives</i>				
69.4. <i>Practice exercises</i>				
69.5. <i>Assessment exercises</i>				
69.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter and activities seem to be fairly aligned with the textbook philosophy. The chapter is divided into 5 lessons (including 1 problem solving strategy section) of average length (3-5 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 122A) which is an appropriate pace to cover the main concept(s) of each lesson with 8<sup>th</sup> graders. Most activities and concepts are linked to real life applications, which makes the learning much easier and more interesting. In fact, the activities and examples first give the basic calculation rules, and then apply them to a real situation. The content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Pictures, graphs, tables and drawings are used.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p122 "I use proportional inference to solve different types of problems on percentages, including percentage increases and decreases"). In the teacher's manual (p 122A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before, in and after grade 8) in the teacher's manual, at the beginning of the chapter and of every lesson (pp 122B, 124, 127, 132...).</li> <li>- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, cooperative learning and group work is a method of interest (though not as</li> </ul>				



much as in other chapters/grades). Examples reflecting this type of learning are found mainly in the teacher's manual: p 123 asking students to exchange task they wrote involving mental calculation and explain to each other their solving methods, p 132A using group work to solve a set of assigned exercises...Also using pair work for homework is encouraged (teacher's manual pp 126, 129, 135, 139...).

- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 126, 129, 135, 139...). There is also a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 123 & 141). Adding to that, in the teacher's manual (p 137) there's an extra activity referred to as "diversified teaching" targeting visual and mechanical learners (having students record lowest and highest temperature in different cities located on a map and using internet search). There are also many suggestions for extra exercises and examples, and an extra test (p 141A teacher's manual).
- (1.4 & 1.5) The majority of the exercises and problems of the textbook and practice book are word problems linking percentages to their use in real life. The first few exercises of any section are basic practice to calculations, and then word problems are used to apply these calculations in real life contexts (for example pp 126 7 129, first practice mentally calculating and estimating percentages then putting these tasks in real world situations). There is a variety of topics used ranging from composition of books in a library, to types of activities on touristic trips, to proportions of distances between planets, to statistics about populations, productions, to sales and gains in prices... However, although the exercises found in the textbook and practice book reflect multiple tasks which correspond to the different concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly (for instance in textbook examples pp 137-138 same as check your understanding exercises p 140 ex 1-6, same as practice exercises p 139 ex 7-19, and same as practice book p 34 ex 1-18, all are about determining percentage change or the final value after a percentage increase/decrease). Also, the same tasks which are practiced over and over again in the textbook are again repeated too many times in the practice book (16 exercises p 30 of the practice book about mental calculation of a percentage, and again 16 exercises p 33 using percentage=part/whole formula).
- (1.4) There are few higher order tasks in each lesson (only 3 tasks per section). Some are very interesting and requiring higher order thinking (for example p126 ex 21 "if two integers s and c have a sum of 90, and if 20% of c is equal to s and 80% of s is equal to, find the values of c and s" this problem goes beyond percentages using systems of 2 equations with 2 unknowns so it is of a certain level of difficulty; p135 ex 16 "check if the expression A% of B= B% of A is always, sometimes or never true and explain your answer). However, mostly these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p 126 ex 23 "find the correct answer among 2 students' answers: 10% of 95 is 9.5 OR 10% of 95 is 0.95"). In addition, the exercises in the end of chapter test (p141) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.



- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 122) are of great use as students use them to record formulas in word and symbols, definitions, vocabulary terms, examples, hence they constitute review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson of the chapter (teacher's manual pp 126, 135, 140...). In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of most lessons in the textbook (except 4.1 & 4.2 in this chapter), the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example p140 ex 21 write and solve a real life situation involving a 25% increase or decrease of some quantity, p 135 ex 18 explain using an example why 5% decrease followed by a 5% increase doesn't yield the initial value). Students writing skills are also targeted through the many opportunities where students are asked to come up with exercises and solve them (teacher's manual pp 124A, 125, 127A, 130A...) and through activities of the type "students should pick a topic or activity they enjoy and write 3 tasks about it, then solve them using different strategies" (teacher's manual p 130A).
- (1.6) Teaching students to use different strategies and tricks to solve problem is also an objective in this chapter. To start with, there is a section in the textbook called "problem solving strategy" (pp130,131) where students are taught to "test the reasonableness of their results". This strategy is then referred to in several examples and exercises in the following sections (textbook pp 132,133, 138, teacher's manual p 130A). Students are also encouraged to use different strategies learned in previous chapters/grades (for example looking for a pattern, drawing, trial and error...) to solve the problems (teacher's manual p 130A). Students are also taught tricks to do some computations faster (mental calculations and estimation of approximate percentages pp 124-126).
- (1.6) The student is encouraged to make choices and decisions involving him in the learning process. For instance, teachers are required to teach multiple methods when feasible and let students decide the method of their preference to use it in applications (textbook pp 134, 138, 139, teacher's manual p 133). The student collaboration opportunities mentioned above are also examples of situations that involve the student in building and developing his own learning and understanding.



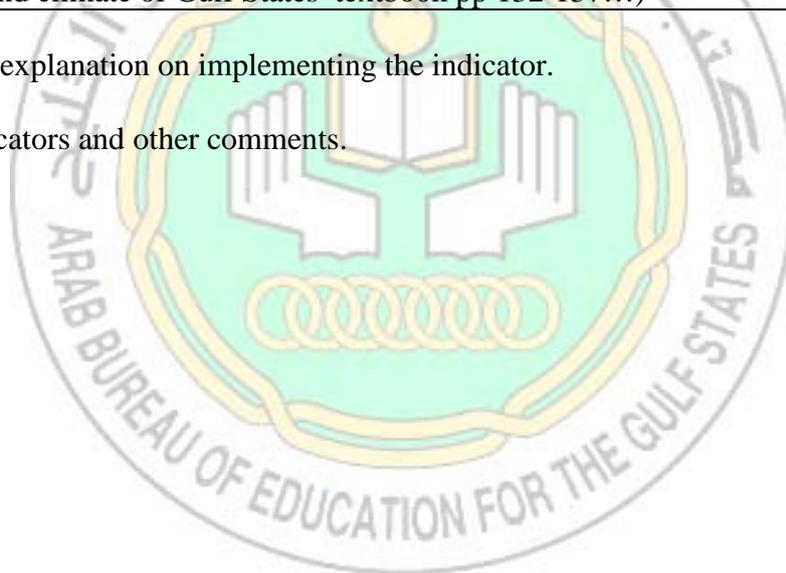
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>39. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>39.1. Length of sentences</i>				<b>X</b>
<i>39.2. Complexity of sentences</i>				<b>X</b>
<i>39.3. Diversity of language structures</i>				<b>X</b>
<i>39.4. Number of concepts per chapter</i>				<b>X</b>
<i>39.5. Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>39.6. Clarity of definitions of technical terms</i>				<b>X</b>
<i>39.7. Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>39.8. Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3 - The must be some typing mistake in the textbook p122 in the general idea statement (repetition of "percentage" twice, the second time probably intending something else).				
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>77. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>77.1. Illustrations</i>				<b>X</b>
<i>77.2. Content</i>				<b>X</b>
<i>77.3. Activities</i>				<b>X</b>
<i>77.4. Practice Exercises</i>				<b>X</b>
<i>77.5. Assessment exercises</i>				<b>X</b>
<i>77.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>78. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
78.1. <i>Illustrations</i>				<b>X</b>
78.2. <i>Content</i>				<b>X</b>
78.3. <i>Activities</i>				<b>X</b>
78.4. <i>Practice Exercises</i>				<b>X</b>
78.5. <i>Assessment exercises</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 4 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (for instance an example referring the percentages of dates production in Gulf States as compared to the world production textbook p 122, an exercise about the national Saudi football league textbook p 125, an exercise giving statistics about oil percentages in Saudi and comparing it to the world oil stock textbook p 128, several links to the nature and climate of Gulf States textbook pp 132-137...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 8 – Semester 1			
	Textbook Title: Math Connects Course 3			
	Chapter Title: Geometrical Transformations – chap5			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>70. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>70.1. Content of the Chapter</i>				
<i>70.2. Activities included in the chapter</i>				
<i>70.3. Learning objectives</i>				
<i>70.4. Practice exercises</i>				
<i>70.5. Assessment exercises</i>				
<i>70.6. Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter seem to be fairly aligned with the textbook philosophy. The chapter is divided into 7 lessons (including 2 expand sections and 1 problem solving strategy section) of average length (3-5 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 142A) which is an appropriate pace to cover the main concept(s) of each lesson with 8<sup>th</sup> graders. As for activities, they show little evidence of alignment with the philosophy since not all activities and concepts are linked to real life applications. It depends on the topic of the lesson (for example there are more examples from real life in section 5.5 about symmetry than in section 5.4 about congruent polygons where only 1 example is given). Most activities and examples are mainly used to explain geometrical properties in a purely mathematical context. Nevertheless, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Pictures, graphs, tables and drawings are used.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p142 "I use relationships of lines and angles; I apply geometrical transformations"). In the teacher's manual (p 142A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before, in and after grade 8) in the teacher's manual, at the beginning of</li> </ul>				



- the chapter and of every lesson (pp 142B, 144, 153, 156...).
- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, discovery learning is a method of interest in this chapter: two main activities entitled "expand-geometry lab" found in the textbook towards the beginning and end of the chapter. In the first activity (p 149-150), students use properties of parallel lines and angles forms to find the sum of angles in a triangle (learned in grade 7) and prove similar triangles, in the second activity (p 159-160) students are engaged in a hands on activity involving drawing and cutting shapes to discover ways of proving congruent triangles. Another important modern teaching method which is prominent is cooperative learning and group work. Examples reflecting this type of learning are found in the teacher's manual: students work together in small groups to describe properties of angles, discuss translation problems, solve exercises, exchange roles in the expand activity (teacher's manual pp 144A, 144, 149, 159, 169A....). Also using pair work for homework is encouraged (teacher's manual pp 147, 154, 158...). The hands-on activities and student collaboration opportunities mentioned above are also examples of situations that involve the student in building and developing his own learning and understanding
  - (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 147, 154, 158...). There are also instructions (sometimes in the form of a grid) to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 143 & 173). Adding to that, in the teacher's manual (pp 146, 151A, 156, 157, 161A, 169A...) there are extra activity suggestions targeting students' different learning styles (visual learners, verbal & linguistic learners, mechanical learners, natural learners...) referred to as "diversified teaching". In addition, teachers are advised to encourage students with learning difficulties and help them acquire self confidence by valuing their useful contributions (teacher's manual p144A), and to give instructions several times and in multiple forms (orally and written on the board) to make sure they reach students of all level and learning styles (teacher's manual p 161A). There are also many suggestions for extra exercises and examples, and a cumulative test for chapters 2 to 5 (textbook pp 174-175).
  - (1.4 & 1.5) In the following, section 5.2 "problem solving strategy" is not taken into account since its applications are not related to the chapter content. Relatively few exercises and problems of the textbook and practice book are word problems linking geometrical transformations to their use in real life, and most of these situations are very basic applications (for example linking parallel lines and angles to construction and furniture design). In fact, it depends on the lesson topic as mentioned previously; some topics have more examples linked to real life situations and objects than others (for example linking regular polygons to flooring and window patterns, linking geometrical transformations to art and construction ...). In the practice book, only 5 out of 23 exercises are linked to real life objects or contexts, in the end of chapter test p 173, only 2 out of the 15 have some elements related to real life (actually objects from daily life used to test types of symmetry). Moreover, although the exercises found in the textbook and practice book reflect multiple tasks which correspond to the different concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding"



and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly (for instance in textbook pp 144-148 examples same as check your understanding exercises ex 1-8, same as practice exercises ex 10-22 and 26-28, and same as practice book p 35 ex 1-13, all are about finding the measure of an angle and/or categorizing a pair of angles).

- (1.4) There are few higher order tasks in each lesson (only 3 tasks per section). Some are interesting and requiring higher order thinking, but most of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p 148 "if a line is perpendicular to one of two parallel lines then it is always, sometimes, or never perpendicular to the other line? justify"; and p 155 "how many sides does a regular polygon with interior angles of 160 degrees have?"). In addition, the exercises in the end of chapter test (p173) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 142) are of great use as students use them to record formulas in word and symbols, definitions, vocabulary terms, examples, hence they constitute review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson of the chapter (teacher's manual pp 147, 155, 158...). In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example p164 ex 15 explain differences between central and axial symmetry, p155 ex 20 explain the relation between number of sides of regular polygons and measures if their interior angles, p 172 write and solve a real life situation using translations). Teachers also advise students to express verbally previously learned concepts since it helps them better assimilate these concepts (teacher's manual p 156A). Students are encouraged as well to create and use other tools which help them organize and learn important concepts: a vocabulary list (including definitions of new terms, examples and drawings/shapes illustrating the terms) which is created and completed as students progress through the chapter to help them learn the many new terms (teacher's manual p 144A), tables where they summarize properties of regular polygons (teacher's manual p 153A)...
- (1.6) There is a section in the textbook called "problem solving strategy" (pp151, 152) where students are taught to "use induction/deduction/inference" to find the sum of acute angles of a right triangle (however the applications to this type of reasoning in the exercises that follow and in the practice book are not related to the chapter topic, hence why it was left aside while talking about the nature of the exercises of the chapter). Students are also encouraged to use different strategies learned in previous chapters/grades (teacher's manual p 51A).



	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>40. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>40.1.Length of sentences</i>				<b>X</b>
<i>40.2.Complexity of sentences</i>				<b>X</b>
<i>40.3.Diversity of language structures</i>				<b>X</b>
<i>40.4.Number of concepts per chapter</i>				<b>X</b>
<i>40.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>40.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>40.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>40.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There are many new vocabulary terms and symbols to learn in this chapter, however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for example notes on how to write and read certain geometrical symbols are found on pp 145-146). Also, as mentioned before, students are encouraged to create a vocabulary list as they progress through the chapter, where they note all the new terms learned, their definition, an example, and a drawing/shape which represents the term (teacher's manual p144A).</li> </ul>				
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>79. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>79.1. Illustrations</i>				<b>X</b>
<i>79.2. Content</i>				<b>X</b>
<i>79.3. Activities</i>				<b>X</b>
<i>79.4. Practice Exercises</i>				<b>X</b>
<i>79.5. Assessment exercises</i>				<b>X</b>
<i>79.6. Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p>				

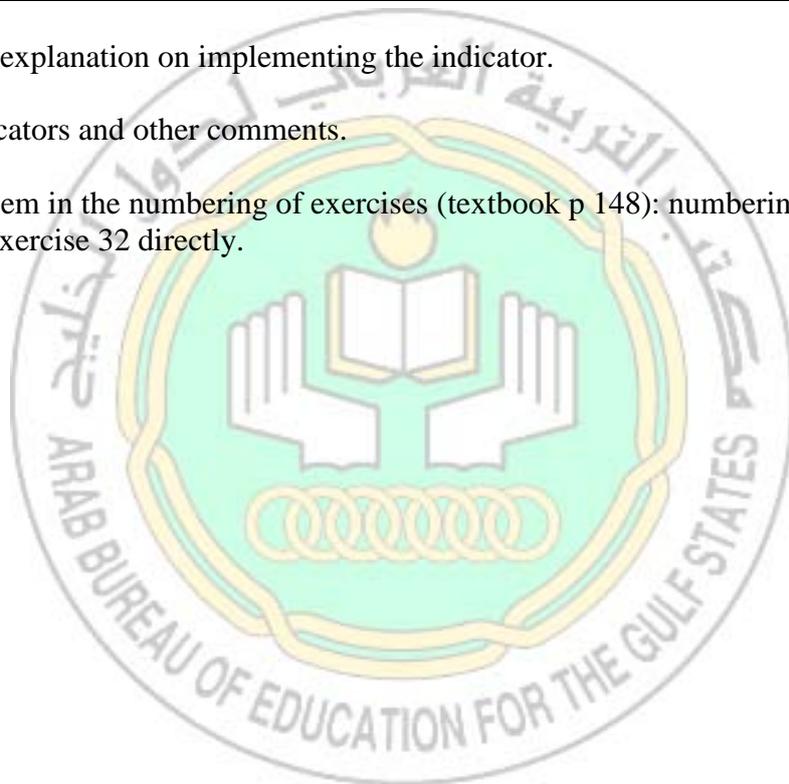


	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>80. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
80.1. <i>Illustrations</i>				<b>X</b>
80.2. <i>Content</i>				<b>X</b>
80.3. <i>Activities</i>				<b>X</b>
80.4. <i>Practice Exercises</i>				<b>X</b>
80.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

There is a problem in the numbering of exercises (textbook p 148): numbering jumps from exercise 28 to exercise 32 directly.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 8 – Semester 2			
	Textbook Title: Math Connects Course 3			
	Chapter Title: Algebra: Equations and Inequalities – chap7			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>71. Alignment of the translated texts to the philosophy of the original textbook</b>			<b>X</b>	
71.1. <i>Content of the Chapter</i>			<b>X</b>	
71.2. <i>Activities included in the chapter</i>		<b>X</b>		
71.3. <i>Learning objectives</i>			<b>X</b>	
71.4. <i>Practice exercises</i>		<b>X</b>		
71.5. <i>Assessment exercises</i>		<b>X</b>		
71.6. <i>Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content of the chapter seem to be fairly aligned with the textbook philosophy. The chapter is divided into 7 lessons (including 1 explore section and 1 problem solving strategy section) of average length (3-5 pages each), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 48A) which is an appropriate pace to cover the main concept(s) of each lesson with 8<sup>th</sup> graders. Activities however show little alignment with the philosophy due to the fact that few activities and concepts are linked to real life applications (excluding the problem solving lesson which is particular). It actually depends on the lesson. In fact, only lessons 7.3 and 7.4 link most activities and examples to real life (which is expected in lesson 7.3 since the general idea of the lesson is "I write 2 step equations to solve real life situations'). In lessons 7.1, 7.2, 7.6 and 7.7 most activities are mainly used to explain operations on algebraic expressions/equations/inequalities in a purely mathematical context, and very few examples from real life are used (for instance, in lesson 7.1 the only link to real life is an example about the price of items in a book fair p 52) . Nevertheless, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Pictures, graphs, tables and drawings are used, however not as much as in other chapters/sets of books.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p48 "I use linear equations to illustrate problems, analyze and solve them; I</li> </ul>				



- use simple linear equations and inequalities with fractions"). In the teacher's manual (p 48A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before, in and after grade 8) in the teacher's manual, at the beginning of the chapter and of every lesson (pp 48B, 50, 55, 59, 65...).
- (1.3) Regarding modern teaching methods, there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, discovery learning is a method of interest in this chapter: an activity entitled "explore - algebra lab" is found in the textbook towards the middle of the chapter, and hands-on algebra tools are used at several points in the chapter. In the activity (p 63-64), students manipulate algebraic expressions with variables on both sides using algebra tiles (and the teacher is advised to use overhead projection of transparencies of these tiles to guide students through the activity, teacher's manual p63). These algebra tiles are also used in the textbook pp 50&55 as tools for students to discover how to write and manipulate simple algebraic expressions. Another important modern teaching method which is prominent in this chapter is cooperative learning and group work. Examples reflecting this type of learning are found in the teacher's manual: students work together in pairs or small groups to write and simplify equations, discuss ordering of integers, solve exercises, exchange roles in discovering and explaining to each other simplification steps (teacher's manual pp 50A, 52, 63, 68A, 70A, 73A, 74...). Also using pair work for homework is encouraged (teacher's manual pp 53, 57, 61, 67, 72...). The hands-on activities and student collaboration opportunities mentioned above are also examples of situations that involve the student in building and developing his own learning and understanding
  - (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp53, 57, 61, 67...). There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp49 & 77B). Adding to that, in the teacher's manual (pp52, 70, 73A, 74...) there are extra activity suggestions targeting students' different learning styles (visual learners, mechanical learners, rational learners, individualistic learners and self learners) referred to as "diversified teaching". There are also many suggestions for extra exercises and examples, and an extra end of chapter test (teacher's manual pp 77A&B).
  - (1.4 & 1.5) Relatively few exercises and problems of the textbook and practice book are word problems linking equations and inequalities to their use in real life, and most of these situations are very basic applications (for example expressing the variation of sea water level in the Dead Sea over the years in terms of a linear equation, textbook p 48). In fact, it depends on the lesson as mentioned previously; some lessons have more examples linked to real life situations than others (mainly lessons 7.3 & 7.4 & 7.5), and some have very few applications (lesson 7.1 only 6 out of 58 exercises are word problems, textbook pp 53-54, lesson 7.2 only 5 out of 29, pp 57-58). In the practice book, only 10 out of 31 exercises are linked to real life (6 of them are found in the problem solving strategy section), in the end of chapter test p 77, only 4 out of the 23 exercises are word problems with real situations. Moreover, although the exercises found in the textbook and practice book reflect multiple tasks which correspond to the different concepts found in the chapter, there seems to be redundancy within the



different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of tasks are used repeatedly and too many times (for instance in textbook pp 51-52 examples same as check your understanding exercises ex 1-15, same as practice exercises ex 16-58, and same as practice book p 12 ex 1-28, all consist in writing and simplifying algebraic expressions; the same applies to textbook pp 75-76 and practice book p 18 where all exercises consist in writing and solving inequalities).

- (1.4) There are few higher order tasks in each lesson (3-4 tasks per section). Some are interesting and requiring multiple step solving (for example p 67 ex 22 is a 2-step problem about finding the area of rectangle whose sides are all expressed in terms of an unknown), but most of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p54 ex 60-61 simply require to simplify algebraic expressions which is exactly the same task found in all the previous practice exercises of the lesson, the same applies to p 58 ex 30 which is about finding the correct method among 2 student propositions to solve the equation  $6s+3=18$ ). In addition, the exercises in the end of chapter test (p173) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 48) are of great use as students use them mainly to record notes, definitions of vocabulary terms and examples, hence they constitute review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson of the chapter (teacher's manual pp 58, 62, 67...). Students are encouraged as well to create and use other tools which help them organize and learn important concepts: extra special foldables for the trial and error strategy, referring to the problem solving strategy (teacher's manual p68A), a vocabulary list of keywords about algebraic operations which is completed as students progress through the chapter (teacher's manual p 61), a list of steps and strategies that are used in algebraic operations which students also complete with their notes throughout the chapter (teacher's manual p48B), a diagram that shows the links between the vocabulary terms of the chapter (teacher's manual p 50A)...In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example p58 ex 32 "explain how you can use the backward solving strategy to solve a 2-step equation", p 62 ex 25 "write and solve a real life situation involving a 2-step equation", p72 ex 25 "write an explanation about a specific inequality relation and give examples"...). Teachers also advise students to express verbally previously learned concepts since it helps them better assimilate these concepts (give an oral summary of the chapter and reformulate the main concepts, teacher's manual p 48).
- (1.6) There is a section in the textbook called "problem solving strategy" (pp68,69) where students are taught to "use trial and error" to find values satisfying certain conditions/situations. Students are also encouraged to use different strategies learned in previous chapters/grades (such as mental calculations, estimations, creating tables...) to solve problems (textbook pp 62&69), and are reminded to review concepts learned in previous lessons/grades which are linked to the current chapter concepts (revision of multiplication table textbook p51, revision of forms of equation writing



textbook p60). Moreover, students are taught tips to check the results of their computations (replacing unknowns by values, textbook p 52&73) and avoid certain common computation mistakes (dividing both sides of an equation by a constant, changing the sign of an inequality, textbook pp 56 & 75 respectively). In addition students are taught to link different forms of representations (algebraic, graphical and verbal) of the same concept to better understand and learn difficult concepts (teacher's manual 65A a graph showing linear relation between days and number of sold packs, p 50A & 59A changing algebraic expressions into sentences and vice versa).

- (1.6) The student is encouraged to make choices and decisions. For instance, students are given the flexibility to choose a preferred method among several to solve a certain exercise (textbook pp 62 ex 24 & 69 ex 6-13). Student discussions are also encouraged (whole class and small groups), using questioning to introduce an activity or a lesson, and having students discuss and explain to each other concepts then exchange roles (teacher's manual pp 50A, 63, 68A, 70A... Encouraging student choices and discussions also reflects the student's active role in the teaching and learning process.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>41. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>41.1.Length of sentences</i>				<b>X</b>
<i>41.2.Complexity of sentences</i>				<b>X</b>
<i>41.3.Diversity of language structures</i>				<b>X</b>
<i>41.4.Number of concepts per chapter</i>				<b>X</b>
<i>41.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>41.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>41.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>41.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

- There are many new vocabulary terms and symbols to learn in this chapter, however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for example notes on how to write and read inequality symbols p71). Also, as mentioned before, students are encouraged to create a keywords list as they progress through the chapter (teacher's manual p61).



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>81. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>81.1. Illustrations</i>				<b>X</b>
<i>81.2. Content</i>				<b>X</b>
<i>81.3. Activities</i>				<b>X</b>
<i>81.4. Practice Exercises</i>				<b>X</b>
<i>81.5. Assessment exercises</i>				<b>X</b>
<i>81.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>82. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
<i>82.1. Illustrations</i>				<b>X</b>
<i>82.2. Content</i>				<b>X</b>
<i>82.3. Activities</i>				<b>X</b>
<i>82.4. Practice Exercises</i>				<b>X</b>
<i>82.5. Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				
<ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (for instance an example referring protocol formalities about the KSA flag textbook p66, and an example referring to the Saudi currency illustrated by a picture of money notes textbook p73...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

There is possible typing mistake in the teacher's manual p 48B: "eight middle grade" instead of "second middle grade" (mixing up American grade numbering/naming and KSA grade numbering/naming, probably due to translation).



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 8 – Semester 2			
	Textbook Title: Math Connects Course 3			
	Chapter Title: Statistics – chap9			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>72. Alignment of the translated texts to the philosophy of the original textbook</b>				
72.1. <i>Content of the Chapter</i>				
72.2. <i>Activities included in the chapter</i>				
72.3. <i>Learning objectives</i>				
72.4. <i>Practice exercises</i>				
72.5. <i>Assessment exercises</i>				
72.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) The content and the activities of the chapter seem highly aligned with the textbook philosophy. The chapter is divided into 8 lessons (including 2 expand sections and 1 problem solving strategy section) of average length (4-7 pages each, most space being taken by tables and graphs), and 2 sessions are assigned for the teaching of each lesson (teacher's manual p 120A) which is an appropriate pace to cover the main concept(s) of each lesson with 8<sup>th</sup> graders. All activities and concepts are based on or linked to real life situations thanks to the topic of the chapter, with a wide variety of topics (hobbies &amp; activities, socio-demographic &amp; geographic information about countries, people characteristics, time spent on tasks...) which makes the learning much easier and more interesting since students can relate to every single situation. In addition, the content display is very neat, the lesson sequence is clear, and there are many colors used which make the display livelier and emphasizes the separation between different parts of the lesson (i.e. the activities, examples, properties &amp; application exercises). Pictures, drawings and especially many graphs and tables are used to illustrate the data used.</li> <li>- (1.3) To start with, objectives are not mentioned in the textbook, instead the "general idea" of the chapter and of each lesson is presented at the beginning of each section (textbook p120 "I use statistical indicators including the mean, median and range to briefly describe, organize and represent statistical data and to compare sets of data"). In the teacher's manual (p 120A), the objectives of each lesson are listed, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before, in and after grade 8) in the teacher's manual, at the beginning of the chapter and of every lesson (pp 120B, 124, 128, 136, 142...).</li> </ul>				



- (1.3) Regarding modern teaching methods, first of all technology is used in this chapter as a learning tool through the two expand activities (pp 134-135 & 141) which use excel sheets to construct graphs and charts (such as polygons, bar graphs and circular diagrams), and to find measures of central tendency of statistical series. This is the only chapter in this set of book where technology is used (except for the mention of the website at the start of each lesson and chapter of the textbook). Moreover, discovery learning is a method of interest in this chapter and this is reflected through hands-on activities in which students are engaged. Besides the 2 "explore" activities, several activities have students gather data in class by interrogating their classmates about their everyday habits, then organize it and represent it using appropriate graphs (p 127 ex 16 data about number of hours of internet use per week, p 133 ex 14 data about number of hours spent watching TV). Similarly, several research tasks require students to look for data using the internet or newspapers and magazines (p 127 ex 16, p 140 ex 18). Students are also involved in game-like discovery activities such as standing in line by order of height to determine the quartiles and extreme individuals (extra activity suggestion teacher's manual p 142A). Another important modern teaching method which is prominent in this chapter is cooperative learning and group work. Examples reflecting this type of learning are found in the teacher's manual: students work together in pairs or small groups gather, organize and analyze data (teacher's manual pp 127, 133, 134, 136A, 141, 146A, 151A...) or work on exercises and homework (teacher's manual pp 126, 131, 139, 144...). These types of tasks create opportunities for questioning and discussions among students, and emphasize the student's active role in the teaching and learning process
- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles & levels. In the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp126, 131, 139, 144...). There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp121 & 159). Adding to that, in the teacher's manual (pp136A, 139, 142A, 143, 152...) there are extra activity suggestions targeting students' different learning styles (mainly visual and active learners) referred to as "diversified teaching". There are also many suggestions for extra exercises and examples, and an extra end of chapter test (teacher's manual pp 120 A&B).
- (1.4 & 1.5) All the exercises and problems of the textbook and practice book are based on data representing real life. Thanks to the nature of the chapter, there is a wide variety in the topics of exercises as mentioned before. However, although the exercises found in the textbook allow practicing the different skills tackled in the lessons, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice"). The same types of tasks are used repeatedly too many times (for instance in textbook examples pp 124-125 are the same as exercises 1-17 pp 126-127, all are about drawing tables to organize data and reading information from graphs, the same applies to pp 128-133 about constructing circular diagrams and describing data, and on pp 136-140 finding measures of central tendency of statistical series...). The novelty about this chapter is regarding the exercises in the practice book: only 5-7 exercises are found in each section, reviewing the main tasks and skills of the lesson practiced in the textbook, without however creating redundancy, since each task is only explored once.
- (1.4) There are few higher order tasks in each lesson (3-4 tasks per section). Again



something specific to this chapter is the fact that many of these tasks are interesting and requiring creativity and higher order thinking (for example p140 ex 17 "giving a counter example to the statement: the mean is always a representative indicator of the statistical series", or p 145 ex 19 "write 2 sets of data having same range but different interquartile ranges, and 2 other sets of data with the same median and quartiles but different ranges" ), and of course some of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example textbook p133 ex 20 "construct a circular diagram showing the way your ordinary day time is distributed"). In addition, the exercises in the end of chapter test (p159) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.

- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 120) are of great use as students use them mainly to record notes, definitions of vocabulary terms and examples; hence they constitute review sheets for exams. Teachers are asked to follow up and remind students of completing them at the end of every lesson of the chapter (teacher's manual pp 127, 132, 140, 145...). Students are encouraged as well to create and use other tools which help them organize and learn important concepts: extra special foldables about the properties and uses of the different types of graphs used to represent statistical data (teacher's manual p122A) to be completed by students as they discover them in the chapter (a table is found p 156 of the textbook briefly summarizing the use of each type of graph), one sentence definitions of all concepts learned in the chapter (teacher's manual p 120B), a chart to compare bar graphs and histograms (teacher's manual p124A), a table with directions on how to find the different measures of central tendency (teacher's manual p136A)...In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations... using mathematical terms and concepts covered in the chapter (for example p 127 ex 19 "explain when it is more useful to use histograms instead of bar graphs to represent data", p 133 ex 22 "write a word problem describing something from real life and use circular diagrams to represent it, then explain how that shape was helpful to illustrate and solve the problem", p145 ex 20 "explain why interquartile ranges are not affected by extreme values"...).
- (1.6) There is a section in the textbook called "problem solving strategy" (pp122,123) where students are taught to "solve using a chart". The activity is about categorizing temperatures of 30 Arab capitals. Students are also encouraged to use different strategies learned in previous chapters/grades (textbook p123) to solve problems, and are reminded to review concepts and skills learned in previous lessons/grades which are useful and linked to the current chapter (revision of properties of bar graphs, teacher's manual p 124A and reminder of how to use a protractor to measure/construct angles and sectors, teacher's manual p128A). Moreover, students are taught tips to check the results of their computations and avoid certain common computation mistakes (for example counting the values in a stem-and-leaf display, teacher's manual p151A). In addition students are taught to use different types of graphical representations for the same set of data (teacher's manual p 155A, switching from circular diagram to histogram).



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>42. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>42.1.Length of sentences</i>				<b>X</b>
<i>42.2.Complexity of sentences</i>				<b>X</b>
<i>42.3.Diversity of language structures</i>				<b>X</b>
<i>42.4.Number of concepts per chapter</i>				<b>X</b>
<i>42.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>42.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>42.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>42.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There are many new vocabulary terms to learn in this chapter, a whole language specific to statistic, however all the terms are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them. Also, as mentioned before, students are encouraged to create a vocabulary lists and use the foldables to write new terms with definitions and examples.</li> </ul>				

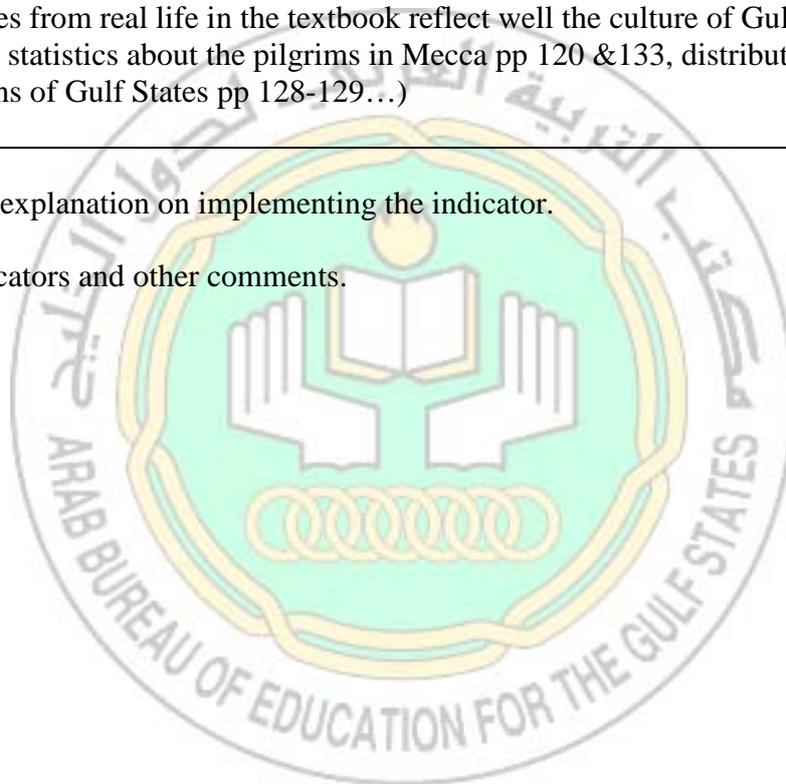
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>83. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>83.1. Illustrations</i>				<b>X</b>
<i>83.2. Content</i>				<b>X</b>
<i>83.3. Activities</i>				<b>X</b>
<i>83.4. Practice Exercises</i>				<b>X</b>
<i>83.5. Assessment exercises</i>				<b>X</b>
<i>83.6. Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p>				

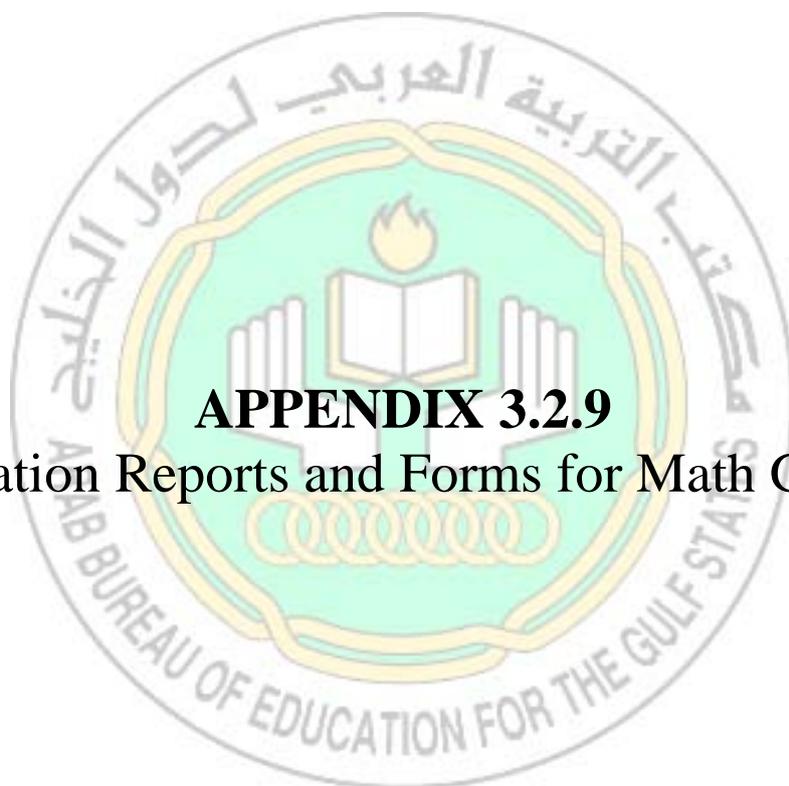


	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>84. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
84.1. <i>Illustrations</i>				<b>X</b>
84.2. <i>Content</i>				<b>X</b>
84.3. <i>Activities</i>				<b>X</b>
84.4. <i>Practice Exercises</i>				<b>X</b>
84.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3  - Examples from real life in the textbook reflect well the culture of Gulf States (for instance statistics about the pilgrims in Mecca pp 120 &133, distribution of population in regions of Gulf States pp 128-129...)				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





**APPENDIX 3.2.9**  
Evaluation Reports and Forms for Math Grade 9



## Grade 9 – Algebra 1

### Tables of content

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “Preparing for Algebra”, “Expressions, Equations and functions” and “rational functions and equations” are the chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- The chapters in the original textbook are listed under **units** whereas in the translated version there are no units.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 9		Semester: 1		
		Textbook Title: Algebra 1 / Grade 9				
		Chapter Title: Linear Equations				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>73. Agreement of the translated Arabic book with that of the English book</b>						
73.1. <i>Definitions and explanations in the chapter</i>				✓		
73.2. <i>Activities included in the chapter</i>			✓			
73.3. <i>Learning objectives</i>				✓		
73.4. <i>Practice exercises</i>				✓		
73.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>				✓		
<b>74. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
74.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

44. One form is to be filled for each of the three books (student, practice, teacher) for each semester
45. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
46. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

47. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “linear equations” in both textbooks showed “little difference” between the explanations. The differences are due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, “writing equations” and “literal equations and dimensional analysis” are among the lessons that are found only in the original textbook. These lessons contain explanations that are not found in the translated textbook.

On the other hand, the definitions and explanations in the lessons that exist in both textbooks are similar. Some differences may appear due to introducing examples that are different in the context because of cultural differences

### 1.2 Activities included in the chapter

The analysis of this chapter has showed large difference in the activities included in both textbooks. This is due to the existence of several lessons in the original textbook that are absent in the Arabic version. For example, “writing equations” and “literal equations and dimensional analysis” are two lessons that appear only in the original textbook. In addition, more activities are introduced in the original text in the lessons that appear in both textbook. For example, on page 108 in the original textbook, there is an activity (exercise #55) that does not appear in the translated textbook. Also, due to cultural reasons some differences exist between the activities that are of same nature.

On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. For example, “writing equations” (objectives: (1) translate sentences into equations; (2) translate equations into sentences) and “literal equations and dimensional analysis” (objectives: (1) solve equations for given variables; (2) use formulas to solve real-world problems). On the other hand, the objectives in the sections that appear in both versions are similar.

### 1.4 Practice exercises

The analysis of this chapter in both textbooks has showed little difference in the practice exercises. The differences are due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, “writing equations” and “literal equations and dimensional analysis” are among the lessons that are found only in the original textbook.



(1) Introducing lessons that only appear in the original textbook. For example, “ratios and percents”, “comparing fractions, decimals, and percents”, “algebra the percent proportion”, “simple interest” are lessons that appear only in the original textbook; (2) the existence in the original textbook of several practice exercises that do not appear in the Arabic version. For example, on page 86, there is an exercise (Fundraising) that does not appear in the translated version. Also, several other activities that are found in both textbooks are different due to cultural reasons.

Also, in student handbook there is “problem solving” Handbook section that contains exercises that appear only in the original textbook.

### 1.5 Assessment

Even though some of the assessment activities in the “chapter practice test” are similar (differences due to culture), large difference in the assessment exercises appeared in both textbooks due to several reasons: (1) introducing lessons that only appear in the original textbook; (2) cultural reasons; (3) introducing a larger number of standardized test practice in the original textbook; and (4) the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 5” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 5. Also, at the end of the chapter in the original textbook, there is a “standardized test practice” cumulative chapters 1 and 2. Also, the section “Study Guide and Review” which contains review activities about the lessons of the chapter is only found at the end of the chapter in the original textbook.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that little differences between the figures and illustrations due to cultural reasons or to the appearance of lessons in the original textbook that are not introduced in the translated version.



**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 9		Semester: 2		
		Textbook Title: Algebra 1 / Grade 9				
		Chapter Title: Statistics and Probability				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>75. Agreement of the translated Arabic book with that of the English book</b>						
75.1. <i>Definitions and explanations in the chapter</i>				✓		
75.2. <i>Activities included in the chapter</i>			✓			
75.3. <i>Learning objectives</i>				✓		
75.4. <i>Practice exercises</i>				✓		
75.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>				✓		
<b>76. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
76.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

48. One form is to be filled for each of the three books (student, practice, teacher) for each semester
49. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
50. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

51. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “Statistics and probability” in both textbooks showed little difference between the explanations. The differences are due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, “Algebra lab: Survey questions”; “probability distributions”; “graphing technology lab – The normal curve”; and “probability simulations” are among the lessons that are found only in the original textbook. These lessons contain explanations that are not found in the translated textbook.

On the other hand, the definitions and explanations in the lessons that exist in both textbooks are similar. Some differences may appear due to introducing examples that are different in the context because of cultural differences.

### 1.2 Activities included in the chapter

The analysis of this chapter has showed large difference in the activities included in both textbooks. This is due to the existence of several lessons in the original textbook that are absent in the Arabic version. For example, “Algebra lab: Survey questions”; “probability distributions” (objectives: find probabilities by using random variables; (2) solve real-world problems using distributions); “graphing technology lab – The normal curve”; and “probability simulations” are among the lessons that are found only in the original textbook. In addition, more activities are introduced in the original text in the lessons that appear in both textbook. For example, on page 744 in the original textbook, there is a high level activity – challenge type (exercise #21) that does not appear in the translated textbook. On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. . For example, “probability distributions” (objectives: find probabilities by using random variables; (2) solve real-world problems using distributions); and “probability simulations” (objectives: (1) design simulations to estimate probabilities; (2) summarize data from simulations) are among the lessons that are found only in the original textbook. The objectives in those lessons are not highlighted in the translated version. On the other hand, the objectives in the sections that appear in both versions are similar.

### 1.4 Practice exercises

Little difference between the questions in the “practice exercises” sections in both textbook although the content of the exercises is different due to cultural reasons. Other differences in the exercises are due to the existence of lessons in the original textbook that are not



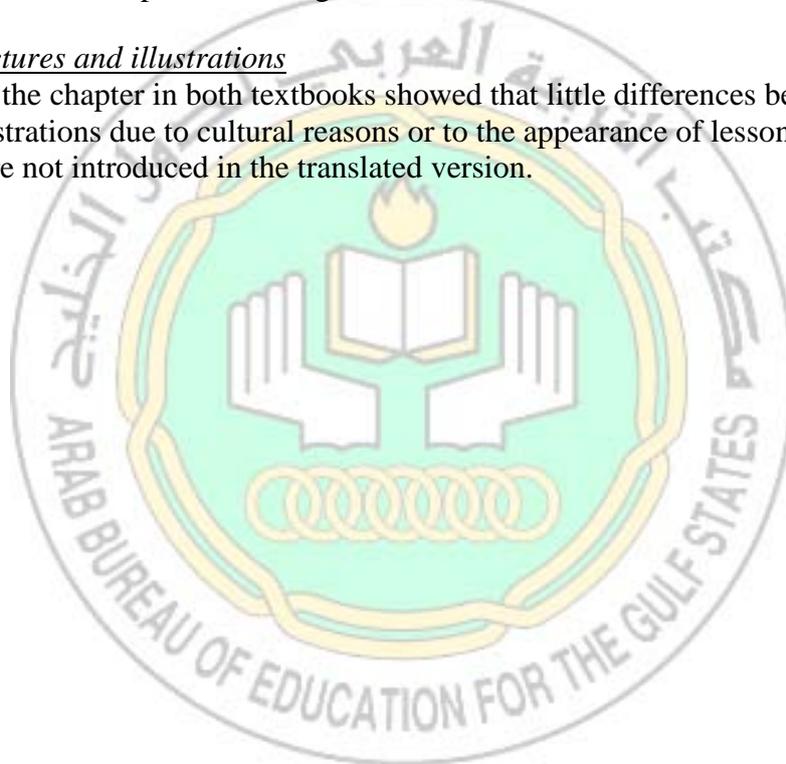
introduced in the translated version. For example, “probability simulations” practice section appears only in the original textbook.

### 1.5 Assessment

Even though almost all the assessment activities in the “chapter practice test” are similar, large difference in the assessment exercises appeared in both textbooks due to several reasons: (1) introducing lessons that only appear in the original textbook (example, “probability simulations”); (3) introducing a larger number of standardized test practice in the original textbook – larger than the number of standardized test practice in the translated version; and (4) the presence of some assessment sections in the original textbook that are not found in the translated version. For example, in the original textbook there is a section entitled “Mid-Chapter Check lessons 1 through 3” in the middle of the chapter and it includes several assessment exercises which correspond to lessons 1 to 3. Also, the section “Study Guide and Review” which contains review activities about the lessons of the chapter is only found at the end of the chapter in the original textbook.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that little differences between the figures and illustrations due to cultural reasons or to the appearance of lessons in the original textbook that are not introduced in the translated version.





## Report Mathematics – Algebra 1– Grade 9 – Semester 1

The following report is an evaluation of grade 9 - semester 1 set of books (textbook teacher's manual and only, since the practice book is missing). Two out of the five chapters were evaluated chapter 1: linear equations, chapter 4: percentages, chapter 5: systems of linear equations. For each set of books, the textbook and teacher's manual were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### Alignment of the translated texts to the philosophy of the original textbook

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, data collection, organization and interpretation skills, and higher order thinking skills.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



An overview of the five chapters of this set (considering the topics and taking a quick look at the content) shows that they form one big unit (linear equations and inequalities) and hence we can make the following conjecture: the general analysis conclusions should be the same for the five chapters.

In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy, with both chapters having very similar analysis conclusions. In both chapters, all the indicators show almost satisfactory evidence of alignment with the philosophy, except the assessment exercises which show little evidence of alignment with the philosophy.

In general, the content of the chapters is almost aligned with the textbook philosophy. The chapters are divided into 5 lessons (including 1 or 2 expand activities) of average length (5-6 pages each), and 2 to 3 sessions are assigned for the teaching of each lesson. The content plan of each chapter and lessons is found in the teacher's manual. The content display is not very attractive; it conveys a rigid/serious impression with very few pictures and drawings used (around 3 per lesson). Nevertheless, it is neat, the lesson sequence is clearly organized, and the separation between different parts of the lesson is well marked (i.e. examples illustrating lesson properties, check your understanding applications, practice exercises, higher order thinking problems, test practice, and cumulative revision).

Activities and examples show some evidence of alignment with the philosophy since very few are linked to real life applications. The introductory activity of each lesson starts with a why question illustrating a real life application of the main concept in that lesson. Then several examples are used to explain the different properties of that concept. Most of them are do so in a purely mathematical context. In fact, out of the 3 to 5 examples per lesson used to illustrate and explain the main concepts/properties, at most one example is a word problem

Regarding the objectives, to start with, they are not mentioned explicitly in the textbook. Instead at the beginning of each chapter, there are 3 types of short statements, before, now and why: the first briefly links the chapter to what has been studied before in previous chapters/grades, the second describes the main concepts to be covered in the chapter, and the last illustrates one of these concepts through a very simple real life application. At the beginning of each lesson, similar before and now statement are also found. In the teacher's manual, the objectives of each lesson are listed in the chapter plan table, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before and in grade 9, and in secondary school).

Concerning the teaching methods, there is an important emphasis on varying them to suit students' learning styles, levels and needs. In the teacher's manual, this is first announced in the chapter plan pages. Then, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty. There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test. Students evaluations are made based on diagnostic, formative and evaluation tools found in the chapter activities, exercise and assessment sections . Adding to that, in the teacher's manual there are extra activity suggestions and tips for diversified teaching, advising teachers to use multiple teaching methods and different representation forms in order to cater to all students with different needs and learning styles, and help them better assimilate different concepts. There are also many suggestions for extra exercises and examples.



As for modern teaching methods, to start with the only sign use of technology as a learning tool in this set is found in chapter 5 in the graphical calculator workshop (adding to that the mention of the website at the start of each lesson of the textbook). However, there are side notes called "learning using techniques" in the teacher's manual which focus on teaching specific skills using certain types of technological tools (videotaping parts of lessons and peer tutoring sessions, using the smartboard, students exchanging on the class blog, audio recordings using an interactive tool to check results..) to explore new concepts. Furthermore, interactive learning is a method of interest in this chapter and this is reflected through group work, hands-on and game-like discovery activities in which students are engaged. First, this is reflected in the expand activities of the chapters ("graphical calculator workshop" and "algebra workshop" activities) where students use certain hands-on tools to solve exercises (algebra tiles, measurement cubes and the calculator). Students are also involved in game-like discovery activities (chapter projects sometimes involving internet research; small competitions, peer tutoring) which engage them in questioning and discussions through cooperative learning (group work). These types of tasks emphasize the student's active role in the teaching and learning process.

As for the exercises and problems, the practices ones show some evidence and the assessment exercises little evidence of alignment with the textbook philosophy. In fact, many of the exercises and problems of the textbook are based on real life situations. The exercises in the "test practice" section of each lesson are also mostly word problems. However, there seems to be redundancy in the type of tasks to solve within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") and in all lessons of the chapter. The same types of tasks are used repeatedly too many times. There are "cumulative revision" sections at the end of every lesson and also a cumulative exam at the end of some chapters (chapters 3 and 5) with tasks about all concepts studied in this set, which is very useful here since all the chapters of this set are related (as if they form one big unit). There are also several higher order thinking tasks in the textbook at the end of each lesson (5-6 tasks per lesson). Many of these are of average level of difficulty requiring a bit more reflection and analysis than the regular exercises, and of course some of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises. In addition, the exercises in the end of chapter tests are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge, with very few word problems.

To end with, several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter are of very useful as students use them mainly to record notes, definitions of vocabulary terms and concepts, and examples; hence they constitute review sheets for exams. Students are constantly reminded of completing them, as they progress in the chapter, with important concept summaries found in the textbook. It is important to note that at this level, it would have been better to let students make or at least complete their own "important concept" summaries instead of finding them in the textbook. In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... about and using mathematical terms and concepts covered in the chapter. Students are also taught tips to help them check the results of their computations and avoid certain common computation mistakes in the form of side note study guides found in all the lessons



There aren't any specific comments regarding the last three evaluation criteria in the three chapters that were analyzed, which could probably be generalized to the other two chapters of this set.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

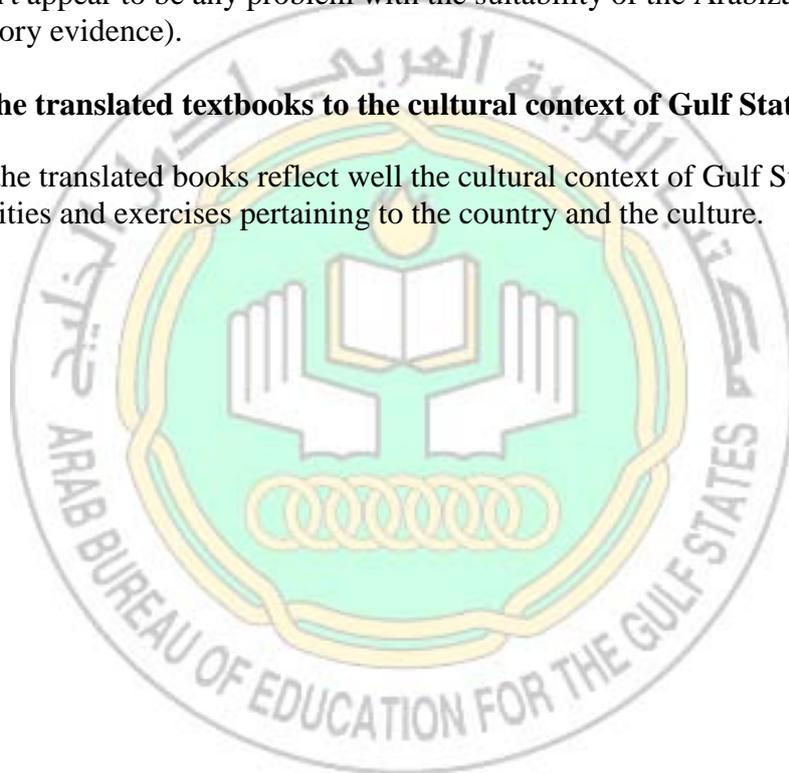
The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms and symbols to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence).

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities and exercises pertaining to the country and the culture.





## Report Mathematics – Algebra 1– Grade 9 – Semester 2

The following report is an evaluation of grade 9 - semester 2 set of books (textbook, teacher's manual and practice book). Two out of the five chapters were evaluated chapter 6: polynomials, chapter 10: probability and statistics. For each set of books, the textbook, practice book and teacher's manual were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, data collection, organization and interpretation skills, and higher order thinking skills.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



An overview of the five chapters of this set (considering the topics and taking a quick look at the content) allows us to categorize them as follows and make conjectures about the general analysis conclusions: chapters 6, 7 8 and most of 9 algebra (polynomials and functions), conclusions should be similar to those of semester 1 analyzed in the first set, chapters 9 probability and statistics, conclusions are expected to be different due to the nature and topic of this chapter.

In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy. Depending on the chapter, the indicators show little evidence to satisfactory evidence of alignment with the philosophy.

In general, the content of the chapters is almost aligned with the textbook philosophy. The chapters are divided into 5-7 lessons (including 1 or 2 expand activities depending on the chapters) of average length (4-7 pages each), and 1 session is assigned for the teaching of each lesson, which might not be enough given the numerous concepts, exercises and activities of each lesson. The content plan of each chapter and lessons is found in the teacher's manual. The content display is not very attractive; it conveys a rigid/serious impression with very few pictures and drawings used (around 3 per lesson), but with many graphs and tables in chapter 10 thanks to the nature of the chapter. Nevertheless, it is neat, the lesson sequence is clearly organized, and the separation between different parts of the lesson is well marked (i.e. examples illustrating lesson properties, check your understanding applications, practice exercises, higher order thinking problems, test practice, and cumulative revision).

Activities and examples show some evidence of alignment with the philosophy since in general not all activities and examples are linked to real life applications, things vary depending on the topic of the chapter. All activities and concepts are based on or linked to real life situations in the statistics and probability chapter thanks to the topic of the chapter, with a wide variety of topics which makes the learning much easier and more interesting since students can relate to every single situation, whereas in the algebra chapter, introductory activities are based on a real context, but few and examples are linked to real life, in fact most examples are mainly used to explain algebraic properties in a purely mathematical context.

Regarding the objectives, to start with, they are not mentioned explicitly in the textbook. Instead at the beginning of each chapter, there are 3 types of short statements, before, now and why: the first briefly links the chapter to what has been studied before in previous chapters/grades, the second describes the main concepts to be covered in the chapter, and the last illustrates one of these concepts through a very simple real life application. At the beginning of each lesson, similar before and now statement are also found. In the teacher's manual, the objectives of each lesson are listed in the chapter plan table, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before and in grade 9, and in secondary school).

Concerning the teaching methods, there is an important emphasis on varying them to suit students' learning styles, levels and needs. In the teacher's manual, this is first announced in the chapter plan pages. Then, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty. There are also instructions in the form of a



grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test. Students evaluations are made based on diagnostic, formative and evaluation tools found in the chapter activities, exercise and assessment sections . Adding to that, in the teacher's manual there are extra activity suggestions and tips for diversified teaching, advising teachers to use multiple teaching methods and different representation forms in order to cater to all students with different needs and learning styles, and help them better assimilate different concepts. There are also many suggestions for extra exercises and examples.

As for modern teaching methods, to start with the only sign use of technology as a learning tool in this set is found in chapter 9 (which was not analyzed) in the graphical calculator workshop (adding to that the mention of the website at the start of each lesson of the textbook). However, there are side notes called "learning using techniques" in the teacher's manual which focus on teaching specific skills using certain types of technological tools (videotaping parts of lessons and peer tutoring sessions, using the smartboard, exchanging through the class e-blog, using a digital camera for documentation...) to explore new concepts. Furthermore, interactive learning is a method of interest in this set and this is reflected through group work and discussions, and some hands-on and game-like discovery activities in which students are engaged (depending on the chapter) such as the chapter project or the algebra workshops. These types of tasks (though very few in some chapters) emphasize the student's active role in the teaching and learning process.

As for the exercises and problems, evidence of alignment with the philosophy ranges from little evidence (algebra chapter) to almost satisfactory evidence (statistics and probability chapter).

To start with, in the statistics and probability chapter, all the exercises and problems of the textbook and practice book are based on situations from real life. Thanks to the nature of the chapter, there is a wide variety in the topics of exercises as mentioned before. In the algebra chapter, relatively fewer exercises and problems of the textbook and practice book are word problems. A negative point common to both chapters is the fact that, although the exercises found in the textbook tackle the different concepts and skills of the lessons, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") and in parallel with the practice book in all the lessons of a chapter. The same types of tasks are used repeatedly too many times. There are "cumulative revision" sections at the end of every lesson and also a cumulative exam at the end of some chapters (chapters 8 and 10) with tasks about all concepts studied in this set, which is very useful here since all the chapters of this set are related (as if they form one big unit) except for chapter 10. The same distinction is to be made regarding the higher order tasks (which are few in both chapters). Although some of these tasks are interesting and requiring creativity more reflection and analysis than the regular exercises, most of these tasks remain very simple and do not require much advanced thinking, and are very similar to the other exercises. Moreover, the exercises in the end of chapter tests are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.

To end with, several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter are of very useful as students use them mainly to record notes, definitions of vocabulary terms and concepts, and examples; hence they constitute review sheets for exams. Students are constantly reminded of completing them, as they progress in the chapter, with important concept summaries found in the textbook. It is important to note that at this level, it would have been better to let students make or at least



complete their own "important concept" summaries instead of finding them in the textbook. In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... about and using mathematical terms and concepts covered in the chapter. Students are also taught tips to help them check the results of their computations and avoid certain common computation mistakes in the form of side note study guides found in all the lessons

There aren't any specific comments regarding the last three evaluation criteria in the three chapters that were analyzed, which could probably be generalized to the other two chapters of this set.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms and symbols to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence).

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities and exercises pertaining to the country and the culture.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 9 – Semester 1			
	Textbook Title: Algebra 1			
	Chapter Title: Linear equations – chap1			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>77. Alignment of the translated texts to the philosophy of the original textbook</b>				
77.1. <i>Content of the Chapter</i>				
77.2. <i>Activities included in the chapter</i>				
77.3. <i>Learning objectives</i>				
77.4. <i>Practice exercises</i>				
77.5. <i>Assessment exercises</i>				
77.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content of the chapter is almost aligned with the textbook philosophy. The chapter is divided into 5 lessons (including 2 expand "algebra workshop" activities) of average length (5-6 pages each), and 2 to 3 sessions are assigned for the teaching of each lesson (teacher's manual pp 8A&amp;B). The content plan of the chapter and lessons is found in the teacher's manual (pp 8A, B &amp;F). The content display is not very attractive; it conveys a rigid/serious impression with very few pictures and drawings used (around 3 per lesson). Nevertheless, it is neat, the lesson sequence is clearly organized, and the separation between different parts of the lesson is well marked (i.e. examples illustrating lesson properties, check your understanding applications, practice exercises, higher order thinking problems, test practice, and cumulative revision).</li> <li>- (1.2) Activities and examples show some evidence of alignment with the philosophy since very few are linked to real life applications. The introductory activity of each lesson starts with a why question illustrating a real life application of the main concept in that lesson (change in number of goals scored by the national Saudi football team expressed in terms of a linear equation p 10, spending and savings of two boys expressed as an equation with variables on both sides p30...). Then several examples are used to explain the different properties of that concept. Most of them do so in a purely mathematical context. In fact, out of the 3 to 5 examples per lesson used to illustrate and explain the main concepts/properties, at most one example is a word problem (lesson 1.1 only example 5 p12, lesson 1.2 only example 4 p 20, lesson 1.4 none...).</li> <li>- (1.3) To start with, objectives are not mentioned explicitly in the textbook. Instead at the beginning of each chapter, there are 3 types of short statements, before, now and</li> </ul>				



why: the first briefly links the chapter to what has been studied before in previous chapters/grades, the second describes the main concepts to be covered in the chapter, and the last illustrates one of these concepts through a very simple real life application (textbook p8). At the beginning of each lesson, similar before and now statement are also found. In the teacher's manual (pp 8A&B), the objectives of each lesson are listed in the chapter plan table, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before and in grade 9, and in secondary school) in the teacher's manual, at the beginning of the chapter and of every lesson (pp 8E&F, 10, 18, 25, 35...).

- (1.3) Regarding modern teaching methods, to start with there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, there are side notes called "learning using techniques" in the teacher's manual (pp 12, 20, 26, 31, 36...) which focus on teaching specific skills using certain types of technological tools (videotaping parts of lessons, using the smartboard, using an interactive tool to check results..) to explore new concepts. Moreover, interactive learning is a method of interest in this chapter and this is reflected through group work, hands-on and game-like discovery activities in which students are engaged. First, there are 2 expand "algebra workshop" activities (textbook pp 16, 17 & 24) where students use algebra tiles to represent and solve equations. Students are also involved in game-like discovery activities: a chapter project also involving internet research (teacher's manual p8) where students are asked to work in groups in order to plan a picnic, and where they use what they have learned about writing and solving equations to make their plan; a competition (teacher's manual p 27) carried out over several weeks where students are asked to create word problems corresponding to equations suggested by the teacher, and with increasing level of difficulty over time. Students also use certain hands-on tools to solve exercises (algebra tiles, measurement cubes textbook p 15) and are engaged in whole-class discussions (teacher's manual p 26). These types of tasks emphasize the student's active role in the teaching and learning process
- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles, levels and needs. In the teacher's manual, this is first announced on pages 8A, B & D. Then, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 13, 21, 28, 33, 38...). There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 9 & 41). Students evaluations are made based on diagnostic, formative and evaluation tools found in the chapter activities, exercise and assessment sections (refer to teacher's manual p 8C). Adding to that, in the teacher's manual (pp 12, 15, 22, 23, 29, 31, 34...) there are extra activity suggestions and tips for diversified teaching, advising teachers to use multiple teaching methods and different representation forms in order to cater to all students with different needs and learning styles, and help them better assimilate different concepts. There are also many suggestions for extra exercises and examples.
- (1.4 & 1.5) Many of the exercises and problems of the textbook are based on real life situations (in lesson 1.1 4 out of the 16 exercises are word problems, lesson 1.3 7 out of 11, in lesson 1.4 4 out of 10...). The exercises in the "test practice" section of each lesson are also mostly word problems (p 15 ex 56-57, p 23 ex 45-46, p 34 ex 29...). However, there seems to be redundancy in the type of tasks to solve within the



different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") and in all lessons of the chapter. The same types of tasks are used repeatedly too many times (ex 1-38 pp 21-22, ex 1-29 pp 27-29, ex 1-24 pp 32-34... all consist in writing and solving linear equations, of several types though, the first few exercises are purely mathematical computations and word problems towards the end of each set of exercises).

- (1.4 & 1.5) There are several higher order thinking tasks in the textbook at the end of each lesson (5-6 tasks per lesson). Many of these are of average level of difficulty requiring a bit more reflection and analysis than the regular exercises (for example p 23 ex 42 an exercise requiring 2-step solving, p40 ex 41 "why can't an absolute value be negative?"...), and of course some of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example p 15 ex 53 finding the mistake in a solution given by a student, or p 29 ex 30 writing and solving a problem that can be illustrated by the provided equation...). In addition, the exercises in the end of chapter test (p41) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge, and only 2 out of the 12 are word problems.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 8) are of very useful as students use them mainly to record notes, definitions of vocabulary terms and concepts, and examples; hence they constitute review sheets for exams. Students are constantly reminded of completing them, as they progress in the chapter, with important concept summaries found in the textbook (textbook pp 18,19, 26, 31...). In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... about and using mathematical terms and concepts covered in the chapter (for example p 15 ex 55 "explain how you can determine whether an equation has real solutions, and when all real numbers are solutions", p 23 ex 44 "explain the multiplication and division properties of equalities", p 29 ex 33 "write a paragraph about the steps that can be followed to solve a multiple-step equation"...). Students are also taught tips to help them check the results of their computations and avoid certain common computation mistakes in the form of side note study guides found in all the lessons (textbook pp 19, 27, 32, 37...).



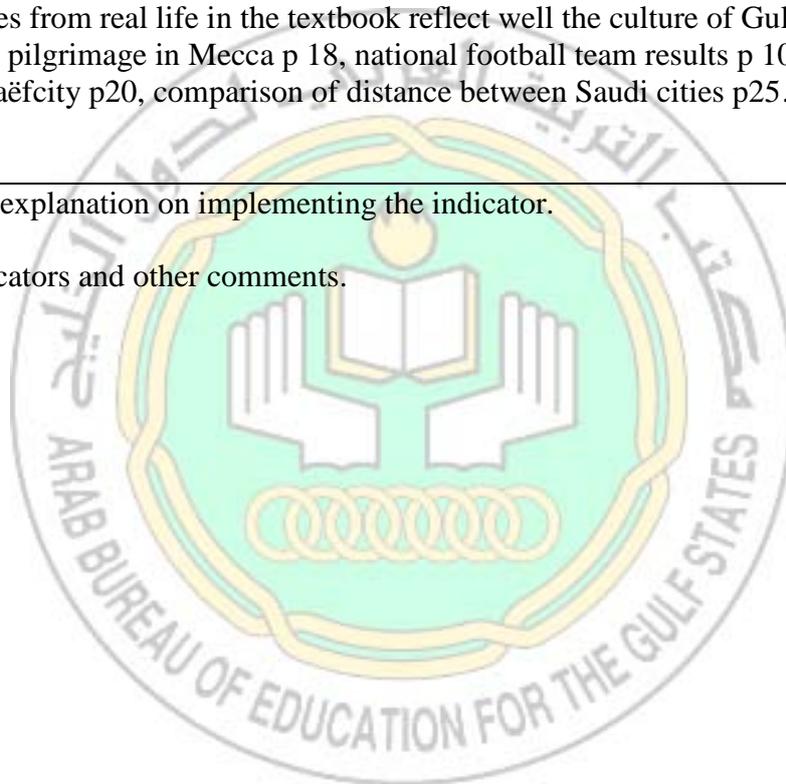
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>43. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>43.1. Length of sentences</i>				<b>X</b>
<i>43.2. Complexity of sentences</i>				<b>X</b>
<i>43.3. Diversity of language structures</i>				<b>X</b>
<i>43.4. Number of concepts per chapter</i>				<b>X</b>
<i>43.5. Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>43.6. Clarity of definitions of technical terms</i>				<b>X</b>
<i>43.7. Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>43.8. Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at least one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There are many new vocabulary terms to learn in this chapter, however all the terms are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them. Also, as mentioned before, students are encouraged to use the foldables to write new terms with definitions and examples. There are also side notes and reminders about previously learned vocabulary terms (textbook pp 12 &amp; 20) and new mathematical symbols (textbook pp 11 &amp; 36).</li> </ul>				
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>85. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>85.1. Illustrations</i>				<b>X</b>
<i>85.2. Content</i>				<b>X</b>
<i>85.3. Activities</i>				<b>X</b>
<i>85.4. Practice Exercises</i>				<b>X</b>
<i>85.5. Assessment exercises</i>				<b>X</b>
<i>85.6. Skills</i>				<b>X</b>
<p>Illustrate by at least one example any indicator of criterion 3 given a score of less than 3</p>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>86. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
86.1. <i>Illustrations</i>				<b>X</b>
86.2. <i>Content</i>				<b>X</b>
86.3. <i>Activities</i>				<b>X</b>
86.4. <i>Practice Exercises</i>				<b>X</b>
86.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3 <ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (for instance pilgrimage in Mecca p 18, national football team results p 10, information about Taëfcity p20, comparison of distance between Saudi cities p25...)</li> <li>-</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 9 – Semester 1			
	Textbook Title: Algebra 1			
	Chapter Title: Systems of linear equations – chap5			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>78. Alignment of the translated texts to the philosophy of the original textbook</b>				
78.1. <i>Content of the Chapter</i>				
78.2. <i>Activities included in the chapter</i>				
78.3. <i>Learning objectives</i>				
78.4. <i>Practice exercises</i>				
78.5. <i>Assessment exercises</i>				
78.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content of the chapter is almost aligned with the textbook philosophy. The chapter is divided into 5 lessons (including 1 expand "graphical calculator workshop" activity) of average length (5-6 pages each), and 2 to 3 sessions are assigned for the teaching of each lesson (teacher's manual pp 140A&amp;B). The content plan of the chapter and lessons is found in the teacher's manual (pp 140A, B, E &amp;F). The content display is not very attractive; it conveys a rigid/serious impression with very few pictures and drawings used (around 3 per lesson). Nevertheless, it is neat, the lesson sequence is clearly organized, and the separation between different parts of the lesson is well marked (i.e. examples illustrating lesson properties, check your understanding applications, practice exercises, higher order thinking problems, test practice, and cumulative revision).</li> <li>(1.2) Activities and examples show some evidence of alignment with the philosophy since very few are linked to real life applications. The introductory activity of each lesson starts with a why question illustrating a real life application of the main concept in that lesson (for example p 142 the cost and profit of producing and selling science tapes in terms of the number of tapes expressed as 2 equations with 2 unknowns and represented in a graph). Then several examples are used to explain the different properties of that concept. Most of them do so in a purely mathematical context. In fact, out of the 3 to 5 examples per lesson used to illustrate and explain the main concepts/properties, only one example is a word problem (lesson 5.1 only example 3 p144, lesson 5.2 only example 4 p 152).</li> </ul>				



- (1.3) To start with, objectives are not mentioned explicitly in the textbook. Instead at the beginning of each chapter, there are 3 types of short statements, before, now and why: the first briefly links the chapter to what has been studied before in previous chapters/grades, the second describes the main concepts to be covered in the chapter, and the last illustrates one of these concepts through a very simple real life application (textbook p140). At the beginning of each lesson, similar before and now statement are also found. In the teacher's manual (pp 140A&B), the objectives of each lesson are listed in the chapter plan table, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before and in grade 9, and in secondary school) in the teacher's manual, at the beginning of the chapter and of every lesson (pp 140E&F, 142, 150, 155, 161...).
- (1.3) Regarding modern teaching methods, to start with technology is used in this chapter as a learning tool: the expand activity (textbook pp148-149) is in fact a "graphical calculator workshop" about graphing and solving systems of linear equations, and a graphical calculator is also used in the example on p 167 to check the results of algebraic solving (there is also a mention of the website at the start of each lesson of the textbook). Moreover, there are side notes called "learning using techniques" in the teacher's manual (pp 143, 152, 156, 162, 167...) which focus on teaching specific skills using certain types of technological tools (students exchanging on the class blog, videotaping peer tutoring sessions, using the smartboard, audio recordings, ..) to explore new concepts. Furthermore, interactive learning is a method of interest in this chapter and this is reflected through group work, hands-on and game-like discovery activities in which students are engaged. First, there is the expand "graphical calculator workshop" activity previously mentioned where students work in groups. Second, students are involved in a chapter project (teacher's manual p140) where they are asked to work in pairs to exchange information and solve equations based on expenses of a family trip to a park or a carnival. An extra activity also suggests students peer teaching within small groups (teacher's manual p 156). These types of tasks involve student discussions and questioning, and emphasize the student's active role in the teaching and learning process
- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles, levels and needs. In the teacher's manual, this is first announced on pages 140C. Then, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp145, 153, 158, 164...). There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp141&171). Students evaluations are made based on diagnostic, formative and evaluation tools found in the chapter activities, exercise and assessment sections (refer to teacher's manual p 140C). Adding to that, in the teacher's manual (pp143, 146, 151, 157, 160, 168...) there are extra activity suggestions and tips for diversified teaching, advising teachers to use multiple teaching methods and different representation forms in order to cater to all students with different needs and learning styles, and help them better assimilate different concepts. There are also many suggestions for extra exercises and examples.
- (1.4 & 1.5) Many of the exercises and problems of the textbook are based on real life situations (in lesson 5.3 pp 158-160 5 out of the 9 exercises are word problems, lesson 5.4 pp 163-164 4 out of 8, in lesson 5.5 pp 169-170 6 out of 9, end of chapter test p 171 3 out of 8...). The exercises in the "test practice" section of each lesson are however



not word problems (except for lesson 5.1 p147 ex 36-37). However, there seems to be redundancy in the type of tasks to solve within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") and in most lessons of the chapter. The same types of tasks are used repeatedly too many times (ex 1-18 pp 153-154, ex 1-30 pp 145-146, ex 1-20 pp 158-159 all consist in solving systems using a specified method: graphically, using substitution, using elimination..., the same applies to the end of chapter test p 171); the only interesting section is the last one (exercises 1-14 p 169) where students have to choose on their own the best method to solve the systems. There are "cumulative revision" sections at the end of every lesson (textbook pp 147, 154, 160...) and also a cumulative exam at the end of the chapter (textbook pp 172-173) with tasks about all concepts studied in this set, which is very useful here since all the chapters of this set are related (as if they form one big unit).

- (1.4 & 1.5) There are several higher order thinking tasks in the textbook at end of each lesson (5-6 tasks per lesson). Many of these are of average level of difficulty requiring a bit more reflection and analysis than the regular exercises (for example p 154 ex 21 "create a system of 2 equations with a unique solution, and explain how it can represent a real life situation", p 160 ex 22 "given (-3,2) the solution of a system and one of its equations being  $c+4s=5$ , find the other equation" ...), and of course some of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example p 147 ex 31 "use a graphical representation to solve a system with 3 linear equations", p 165 ex 20 "find the mistake in a solution given by a student"...). In addition, the exercises in the end of chapter test (p41) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 140) are of very useful as students use them mainly to record notes, definitions of vocabulary terms and concepts, and examples; hence they constitute review sheets for exams. Students are constantly reminded of completing them, as they progress in the chapter, with important concept summaries found in the textbook (textbook pp 142, 150, 155, 161...). In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... about and using mathematical terms and concepts covered in the chapter (for example p147 ex 35 "describe the pros and cons of using graphical representations to solve linear systems", p 154 ex 22 "explain how you determine the best substitution to solve a system"...). Students are also taught tips to help them check the results of their computations and avoid certain common computation mistakes in the form of side note study guides found in all the lessons (textbook pp 151, 152, 156, 162...).



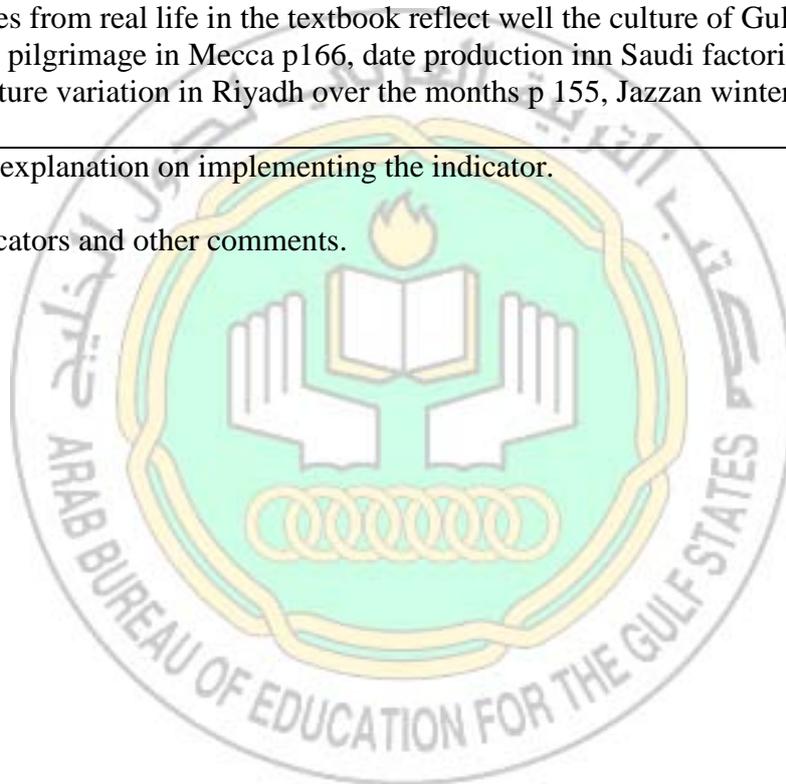
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>44. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>44.1. Length of sentences</i>				<b>X</b>
<i>44.2. Complexity of sentences</i>				<b>X</b>
<i>44.3. Diversity of language structures</i>				<b>X</b>
<i>44.4. Number of concepts per chapter</i>				<b>X</b>
<i>44.5. Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>44.6. Clarity of definitions of technical terms</i>				<b>X</b>
<i>44.7. Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>44.8. Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at least one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There are many new vocabulary terms to learn in this chapter, however all the terms are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them. Also, as mentioned before, students are encouraged to use the foldables to write new terms with definitions and examples. There are also side notes and reminders about previously learned and new vocabulary terms (textbook pp 143 &amp; 157).</li> </ul>				
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>87. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>87.1. Illustrations</i>				<b>X</b>
<i>87.2. Content</i>				<b>X</b>
<i>87.3. Activities</i>				<b>X</b>
<i>87.4. Practice Exercises</i>				<b>X</b>
<i>87.5. Assessment exercises</i>				<b>X</b>
<i>87.6. Skills</i>				<b>X</b>
<p>Illustrate by at least one example any indicator of criterion 3 given a score of less than 3</p>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>88. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
88.1. <i>Illustrations</i>				<b>X</b>
88.2. <i>Content</i>				<b>X</b>
88.3. <i>Activities</i>				<b>X</b>
88.4. <i>Practice Exercises</i>				<b>X</b>
88.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3  - Examples from real life in the textbook reflect well the culture of Gulf States (for instance pilgrimage in Mecca p166, date production inn Saudi factories p 150, temperature variation in Riyadh over the months p 155, Jazzan winter festival p159...)				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 9 – Semester 2			
	Textbook Title: Algebra 1			
	Chapter Title: Polynomials – chap1			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>79. Alignment of the translated texts to the philosophy of the original textbook</b>				
79.1. <i>Content of the Chapter</i>				
79.2. <i>Activities included in the chapter</i>				
79.3. <i>Learning objectives</i>				
79.4. <i>Practice exercises</i>				
79.5. <i>Assessment exercises</i>				
79.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content of the chapter is almost aligned with the textbook philosophy. The chapter is divided into 7 lessons (including 2 expand "algebra workshop" activities) of average length (4-7 pages each), and 1 session is assigned for the teaching of each lesson, which might not be enough despite the fact that only one skill is targeted per lesson, given the numerous exercises and activities of each lesson (teacher's manual pp 8A&amp;B). The content plan of the chapter and lessons is found in the teacher's manual (pp 8 A, B, &amp;F). The content display is not very attractive; it conveys a rigid/serious impression with very few pictures and drawings used (around 3 per lesson). Nevertheless, it is neat, the lesson sequence is clearly organized, and the separation between different parts of the lesson is well marked (i.e. examples illustrating lesson properties, check your understanding applications, practice exercises, higher order thinking problems, test practice, and cumulative revision).</li> <li>- (1.2) Activities and examples show some evidence of alignment with the philosophy since very few are linked to real life applications. The introductory activity of each lesson starts with a why question illustrating a real life application of the main concept in that lesson (monomials linking a car's engine force to its horsepower p 10, monomials linking proportions of habitants in different districts p 16, cell phone sales expressed using polynomials p 22...). Then several examples are used to explain the different properties of that concept. Most of them do so in a purely mathematical context. In fact, out of the 3 to 5 examples per lesson used to illustrate and explain the main concepts/properties, at most one example is a word problem (lesson 6.1 none of the 5 examples is about real life, lesson 6.2 only 1 example out of 5, lesson 6.4 one out of 3...).</li> </ul>				



- (1.3) To start with, objectives are not mentioned explicitly in the textbook. Instead at the beginning of each chapter, there are 3 types of short statements, before, now and why: the first briefly links the chapter to what has been studied before in previous chapters/grades, the second describes the main concepts to be covered in the chapter, and the last illustrates one of these concepts through a very simple real life application (textbook p8). At the beginning of each lesson, similar before and now statement are also found. In the teacher's manual (pp 8A&B), the objectives of each lesson are listed in the chapter plan table, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before and in grade 9, and in secondary school) in the teacher's manual, at the beginning of the chapter and of every lesson (p 8E, 10, 16, 22, 28...).
- (1.3) Regarding modern teaching methods, to start with there is no use of technology in this chapter (except the mention of the website at the start of each lesson of the textbook). However, there are side notes called "learning using techniques" in the teacher's manual (pp 11, 17, 23, 30, 33, 41, 45...) which focus on teaching specific skills using certain types of technological tools (videotaping parts of lessons, using the smartboard, writing on the class e-blog, using a digital camera for documentation..) to explore new concepts. Moreover, interactive learning is a method of interest in this chapter and this is reflected through group work, hands-on and discovery activities in which students are engaged. First, there are 2 expand "algebra workshop" activities (textbook pp 26-27 & 37-38) where students use algebra tiles to learn operations on polynomials (addition, subtraction and product of polynomials). Students are also involved in discovery activities. First, a chapter project also involving research (teacher's manual p8) where students are asked to work individually then in groups to collect and share data about their favorite planet, and where they use what they have learned about powers and polynomials. Students also are engaged in whole-class discussions and group-work where they work on solving exercises together, explain solutions to each other and exchange information (teacher's manual pp 24, 26, 37...). These types of tasks emphasize the student's active role in the teaching and learning process
- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles, levels and needs. In the teacher's manual, this is first announced on pages 8A, B &D. Then, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp14, 20, 25, 31, 35...). There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 9 & 49). Students evaluations are made based on diagnostic, formative and evaluation tools found in the chapter activities, exercise and assessment sections (refer to teacher's manual p 8C). Adding to that, in the teacher's manual (pp15, 18, 21, 24, 25, 31...) there are extra activity suggestions and tips for diversified teaching, advising teachers to use multiple teaching methods and different representation forms in order to cater to all students with different needs and learning styles (such as rational learners p 12, interactive learners p30, visual and mechanical learners p34), and help them better assimilate different concepts. There are also many suggestions for extra exercises and examples.
- (1.4 & 1.5) Several the exercises and problems of the textbook and practice book in most lessons are based on real life situations (in lesson 6.3 3 out of the 9 tasks are word problems, lesson 6.4 2 out 6, in lesson 6.5 3 out of 11, in the practice book



around 2 tasks out of the 6 in each section are word problems except for lessons 6.6 & 6.7 where no real life problems are found...). In the "test revision" sections of each lesson, most of exercises are not related to real life, only ex 40 p 25 and ex 35 p 36 are work problems. However, there seems to be redundancy in the type of tasks to solve within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") and in parallel with the practice book in all lessons of the chapter. The same types of tasks are used repeatedly too many times (textbook ex 1-45 pp 13-14, ex 1-25 pp20-21, ex 1-16 pp 30-31, 3x 1-20 pp 34-35, and practice book ex 1-14 p4, ex 1-27 p 5, ex 1-21 p 7...all consist in doing operations on monomials and polynomials: sum, product, division, subtraction).

- (1.4 & 1.5) There are several higher order thinking tasks in the textbook at the end of each lesson (3-4 tasks per lesson). Some of these are of average level of difficulty requiring a bit more reflection and analysis than the regular exercises (for example p15 ex 52 "write 3 different polynomial expressions that can be simplified to the form  $c^6$ "), and of course many of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises (for example p 21 ex 28 "is  $c^a \cdot c^b = c^{ab}$  always, sometimes or never", or p36 ex 31 simplifying a complex polynomial, p 31 ex 20 "find the mistake in the following solutions proposed by two students). In addition, the exercises in the end of chapter test (p49) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge, and only 2 out of the 8 tasks are word problems.
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 8) are of very useful as students use them mainly to record their notes, including questions and answers that they may have throughout the chapter; hence they constitute review sheets for exams. Students are constantly reminded of completing them, as they progress in the chapter, with important concept summaries found in the textbook (textbook pp 11, 13, 16, 17, 18, 40, 44...). In addition, students are encouraged to develop the mathematical writing skill. In fact, at the end of all lessons in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... about and using mathematical terms and concepts covered in the chapter (for example p15 ex 53 "write 2 expressions containing each a monomial and explain how they can be used in real life situations", p 21 ex 31 "explain how you can use division of powers and powers of divisions", p 31 ex 23 "describe how you can add and subtract polynomials using the horizontal and vertical methods. Which one is easier?"...). Students are also taught tips to help them check the results of their computations and avoid certain common computation mistakes in the form of side note study guides found in all the lessons (textbook pp 11,12 13, 17, 29, 33, 41...).



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>45. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>45.1. Length of sentences</i>				<b>X</b>
<i>45.2. Complexity of sentences</i>				<b>X</b>
<i>45.3. Diversity of language structures</i>				<b>X</b>
<i>45.4. Number of concepts per chapter</i>				<b>X</b>
<i>45.5. Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>45.6. Clarity of definitions of technical terms</i>				<b>X</b>
<i>45.7. Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>45.8. Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There are many new vocabulary terms to learn in this chapter, however all the terms are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them. There are also side notes about how to read mathematical expressions (textbook p 40).</li> </ul>				

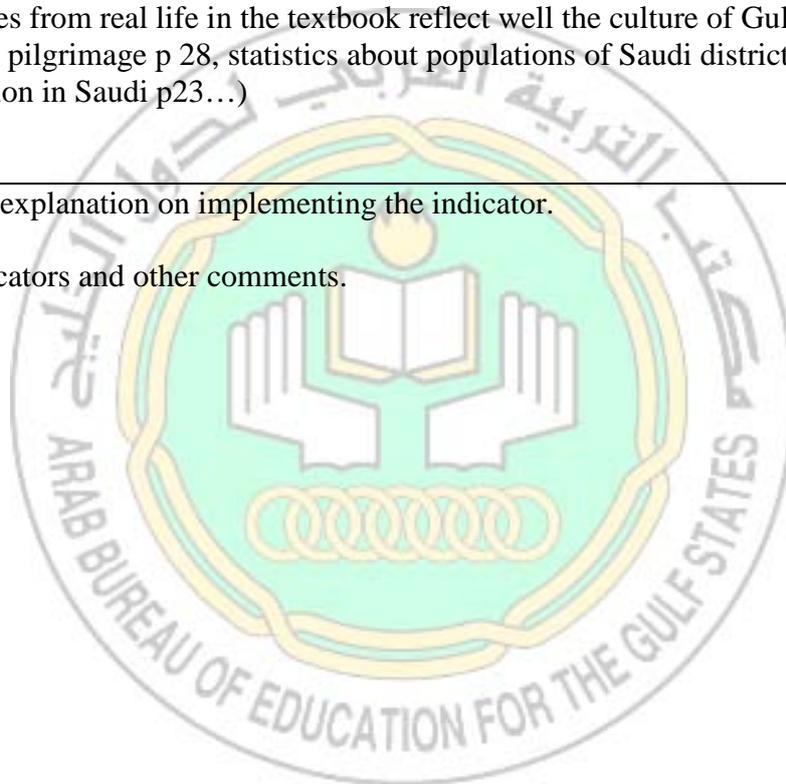
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>89. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>89.1. Illustrations</i>				<b>X</b>
<i>89.2. Content</i>				<b>X</b>
<i>89.3. Activities</i>				<b>X</b>
<i>89.4. Practice Exercises</i>				<b>X</b>
<i>89.5. Assessment exercises</i>				<b>X</b>
<i>89.6. Skills</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 3 given a score of less than 3</p>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>90. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
90.1. <i>Illustrations</i>				<b>X</b>
90.2. <i>Content</i>				<b>X</b>
90.3. <i>Activities</i>				<b>X</b>
90.4. <i>Practice Exercises</i>				<b>X</b>
90.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3 <ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the culture of Gulf States (for instance pilgrimage p 28, statistics about populations of Saudi districts p 16, cement production in Saudi p23...)</li> <li>-</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 9 – Semester 2			
	Textbook Title: Math Connects Course 2			
	Chapter Title: Probability – chap7			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>80. Alignment of the translated texts to the philosophy of the original textbook</b>				
80.1. <i>Content of the Chapter</i>				
80.2. <i>Activities included in the chapter</i>				
80.3. <i>Learning objectives</i>				
80.4. <i>Practice exercises</i>				
80.5. <i>Assessment exercises</i>				
80.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content of the chapter is almost aligned with the textbook philosophy. The chapter is divided into 5 lessons of average length (5-6 pages each), and 1 session is assigned for the teaching of each lesson, which might not be enough given the numerous concepts, exercises and activities of each lesson (teacher's manual pp 168A&amp;B). The content plan of the chapter and lessons is found in the teacher's manual (pp 168 A, B, &amp;F). The content display is not very attractive; it conveys a rigid/serious impression, and it is very dense (with lots of writing and long paragraphs) with very few pictures and drawings used (around 3 per lesson) but with many graphs and tables thanks to the nature of the chapter. Nevertheless, it is neat, the lesson sequence is clearly organized, and the separation between different parts of the lesson is well marked (i.e. examples illustrating lesson properties, check your understanding applications, practice exercises, higher order thinking problems, test practice, and cumulative revision).</li> <li>- (1.2) All activities and concepts are linked to real life applications thanks to the topic of the chapter, which makes the learning much easier and more interesting. Activities and examples show some evidence of alignment with the philosophy since very few are linked to real life applications. The introductory activity of each lesson starts with a why question illustrating a real life application of the main concept in that lesson 9 for example p 168: the board of a company asks the employees to fill out a survey about issues of interest to the company, then analysis of data is carried out using statistical methods in order to improve the company's performance and the employees' standard), then several examples are used to explain the different properties of that concept.</li> <li>- (1.3) To start with, objectives are not mentioned explicitly in the textbook. Instead at</li> </ul>				



the beginning of each chapter, there are 3 types of short statements, before, now and why: the first briefly links the chapter to what has been studied before in previous chapters/grades, the second describes the main concepts to be covered in the chapter, and the last illustrates one of these concepts through a very simple real life application (textbook p168). At the beginning of each lesson, similar before and now statement are also found. In the teacher's manual (pp 168A&B), the objectives of each lesson are listed in the chapter plan table, however they are purely mathematical and have no mention of applications to real situations. There is explicit evidence of the alignment of objectives throughout grade levels (before and in grade 9, and in secondary school) in the teacher's manual, at the beginning of the chapter and of every lesson (p 168E, 170, 175, 181, 187 & 193).

- (1.3) Regarding modern teaching methods, to start with there is no use of technology in this chapter (except one example where the calculator is used to find statistical indicators textbook p184 and the mention of the website at the start of each lesson of the textbook). However, there are side notes called "learning using techniques" in the teacher's manual (pp 171, 177, 184 & 194) which focus on teaching specific skills using certain types of technological tools (mainly using the smartboard in this chapter) to explore new concepts. Moreover, interactive learning is a method of interest in this chapter and this is reflected through group work (teacher's manual p 172) and discussions (teacher's manual pp 180, 189, 190, 192...). Students are also involved in a chapter project (teacher's manual p168) where they are asked to work in groups to prepare and conduct a survey about parents' opinion regarding certain issues pertaining to the school, and use what they have learned about statistics and probability to organize and analyze the results . These types of tasks, although very few in this chapter, emphasize the student's active role in the teaching and learning process
- (1.3) There is an important emphasis on varying teaching methods to suit students' learning styles, levels and needs. In the teacher's manual, this is first announced on pages 168A, B &D. Then, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty (pp 173, 178, 184, 191...). There are also instructions in the form of a grid to help teachers identify and remediate students' difficulties based on their results in the warm up activity at the start of the chapter and the end of chapter test (teacher's manual pp 169 & 199). Students evaluations are made based on diagnostic, formative and evaluation tools found in the chapter activities, exercise and assessment sections (refer to teacher's manual p 168C). Adding to that, in the teacher's manual (pp 172, 174, 180, 192, 198...) there are extra activity suggestions and tips for diversified teaching, advising teachers to use multiple teaching methods and different representation forms in order to cater to all students with different needs and learning styles (such as rational learners p 189, visual and mechanical learners pp 179 & 194), and help them better assimilate different concepts. There are also many suggestions for extra exercises and examples.
- (1.4 & 1.5) Most of the exercises and problems of the textbook and practice book are word problems linking probability and statistics to their use and applications in real life. Thanks to the nature of the chapter, there is a remarkable variety in the topics and situations of exercises, such as testing population samples about certain criteria, statistics about favorite TV channel, hobbies, calories in types of food.... However, although the exercises found in the textbook and practice book correspond to the variety of concepts found in the chapter, there seems to be redundancy within the different exercise sections of each lesson (i.e. "examples", "check your understanding" and "practice") in parallel with the exercises of the practice book. The same types of



tasks are used repeatedly (for instance in textbook pp 173-174 ex 1-14 and practice book p 30 ex 1-7 are all about determining the population, the sample and how it was chosen, also textbook pp191-192 ex 1-30 and practice book p33 ex 1-22 are all application to combinations and permutations....).

- (1.4) There are several higher order thinking tasks in the textbook at the end of each lesson (3-4 tasks per lesson). Some of these are of average level of difficulty requiring a bit more reflection and analysis than the regular exercises (for example p186 ex 16 finding the mean and standard deviation of a distribution from its histogram, or p 180 ex 14 finding a set of values such that the mean is bigger than the median), and of course many of these tasks are very simple and do not require much advanced thinking, and are very similar to the other exercises or the concepts of the chapter (for example p 174 ex 15 comparing the 3 methods of data collection by listing the pros and cons of each one...). In addition, the exercises in the end of chapter test (p199) are of the same nature and level of difficulty as those in the chapter, without any novelty or challenge.
  
- (1.6) Several important skills are emphasized in the teacher's manual and textbook: making summaries, taking notes, and mathematical writing. To start with, the foldables suggested in this chapter (teacher's manual p 168) are of great use to students, as students write definitions, examples and notes about the different concepts of the chapter and complete them as they progress through the lessons; hence they constitute review sheets for exams. Students are constantly reminded of completing them, as they progress in the chapter, with important concept summaries found in the textbook (textbook pp 170, 172, 175, 182, 193... tables giving summaries of the different sampling methods, the statistical indicators, main probability formulas...). ... Secondly, students are encouraged to develop the mathematical writing skill since at the end of every lesson in the textbook, the last question in "higher order thinking" section is a writing question: writing proofs, explanations, creating real life situations.... using mathematical terms and concepts covered in the chapter (for example p 174 ex 17 'explain the importance of conducting surveys in companies and how they can be used", or p 180 ex 16 "explain why a company might use inaccurate data, and give an example of such a situation", or p198 ex 24 " explain why subtraction is used when finding the probability of two dependent events"). Students are also taught tips to help them check the results of their computations and avoid certain common computation mistakes in the form of side note study guides found in all the lessons (textbook pp 171, 176, 183, 188, 195...).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>46. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>46.1.Length of sentences</i>				<b>X</b>
<i>46.2.Complexity of sentences</i>				<b>X</b>
<i>46.3.Diversity of language structures</i>				<b>X</b>



46.4. <i>Number of concepts per chapter</i>				<b>X</b>
46.5. <i>Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
46.6. <i>Clarity of definitions of technical terms</i>				<b>X</b>
46.7. <i>Using concrete examples to illustrate concepts</i>				<b>X</b>
46.8. <i>Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

- There are many new vocabulary terms and symbols to learn in this chapter, a language which is particular to probability, however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them. In addition, there are side notes and reminders about vocabulary terms, mathematics reading, and new symbols (textbook pp 182, 188 &196).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>91. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
91.1. <i>Illustrations</i>				<b>X</b>
91.2. <i>Content</i>				<b>X</b>
91.3. <i>Activities</i>				<b>X</b>
91.4. <i>Practice Exercises</i>				<b>X</b>
91.5. <i>Assessment exercises</i>				<b>X</b>
91.6. <i>Skills</i>				<b>X</b>

Illustrate by at last one example any indicator of criterion 3 given a score of less than 3

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>92. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
92.1. <i>Illustrations</i>				<b>X</b>
92.2. <i>Content</i>				<b>X</b>
92.3. <i>Activities</i>				<b>X</b>
92.4. <i>Practice Exercises</i>				<b>X</b>
92.5. <i>Assessment exercises</i>				<b>X</b>

Illustrate by at last one example any indicator of criterion 4 given a score of less than 3

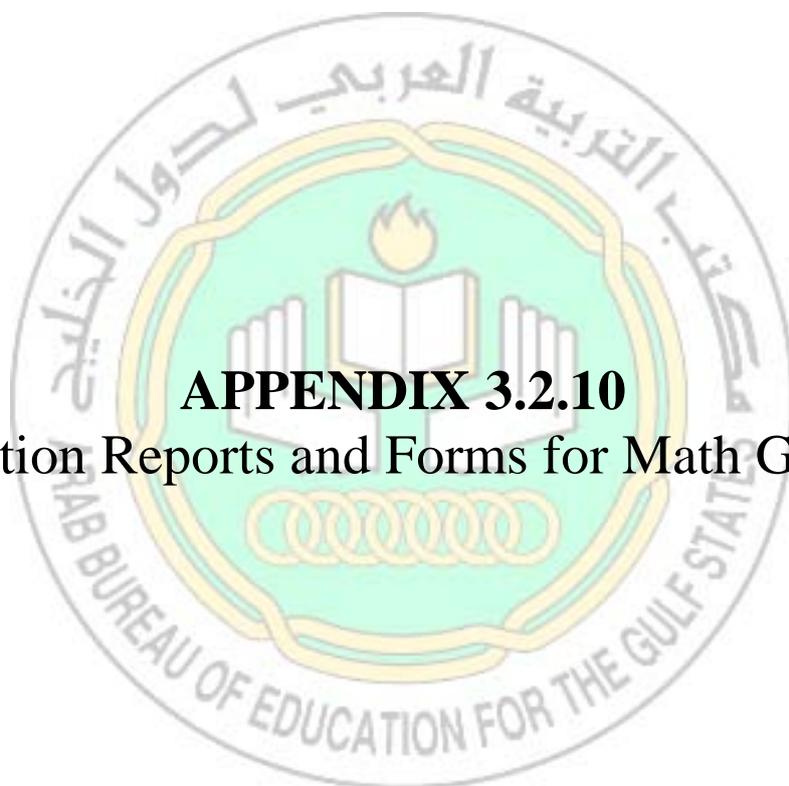


- Examples from real life in the textbook reflect well the culture of Gulf States (for example statistics about the Dammam central hospital textbook p 172, reference to the Saudi red crescent work textbook p 180....)

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





**APPENDIX 3.2.10**  
Evaluation Reports and Forms for Math Grade 10



## Grade 10 – Geometry

### Tables of content

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Some chapters appear in the original textbook and do not appear in the translated textbook. For example, “Preparing for geometry”, “tools of geometry”, “right triangles and trigonometry”, “areas of polygons and circles” “extending surface area and volume”, “probability and measurement” are the chapters that appear only in the original textbook. Note that there might be some lessons inside these chapters that might be introduced in other chapters in the translated textbook or these chapters might be introduced in other grade levels.
- The chapters in the original textbook are listed under **units** whereas in the translated version there are no units.





<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 10		Semester: 1		
	Textbook Title: Geometry / Grade 10				
	Chapter Title: Relations in triangles				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>81. Agreement of the translated Arabic book with that of the English book</b>					
81.1. Definitions and explanations in the chapter					
81.2. Activities included in the chapter					
81.3. Learning objectives					
81.4. Practice exercises					
81.5. Assessment exercises					
1.6 Figures, pictures and illustrations					
<b>82. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
82.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

### 1.1 Definitions and explanations in the chapter

The analysis of this chapter showed “little difference” due to the (1) existence of lessons in the original textbook only. For example, “Graphing technology lab: the triangle inequality” (objective: use technology to investigate triangle inequalities). This lesson does not appear in the translated textbook; (2) introducing several concepts and procedures in one lesson in the Arabic version whereas less number of concepts and procedures are introduced in the same lesson. For example, lessons 1 and 2 in the original textbook are introduced as one lesson in the Arabic version.

### 1.2 Activities included in the chapter

The analysis of this chapter has showed “little difference” in the activities included in both textbooks due to: (1) differences in the “high order thinking skills” (H.O.T.); (2) more high order thinking skills activities are introduced in the original textbook. For example, lessons 1 and 2 in the original textbook are introduced as one lesson in the Arabic version. The total number of H.O.T. skills activities is about 12 in the two lessons in the original textbook whereas around 7 H.O.T. activities only are introduced in the translated version; (2) different real-world problems activities are introduced in both textbooks.



### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to: (1) the objectives that are stated in the original version are clearer than the objectives stated in the translated version. For example, the objective in lesson 3 of the English version states: “recognize and apply properties of inequalities to the measures of the angles of a triangle” and “recognize and apply properties of inequalities to the relationships between the angles and sides of a triangle” whereas in the objective that is stated in the Arabic version indicates: “apply properties of inequalities”; (2) different objectives. For example, in the lesson “The Triangle inequality”, the objective “identify the smallest distance between a point and a line” does not appear in the original textbook; (3) lessons that appear only in the original textbook. For example, “Graphing technology lab: the triangle inequality” (objective: use technology to investigate triangle inequalities). This lesson does not appear in the translated textbook.

### 1.4 Practice exercises

The analysis showed “large difference” between the practice exercises in both textbook due to: (1) more practice and problem solving exercises are introduced in the original textbook in the lessons that appear in both textbooks. For example, lessons 1 and 2 in the original textbook are introduced as one lesson in the translated version and the number of tasks in this lesson is less than the number of tasks in the two lessons of the original textbook; (2) more real-world practice exercises and multiple-representations exercises are introduced in the original textbook. For example, a multiple representation exercise is introduced in lesson 2 in the original textbook. In contrast, such type of exercises is not introduced in the corresponding lesson of the translated version.

### 1.5 Assessment

The analysis showed “little difference” in the assessment exercises in both textbooks due to several reasons: (1) differences in the “Standardized test practice” exercises. For example, in the first lesson in the Arabic version only one standardized test practice exercises is introduced whereas in the translated version, 4 exercises are introduced in the standardized test practice; (2) differences in the mid-chapter quiz. For example, writing a proof for two exercises are requested in the Arabic version. In contrast, writing a proof is not requested in the mid-chapter quiz in the original version. Also, “coordinate geometry” and “using exterior angle inequality” is introduced in the original textbook whereas in the translated version, students are not involved in such type of assessment in the mid-chapter quiz; (3) differences in the context of the assessment exercises at the end of the chapter.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed little difference between the figures and illustrations due to (1) cultural reasons; (2) differences in the context of the problems; (3) appearance of lessons in the original textbook that are not introduced in the translated version. For example, “Graphing technology lab: the triangle inequality”. This lesson does not appear in the translated textbook.



<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 10		Semester: 2		
	Textbook Title: Geometry / Grade 10				
	Chapter Title: Transformations				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>83. Agreement of the translated Arabic book with that of the English book</b>					
83.1. <i>Definitions and explanations in the chapter</i>					
83.2. <i>Activities included in the chapter</i>					
83.3. <i>Learning objectives</i>					
83.4. <i>Practice exercises</i>					
83.5. <i>Assessment exercises</i>					
1.6 <i>Figures, pictures and illustrations</i>					
<b>84. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
84.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

1.1 Definitions and explanations in the chapter

The analysis of the chapter “Transformations” in both textbooks showed “large difference” due to the (1) existence of lessons in the original textbook only. For example, “Compositions of transformations” and “Symmetry” do not appear in the translated version.

1.2 Activities included in the chapter

The analysis of this chapter has showed large difference in the activities included in both textbooks due to: (1) differences in the “high order thinking skills”; (2) more high order thinking skills activities are introduced in the original textbook. For example, in lesson “Reflections” 7 high order thinking skills activities are introduced whereas only 4 activities were introduced in the translated version; (3) introducing lessons in the original textbook that do not appear in the translated version. For example, the lessons: “compositions of transformations” and “Symmetry” are lessons that only appear in the original textbook. Also, “Geometry software lab: compositions of transformations” and “Graphing technology lab – Transformations using Matrices” are lessons that involve students in using technology. These lessons only appear in the original textbook.

1.3 Learning objectives



There is large difference between the alignment of objectives in the original and translated textbooks. This is due to: (1) introducing several objectives at the beginning of the chapter in both textbooks that are not aligned. For example, two objectives that were stated at the beginning of the chapter in the original textbook is “recognize and draw compositions of translations” and “identify symmetry in two and three dimensional figures” whereas in the translated version, there is one objective that is not found in the original textbook; (2) lessons that appear only in the original textbook. For example, “Compositions of transformations” (objectives: (1) draw glide reflections and other compositions of isometries in the coordinate plane; (2) draw compositions of reflections in parallel and intersecting lines) and “Symmetry” (objectives: (1) identify line and rotational symmetries in two-dimensional figures; (2) identify plane and axis symmetries in three dimensional figures) These objectives do not appear in the translated version.

#### 1.4 Practice exercises

The analysis showed large difference between the practice exercises in both textbook due to: (1) more practice and problem solving exercises are introduced in the original textbook in the lessons that appear in both textbooks. For example, on page 622, algebra exercises (including multiple representations problem) are introduced. In contrast, this type of exercises is missing from the translated version; (2) introducing lessons in the original textbook that do not appear in the translated version. For example, the lessons: “compositions of transformations” and “symmetry” are lessons that only appear in the original textbook. These lessons contain practice exercises that are not introduced in the translated version.

#### 1.5 Assessment

The analysis showed “large difference” in the assessment exercises in both textbooks due to several reasons: (1) differences in the “Standardized test practice” exercises are different. For example, only one standardized test practice exercises is introduced in both textbooks; the other exercises are different; (2) more standardized test practice exercises are given in the original textbook. For example, 4 exercises are introduced in the first lesson in the original textbook whereas 3 exercises were introduced in the translated version; (3) differences in the Mid-chapter quiz assessment exercises and practice test assessment exercises.

#### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed little difference between the figures and illustrations due to cultural reasons or to the appearance of lessons in the original textbook that are not introduced in the translated version.



## Report Mathematics – Geometry – Grade 10 – Semester 1

The following report is an evaluation of grade 10 - semester 1 set of books (textbook, practice book, and teacher's manual). Two out of the four chapters were evaluated chapter 1: reasoning & proof, and chapter 4: relationships in triangles. For each set of books, the textbook, practice book, and teacher's manual were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, problem solving, and higher order thinking.
- Applying different techniques in different mathematical situations
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.

In general, there seems to be little evidence of alignment of the books with the philosophy. Although the content, activities & skills seem to be generally aligned, the main problem is with the learning objectives and the exercises.



To start with, the learning objectives presented at the beginning of and throughout each chapter of the textbook and the teacher's manual are purely mathematical content oriented, without any mention of other aspects of mathematical teaching mentioned in the philosophy such as connections to real life situations or the use of modern and motivating learning strategies. Actually, there is very limited use of technology or research in activities, which are the two main modern learning strategies. At most one activity per chapter is technology or research based, and a reference to a website for extrawarm up questions is found at the beginning of every chapter. In addition, although the philosophy clearly emphasizes the student's active role in the teaching and learning process, it seems that his actual role is restricted to applying acquired techniques and practicing through solving exercises. Moreover, there is no concrete evidence about training students to take notes or make summaries. In fact, at summary of key concepts and a glossary of vocabulary and definitions are found at the end of every chapter.

As for the exercises, although most of the activities and the solved exercises of the textbook chapters are based on real life situations, there seem to be fewer connections to everyday life in practice and assessment exercises. Furthermore, most exercises are simple direct applications of the chapter's concepts or word problems; very few are real problem solving exercises requiring higher order thinking. In addition, there isn't much variety in the types of exercises and activities used, some exercises are almost identical with only numerical data being modified, mainly when comparing between the textbook and the practice book, and even between chapter evaluations and cumulative tests. On the other hand, there is a variety of assessment tools and methods matching different student needs and learning styles. In fact, in the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty Adding to that, in the teacher's manual, there are extra activity suggestions that take into account different learning styles (visual learners, social learning, tactile learners, rational learners...), referred to as "diversified teaching". However, despite all this variety, there seems to be redundancy of exercises and inclusion of concepts and tasks that are not always related to the chapter without any contribution to understanding.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (almost satisfactory to satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter. In some topics however, some sentences are long and difficult to understand, and some typing mistakes occur affecting the mathematical meaning.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There is general evidence of the suitability of the Arabization of the books, except in few cases were some examples/exercises become harder or lose their meaning due to the translation which makes statements more complex. Adding to that the fact that it is difficult to read some sentences with both mathematical statements written in English (left to right) and regular statements in Arabic (right to left) on the same line, it is better to write some mathematical statements on different lines to make them more legible.

### **Suitability of the translated textbooks to the cultural context of Gulf States**



In general, the translated books reflect well the cultural context of Gulf States including examples, activities, exercises and illustrations pertaining to the country and the culture. In rare cases, pictures and illustrations are out of context.

### **Other comments**

The page layout is too condense and confusing, with too many things on one page, which is visually disturbing for the reader and conveys an impression of dense and difficult content.





## Report Mathematics – Geometry – Grade 10 – Semester 2

The following report is an evaluation of grade 10 - semester 2 set of books (textbook, practice book, and teacher's manual). Two out of the four chapters were evaluated chapter 5: quadrilaterals, and chapter 7: transformations. For each set of books, the textbook, practice book, and teachers' manual were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, problem solving, and higher order thinking.
- Applying different techniques in different mathematical situations
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.

In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy. In fact the content, activities, & skills seem to be mostly aligned with the philosophy. The content display is very interesting, with many colorful pictures and illustrations of elements from everyday situations. The activities are interesting, generally based on real life situations, and at least two activities per chapter promote the use technology



or research as a tool for learning, and a reference to a website for extra warm up questions is found at the beginning of every chapter. In addition, the teacher's manual refers to cooperative learning methods and diversified learning tools in every lesson.

As for the objectives and the exercises, they show little evidence of alignment with the philosophy. Regarding the objectives, sometimes they are clearly linked to everyday applications and show continuity with objectives of previous grade levels thus making the concepts more interesting and motivating to students, and sometimes they are purely mathematical content oriented without any mention of other aspects of mathematical teaching mentioned in the philosophy such as connections to real life situations or the use of modern and motivating learning strategies, depending on the chapter. In addition, although the philosophy clearly emphasizes the student's active role in the teaching and learning process, it seems that his actual role is restricted to applying acquired techniques and practicing through solving exercises. There isn't any training of students to take notes, make summaries or concept maps or even take notes, all the information needed is provided to them throughout and at the end of the chapters.

Regarding the exercises, there seems to be little alignment with the philosophy. To start with, although most of the activities and the solved exercises of the textbook chapters are based on real life situations, there seem to be fewer connections to everyday life in practice and assessment exercises, particularly in the practice book. Furthermore, most exercises are simple direct applications of the chapter's concepts or basic word problems; very few are real problem solving exercises requiring higher order thinking (at the exception of very few depending on the chapter). In addition, there isn't much variety in the types of exercises and activities used, some exercises are almost identical with only numerical data being modified, mainly when comparing between the textbook and the practice book, and even between chapter evaluations and cumulative tests. On the other hand, there is a variety of assessment tools and methods matching different student needs and learning styles. In fact, in the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty. Adding to that, in the teacher's manual, there are extra activity suggestions that take into account different learning styles (visual learners, social learning, tactile learners, rational learners...), referred to as "diversified teaching". However, despite all this variety, there seems to be redundancy of exercises and inclusion of concepts and tasks that are not always related to the chapter without any contribution to understanding.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language) at the exception of very few sentences which are long and a bit difficult to understand in some chapters. There are many new vocabulary terms to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There is general evidence of the suitability of the Arabization of the books, except a couple of exercises which become harder to understand due to the translation.

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities, exercises and illustrations pertaining to the country and the culture. In fact, in this set of books, there are many pictures and illustrations of everyday activities and elements well known to the targeted students and which make the content more interesting and motivating to students (sports, arts, crafts, travelling, games, natural phenomena...).



### Other comments

The page layout is too condense and confusing, with too many things on one page, which is visually disturbing for the reader and conveys an impression of dense and difficult content. In addition, due to printing, one page is missing and illustrations in one exercise are not visible.





<b>Book Evaluation Form</b>	Subject: : Mathematics			
	Grade: 10 -Semester1			
	Textbook Title: Geometry			
	Chapter Title: Reasoning & proof – chap1			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>85. Alignment of the translated texts to the philosophy of the original textbook</b>				
85.1.	<i>Content of the Chapter</i>	<b>X</b>		<b>X</b>
85.2.	<i>Activities included in the chapter</i>		<b>X</b>	
85.3.	<i>Learning objectives</i>	<b>X</b>		
85.4.	<i>Practice exercises</i>		<b>X</b>	
85.5.	<i>Assessment exercises</i>		<b>X</b>	
85.6.	<i>Skills</i>			<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.2) The use of modern learning methods such as technology &amp; research in activities is very limited. There is only one example of the use of internet for research in a task where students are asked to use the internet or any other source in order to determine whether certain statements are true or false (textbook p21 ex 36-38). There is also a reference to a website for more prep questions in the warm up activity at the beginning of the chapter (textbook p9).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, very limited indication about real life connections. One example is found in the teacher's manual p 8E linking mathematical objectives to elements of nature (animals, plants...)</li> <li>- (1.3) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. For example, in the textbook p 44, the statement "if teacher allows you to eliminate steps" indicates the lack of flexibility given to students. In addition, every small detail of the learning process is dictated by the teacher, even writing titles of chapters on the foldables (reminders regarding giving instructions are found in the teacher's manual on pages 22, 29, 36, 41...)</li> <li>- (1.4 &amp; 1.5) There are fewer real life examples in the student applications (practice &amp; assessment exercises) than in the activities, examples &amp; solved exercises (in the practice book, only 13 out of 58 exercises are real life situations)</li> <li>- (1.4 &amp; 1.5) Most exercises are simple direct applications, only few exercises are real problem solving tasks or require higher order thinking, even those labeled "higher order thinking exercises" mainly include simple applications of the lesson properties/theorems. For example, writing an example of a conditional statement, or comparing between a converse and a contrapositive conditional statement (textbook p 28 ex 33 &amp; 34) (More examples are found in textbook pp 28, 35, 40, 48, 54...)</li> </ul>				



- (1.4 & 1.5) There is redundancy of exercises. The exact same exercise is repeated on textbook p39 ex1,2 and practice book p8 ex 1,2 (counting the number of straight lines that join points in a shape). Also, the cumulative test at end of chapter is almost the same as the chapter evaluation, since there are no previous chapters to review in the first chapter of a book (textbook p70-71). Moreover, in "cumulative evaluation" sections, exercises from previous chapters or even previous classes without any link or contribution to this chapter are constantly included which could confuse students; for example naming polygons and categorizing them as convex or concave (textbook p14 ex 40, 41 & 42 (more examples are found on pages 14, 22 & 29...)).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>47. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>			<b>X</b>	
<i>47.1.Length of sentences</i>		<b>X</b>		
<i>47.2.Complexity of sentences</i>		<b>X</b>		
<i>47.3.Diversity of language structures</i>				<b>X</b>
<i>47.4.Number of concepts per chapter</i>		<b>X</b>		
<i>47.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>47.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>47.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>47.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>

Illustrate by at last one example any indicator of criterion 2 given a score of less than 3

- (2.4) There are many new vocabulary terms to learn in this chapter however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (on p 64 of textbook there is a list of all the vocabulary terms of the chapter, on p57 there is a note about a vocabulary definition reminder...)
- (2.1 & 2.2) Probably due to the topic of the chapter (logic, statements...), some sentences are long (a 5 lines sentence in textbook p40 ex 20) & difficult to understand (textbook p56 introductory paragraph about complementary and supplementary angles)
- Some typing mistakes occur, which completely alter the mathematical concept (textbook p 51  $\overline{AB} \cong \overline{AB}$  instead of  $\overline{AB} \cong \overline{BA}$ )
-



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>93. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>			<b>X</b>	
93.1. <i>Illustrations</i>				<b>X</b>
93.2. <i>Content</i>		<b>X</b>		
93.3. <i>Activities</i>		<b>X</b>		
93.4. <i>Practice Exercises</i>		<b>X</b>		
93.5. <i>Assessment exercises</i>				<b>X</b>
93.6. <i>Skills</i>				<b>X</b>
Illustrate by at least one example any indicator of criterion 3 given a score of less than 3 <ul style="list-style-type: none"> <li>- (3.2, 3.3 &amp; 3.4) Logic statements are more difficult to understand &amp; write in Arabic due to complexity of sentence structure. For example, exercises 5, 6 &amp; 7 on p 7 of the practice book, where the sentences used are simple, however expressing relationships using laws of detachment and syllogism is difficult due to the language. Similar cases are also found in the textbook.</li> </ul>				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>94. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
94.1. <i>Illustrations</i>				<b>X</b>
94.2. <i>Content</i>				<b>X</b>
94.3. <i>Activities</i>				<b>X</b>
94.4. <i>Practice Exercises</i>				<b>X</b>
94.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.



<b>Book Evaluation Form</b>		Subject: Mathematics			
		Grade: 10 -Semester1			
		Textbook Title: Geometry			
		Chapter Title: Relationships in Triangles – chap4			
		No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>					
<b>86. Alignment of the translated texts to the philosophy of the original textbook</b>				<b>X</b>	
86.1.	<i>Content of the Chapter</i>				<b>X</b>
86.2.	<i>Activities included in the chapter</i>			<b>X</b>	
86.3.	<i>Learning objectives</i>	<b>X</b>			
86.4.	<i>Practice exercises</i>		<b>X</b>		
86.5.	<i>Assessment exercises</i>		<b>X</b>		
86.6.	<i>Skills</i>				<b>X</b>
<p>Illustrate by at least one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.2) Only one example of the use of technology in learning activities/exercises is found: an activity about using a geometry software to find intersection points of medians, heights, bisectors... (textbook activity p 197), and a reference to a website for more prep questions in the warm up activity at the beginning of the chapter (textbook p189).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about real life connections or the use of technology (teacher's manual pp 188 A-F)</li> <li>- (1.4 &amp; 1.5) Real life situations are found in lesson examples, activities and solved exercises, but there are very few connections to everyday situations in application &amp; assessment exercises (for example, in the practice book only 4 out of 62 exercises involve real life situation)</li> <li>- (1.4 &amp; 1.5) Most exercises are simple direct applications, only few exercises are real problem solving tasks or require higher order thinking, even those labeled "higher order thinking exercises" mainly include simple applications of the lesson properties/theorems. For example, finding the intruder in a list of vocabulary terms defined in the chapter (textbook p201 ex 38), or writing and solving an equation and an inequality based on a figure (textbook p210 ex 37) (More examples are found in textbook pp 201 ex 35, 210 ex 35, p 223 ex 26, p 232 ex 21...)</li> <li>- (1.4 &amp; 1.5) There isn't much variety in the types of exercises/activities, some exercises are almost identical in structure, with differences in names and numerical data only, thus creating redundancy (textbook p215 example 3 &amp; p 213 check your understanding3)</li> <li>- (1.5) A variety of evaluation methods are used to suit different student learning styles,</li> </ul>					



however in "cumulative evaluation" sections, exercises from previous chapters or even previous classes without any link or contribution to this chapter are constantly included which could confuse students. For examples exercises about calculating a slope using point coordinates or about counterexamples (textbook p202) included in section 4.1 of the chapter which is about bisectors, medians and altitudes of triangles (More examples are found in textbook pp 211, 224 & 231)

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>48. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>48.1.Length of sentences</i>				<b>X</b>
<i>48.2.Complexity of sentences</i>				<b>X</b>
<i>48.3.Diversity of language structures</i>				<b>X</b>
<i>48.4.Number of concepts per chapter</i>				<b>X</b>
<i>48.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>48.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>48.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>48.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
Illustrate by at least one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>95. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>			<b>X</b>	
<i>95.1. Illustrations</i>				<b>X</b>
<i>95.2. Content</i>				<b>X</b>
<i>95.3. Activities</i>				<b>X</b>
<i>95.4. Practice Exercises</i>		<b>X</b>		
<i>95.5. Assessment exercises</i>		<b>X</b>		
<i>95.6. Skills</i>				<b>X</b>
Illustrate by at least one example any indicator of criterion 3 given a score of less than 3				
- (3.4 & 3.5) Some exercises and examples are harder to understand due to the translation in Arabic, mainly word problems (for example practice book p25 ex 13				



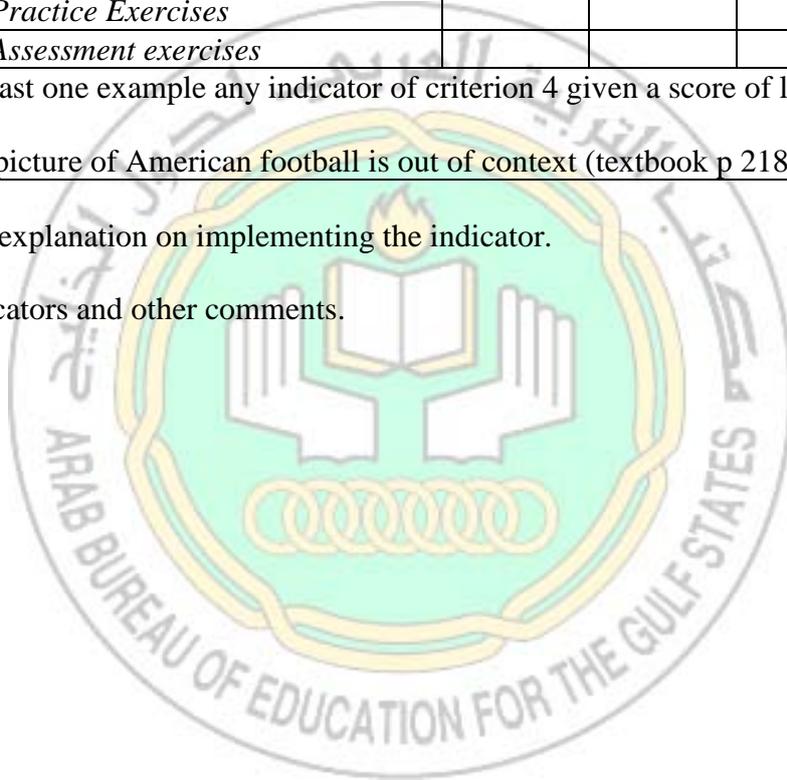
cited below, or other examples found in textbook p202 ex 49 p231 ex 37)

"يريد محمد أن يعلق مجموعة من القطع الخشبية الشكل في سقف غرفته بحيث تبقى أفقية و موازية لأرضية الغرفة. كيف يمكن لمحمد تعليقها و هو متأكد أنها ستكون أفقية؟"

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>96. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
96.1. <i>Illustrations</i>			<b>X</b>	
96.2. <i>Content</i>				<b>X</b>
96.3. <i>Activities</i>				<b>X</b>
96.4. <i>Practice Exercises</i>				<b>X</b>
96.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				
- (4.1) A picture of American football is out of context (textbook p 218)				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 10 - Semester2			
	Textbook Title: Geometry			
	Chapter Title: Quadrilaterals – chap5			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>		<b>X</b>		
<b>87. Alignment of the translated texts to the philosophy of the original textbook</b>		<b>X</b>		
87.1. <i>Content of the Chapter</i>			<b>X</b>	
87.2. <i>Activities included in the chapter</i>			<b>X</b>	
87.3. <i>Learning objectives</i>		<b>X</b>		
87.4. <i>Practice exercises</i>	<b>X</b>			
87.5. <i>Assessment exercises</i>	<b>X</b>			
87.6. <i>Skills</i>			<b>X</b>	
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content display is very interesting, with many colorful pictures and illustrations of elements from everyday situations.</li> <li>- (1.2) There seems to be reasonable use of modern learning methods such as technology &amp; research in activities. There are two activities involving the use of technology as a discovery learning tool: one activity consists in using an excel sheet to find measures of angles in polygons (textbook p16), the other activity is about constructing geometric shapes and discovering properties using a geometry software (textbook p24). There is also a reference to a website for more warm up questions in the activity at the beginning of the chapter (textbook p9).</li> <li>- (1.3) The learning objectives mainly mathematical content oriented, however they reflect continuity through different grade levels and are linked to some of their real life applications in the teacher's manual p8B (applications of geometric shapes in arts, construction, school and classroom activities, physics, natural phenomena...)</li> <li>- (1.3) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed instructions and numerous reminders about everything, even the use of foldables and taking small notes (found in the teacher's manual on pages 15, 31, 54...). In addition, summaries of the properties of the different quadrilaterals studied are provided to students at the end of every lesson instead of guiding the students into creating their own summaries (textbook p 27 properties of a parallelogram, p 43 properties of a rhombus).</li> <li>- (1.4 &amp; 1.5) There are fewer real life examples in the student applications (practice and assessment exercises) than in the activities and examples &amp; solved exercises (in the practice book, only 6 out of 68 exercises are word problems about real life situations).</li> <li>- (1.4 &amp; 1.5) Most exercises are simple direct applications, only few exercises are real</li> </ul>				



problem solving tasks or require higher order thinking, even those labeled "higher order thinking exercises" mainly include simple applications of the lesson properties/theorems. For example, a "higher order task" consist in proving two expressions equal and consists manipulating in simple algebraic expressions (textbook p 14 ex 36). Other tasks are of the type "when is a quadrilateral called a parallelogram (or rectangle)" (textbook p31 ex 35, p 38 ex 44).

- (1.4 & 1.5) There is redundancy of types of exercises, the tasks are identical in the different practice sections of the textbook and in the practice book. One very common type of exercise consists in finding coordinates of a fourth vertex of a certain type of quadrilaterals knowing the coordinates of the other three vertices (practice book p5 ex 10& 11, p6 ex 5 & 6, p 7 ex 13, 14 & 15...). Another frequent types of tasks is finding measures of angles and sides in a quadrilateral in terms of an unknown variable (practice book p9 ex 5-9, p 8 ex 1-8, p 7 ex 1-6...). Moreover, in "cumulative evaluation" sections, exercises from previous chapters or even previous classes without any link or contribution to this chapter are constantly included which could confuse students; for example proving congruent triangles or find percent changes... (textbook p60)

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>49. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>49.1.Length of sentences</i>				<b>X</b>
<i>49.2.Complexity of sentences</i>				<b>X</b>
<i>49.3.Diversity of language structures</i>				<b>X</b>
<i>49.4.Number of concepts per chapter</i>				<b>X</b>
<i>49.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>49.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>49.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>49.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>97. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
97.1. <i>Illustrations</i>				<b>X</b>
97.2. <i>Content</i>				<b>X</b>
97.3. <i>Activities</i>				<b>X</b>
97.4. <i>Practice Exercises</i>				<b>X</b>
97.5. <i>Assessment exercises</i>				<b>X</b>
97.6. <i>Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>98. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
98.1. <i>Illustrations</i>				<b>X</b>
98.2. <i>Content</i>				<b>X</b>
98.3. <i>Activities</i>				<b>X</b>
98.4. <i>Practice Exercises</i>				<b>X</b>
98.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

Page 4 of the practice book is missing.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 10 - Semester2			
	Textbook Title: Geometry			
	Chapter Title: Transformations – chap7			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>88. Alignment of the translated texts to the philosophy of the original textbook</b>				
88.1. <i>Content of the Chapter</i>				
88.2. <i>Activities included in the chapter</i>				
88.3. <i>Learning objectives</i>				
88.4. <i>Practice exercises</i>				
88.5. <i>Assessment exercises</i>				
88.6. <i>Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content display is very interesting, with many colorful pictures and illustrations of elements from everyday situations (sports, arts, cartoons, maps...).</li> <li>- (1.2) There seems to be reasonable use of modern learning methods such as technology &amp; research in activities. There is one example about the use of internet for a research task where students are asked to use the internet to find information about moving chess pieces and attributing these movements to transformations (textbook p133 ex 19). There is another activity involving the use of a geometry software to practice transformation of figures (textbook p137). There is also a reference to a website for more warm up questions in the activity at the beginning of the chapter (textbook p121).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about real life connections or the use of technology (teacher's manual pp 120 A-B)</li> <li>- (1.3) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed instructions and numerous reminders about everything, even the use of foldables and taking small notes (found in the teacher's manual). In addition, summaries of concepts are found in lessons (textbook p125) and at the end of the chapter (textbook p159) thus limiting the role of the student, and not allowing him to create his own concept maps or summaries.</li> <li>- (1.4 &amp; 1.5) There are fewer real life examples in the practice book and in the assessment exercises of the cumulative and end of chapter evaluations (only 3 out of 43 exercises are word problems about real life situations) than in the activities and examples &amp; solved exercises of the textbook where many are based on real life situations such as different sports, amusement parks p141, mosaic &amp; ceramics patterns</li> </ul>				



p149, patchwork pp 120 & 148....

- (1.4 & 1.5) Due to the nature of the chapter, exercises are of a reasonable level of difficulty where many require problem solving skills involving several steps. However, not all the tasks labeled "higher order thinking" actually need such skills. For example, some are as simple as listing characteristics of a certain transformation like translation (textbook p134).
- (1.4 & 1.5) There is redundancy of types of exercises despite the variety of concepts of the chapter. One very common type of exercise consists in drawing a figure and constructing its image by a transformation given the coordinates of its vertices (practice book p16 ex 3-6, p17 ex 3-4, p18 ex 3-4, p20 ex 6-7 and several exercises within chapter in textbook). Moreover, in "cumulative evaluation" sections, exercises from previous chapters or even previous classes without any link or contribution to this chapter are constantly included which could confuse students; for example exercises about identifying logic connectors (textbook p142) or applying properties of quadrilaterals (textbook p143).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>50. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>50.1.Length of sentences</i>		<b>X</b>		
<i>50.2.Complexity of sentences</i>			<b>X</b>	
<i>50.3.Diversity of language structures</i>				<b>X</b>
<i>50.4.Number of concepts per chapter</i>				<b>X</b>
<i>50.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>50.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>50.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>50.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>

Illustrate by at least one example any indicator of criterion 2 given a score of less than 3

- (2.1 & 2.2) Some sentences are long, mainly in proofs (a 5 line sentence on p 124, a 4 line sentence on p125). It would be much simpler if these proofs were written in steps or shorter statements.
- There are many new vocabulary terms to learn in this chapter however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for instance, there is a note about a vocabulary definition reminder from a previous chapter on p123 of the textbook).



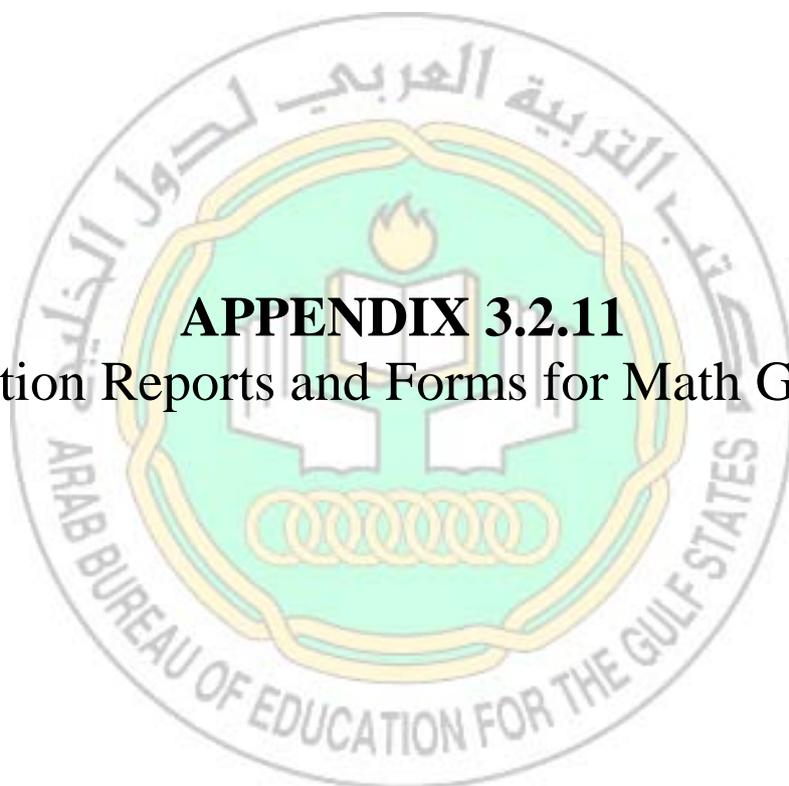
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>99. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
99.1. <i>Illustrations</i>				<b>X</b>
99.2. <i>Content</i>				<b>X</b>
99.3. <i>Activities</i>				<b>X</b>
99.4. <i>Practice Exercises</i>			<b>X</b>	
99.5. <i>Assessment exercises</i>				<b>X</b>
99.6. <i>Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3  - (3.4) One exercise seems unintelligible due to the language (exercise 4 about steam boat on p 18 of the practice book)				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>100. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
100.1. <i>Illustrations</i>				<b>X</b>
100.2. <i>Content</i>				<b>X</b>
100.3. <i>Activities</i>				<b>X</b>
100.4. <i>Practice Exercises</i>				<b>X</b>
100.5. <i>Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

On page 16, the illustrations are not visible (black) due to printing.



**APPENDIX 3.2.11**  
Evaluation Reports and Forms for Math Grade 11

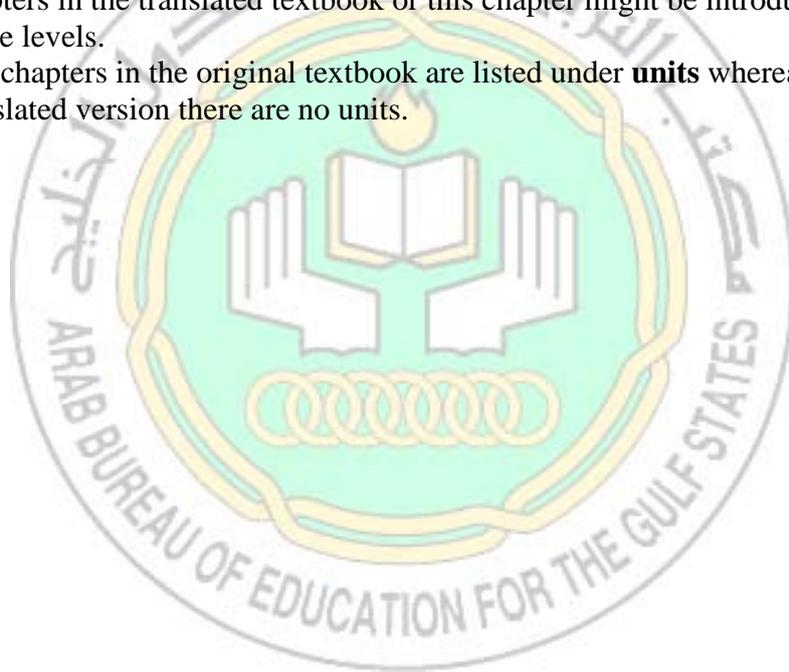


## Grade 11 – Algebra 2

### Tables of content

The tables of contents of the original book and the translated book showed differences due to the following reasons:

- Lessons from different chapters in the original textbook are put in one chapter in the translated version. For example, several lessons from chapters 1 and 2 in the original textbook are put in chapter 1 in the translated version. For example “properties of real numbers” lesson 2 in chapter 1 and “special functions” lesson 6 in chapter 2 are found in chapter 1 in the translated textbook. Also several lessons in chapters 5 and 6 in the original textbook are in chapter 3 in the translated version.
- Chapters appear in the original textbook and do not appear in the translated textbook. For example, “Conic sections” and “Trigonometric identities and equations” are chapters that appear only in the original textbook. Note that there might be some lessons inside this chapter that might be introduced in other chapters in the translated textbook or this chapter might be introduced in other grade levels.
- The chapters in the original textbook are listed under **units** whereas in the translated version there are no units.





**Important:** A chapter from the two versions (the English as well as the Arabic versions of the books) should be translated. The codes and notes are to be written on the Arabic version of the book with an exception of notes on the original book (when an item appears in the original book but is missing in the Arabic version of the book).

Difference is due mainly to **QUALITY** difference and not just the number of missing, extra, or different items. Sometimes, a small difference in a sentence is a big difference in the meaning (i.e. large difference even if few occurrences).

<b>Book Evaluation Form</b>		Subject: Mathematics				
		Grade: 11		Semester: 1		
		Textbook Title: Algebra 2 / Grade 11				
		Chapter Title: Matrices				
<i>Criterion/Indicator</i>		Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>89. Agreement of the translated Arabic book with that of the English book</b>						
89.1. <i>Definitions and explanations in the chapter</i>				✓		
89.2. <i>Activities included in the chapter</i>			✓			
89.3. <i>Learning objectives</i>				✓		
89.4. <i>Practice exercises</i>				✓		
89.5. <i>Assessment exercises</i>			✓			
1.6 <i>Figures, pictures and illustrations</i>				✓		
<b>90. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>						
90.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.						

**Guidelines for filling this form (Item 1 only):**

52. One form is to be filled for each of the three books (student, practice, teacher) for each semester
53. You need to have a copy of the Table of Content of each book and of one chapter of the book chosen from the chapters you have already selected
54. For the chapter, for each item (for example, definition, explanation, activity...) one of the four scale points:
  - a. '1' for completely different
  - b. "2" for large difference



- c. '3' for little difference
- d. '4' difference due only to cultural context
- e. '5' no difference

Note that 1, 2 and 3 differences could be due adding or eliminating some of the items within the books and due to translational differences as well.

Check the appropriate box in the rubric based on the frequency of each value

55. Write a short report under the headings 1.1 to 1.5 and attach to it the copies of the coded selected chapter.

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “matrices” in both textbooks showed “little difference” between the explanations. The differences are due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, “transformations with matrices” (objectives: (1)use matrices to determine the coordinates of a translated or dilated image; (2) use matrix multiplication to determine the coordinates of a reflected or rotated image), “algebra lab: vectors and matrices” are lessons that appear only in the original textbook. These lessons contain explanations that are not found in the translated textbook. On the other hand, the definitions and explanations in the lessons that exist in both textbooks are similar. Some differences may appear due to introducing examples that are different in the context because of cultural differences.

### 1.2 Activities included in the chapter

The analysis of this chapter has showed large difference in the activities included in both textbooks. This is due to the existence of lessons in the original textbook that are absent in the Arabic version. For example, “transformations with matrices” (objectives: (1)use matrices to determine the coordinates of a translated or dilated image; (2) use matrix multiplication to determine the coordinates of a reflected or rotated image), “algebra lab: vectors and matrices” are lessons that appear only in the original textbook.

In addition, more activities are introduced in the original text in the lessons that appear in both textbook. For example, on page 189 in the original textbook, there is an activity (exercise #26) that does not appear in the translated textbook. Also, due to cultural reasons some differences exist between the activities that are of same nature.

On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in sections that are only introduced in the original textbook. For example, “transformations with matrices” (objectives: (1) use matrices to determine the coordinates of a translated or dilated image; (2) use matrix multiplication to determine the coordinates of a reflected or rotated image), “algebra lab: vectors and matrices” are lessons that appear only in the original textbook. The objectives in these lessons are not listed in the translated version. On the other hand, the objectives in the sections that appear in both versions are similar.

### 1.4 Practice exercises

Little difference between the practice exercises in both textbook due to introducing lessons (concepts and procedures) in the original textbook that do not appear in the translated version.



### 1.5 Assessment

Even though the assessment activities in the “chapter practice test” are similar, “large difference” in the assessment exercises appeared in both textbooks due to several reasons: (1) introducing lessons that only appear in the original textbook; (2) introducing a larger number of standardized test practice in the original textbook; and (3) the presence of “Mid-Chapter Check lessons 1 through 3” section in the original textbook. This section is not found in the translated version and it includes several assessment exercises which correspond to lessons 1 to 3.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that little differences between the figures and illustrations due to cultural reasons or to the appearance of lessons in the original textbook that are not introduced in the translated version.





<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 11		Semester: 2		
	Textbook Title: Algebra 2 / Grade 11				
	Chapter Title: Sequences and Series				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b>Criterion/Indicator</b>					
<b>91. Agreement of the translated Arabic book with that of the English book</b>					
91.1. Definitions and explanations in the chapter					
91.2. Activities included in the chapter					
91.3. Learning objectives					
91.4. Practice exercises					
91.5. Assessment exercises					
1.6 Figures, pictures and illustrations					
<b>92. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
92.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

### 1.1 Definitions and explanations in the chapter

The analysis of the chapter “sequences and series” in both textbooks showed that the definitions and explanations in the lessons that exist in both textbooks are similar. Some differences may appear due to introducing examples that are different in the context because of cultural differences.

On the other hand, “little difference” between the explanations is recorded due to the appearance of several lessons in the original textbook that are not introduced in the translated textbook. For example, “Recursion and iteration” (objectives: (1) recognize and use special sequences, and (2) iterate functions); “Spread Sheet lab: Amortizing loans”; and “area under a curve” are lessons that appear only in the original textbook. These lessons contain explanations that are not found in the translated textbook.

### 1.2 Activities included in the chapter

The analysis of this chapter has showed “little difference” in the activities included in both textbooks. This is due to the existence of lessons in the original textbook that are absent in the Arabic version. For example, the lessons “Recursion and iteration”; “Spread Sheet lab: Amortizing loans”; and “area under a curve” appear only in the original textbook.



In addition, more activities are introduced in the original text in the lessons that appear in both textbooks. For example, on page 730, in the original textbook, there are higher-order-thinking skills activities (exercises #37 and 39) that do not appear in the translated textbook. Also, due to cultural reasons some differences exist between the activities that are of same nature.

On the other hand, most of the activities in the translated textbook are similar to the ones in the original textbook and the differences are due to cultural reasons.

### 1.3 Learning objectives

The objectives in the lessons that appear in both versions are similar. However, “little difference” is recorded in the rubric between the alignment of objectives in the original and translated textbooks due to the appearance of objectives in the lesson: “Recursion and iteration” (objectives: (1) recognize and use special sequences, and (2) iterate functions) that is only introduced in the original textbook.

### 1.4 Practice exercises

The analysis of this chapter in both textbooks has showed little difference in the practice exercises. This is due to: (1) introducing lessons that only appear in the original textbook. For example, the lessons “Recursion and iteration”; “Spread Sheet lab: Amortizing loans”; and “area under a curve” appear only in the original textbook; (2) the existence in the original textbook of several practice exercises that do not appear in the Arabic version. For example, on page 685, there is an exercise that does not appear in the translated version. Also, several other activities that are found in both textbooks are different due to cultural reasons.

### 1.5 Assessment

The assessment activities in both textbooks are similar except for the “standardized test practice” which introduced 4 problems in the original textbook whereas in the translated version only 2 out of these 4 problems are listed. Thus, “little difference” is recorded in the rubric.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that little differences between the figures and illustrations due to cultural reasons or to the appearance of lessons in the original textbook that are not introduced in the translated version.



## Report Mathematics – Algebra – Grade 11 – Semester 1

The following report is an evaluation of grade 11 - semester 1 set of books (textbook and practice book only, since the teacher's manual is missing). Two out of the four chapters were evaluated chapter 2: matrices, and chapter 4: inverse and radical functions and relations. For each set of books, the textbook and practice book, were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, problem solving, and higher order thinking.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy.

In fact the content, activities, & skills are mostly aligned with the philosophy. To being with, unlike chapters in books from previous grades, these chapters are very well organized, the display is neat, and most importantly the sections within each lesson are well defined with a clear sequence which is consistent throughout the book: first examples (some including real life situations), then the lesson (formulas, properties, definitions...), then "check your understanding" applications, followed by "practice exercises", then "higher order tasks", and finally the "cumulative evaluation" section. There are fewer pictures and illustrations than in textbooks from previous grade levels, and the few ones available bring no added value and have no relevance to the mathematical content of the chapters, they are only used to make the add color and life to the page display, but this is not surprising for a grade 11 book.

The textbook activities are interesting, frequently inspired from real life situations, several activities per chapter promote the use technology or research as a tool for learning and discovery, and a reference to a website for extra introductory exercises is found at the beginning of every chapter.

Although the content and activities seem to be generally aligned, the main problem is with the learning objectives and the exercises; they show little evidence of alignment with the philosophy.

Regarding the objectives, they are purely mathematical content oriented without any mention of other aspects of mathematical teaching mentioned in the philosophy such as connections to real life situations or the use of modern and motivating learning strategies. In addition, although the philosophy clearly emphasizes the student's active role in the teaching and learning process, it seems that his actual role is restricted to memorizing formulas, applying dictated techniques, and solving exercises. This is also reflected through the fact that some interesting tricks and shortcuts are provided to students throughout the lesson to solve tasks faster, without however explaining the reasoning behind them or showing parts of proofs; students are only required to memorize them and we are dealing with 11th graders! There isn't any flexibility or chance for the students to practice certain necessary skills such as taking notes, making summaries or concept maps, since all the information needed is provided to them throughout and at the end of the chapters in the form of tables and diagrams. At the end of the textbook, there is even a summary of all formulas from all the chapters to be memorized.

Regarding the exercises, there seems to be little alignment with the philosophy. To start with, although many of the activities and the solved exercises of the textbook chapters are based on real life situations, these are mostly very basic and shallow, and sections called links to "real-life situations" sometimes do not have any mathematical application, or are simply irrelevant to the exercise. In addition, there seem to be fewer connections to everyday life in practice and assessment exercises, particularity in the practice book, and in the mid-chapter and end of chapter evaluations and tests. Furthermore, although the mathematical content is getting harder and allows more sophistication and complexity in tasks, most exercises remain simple direct applications of the chapter's concepts or basic word problems; very few deserve to be called real problem solving exercises that requiring higher order thinking or go beyond elementary computations. In addition, there isn't much variety in the types of exercises and activities used, some exercises are almost identical with only values being modified, mainly when comparing between the textbook and the practice book, and even within the textbook lesson, exercises are repeated in "test your understanding" and "practice exercises" sections,



and in chapter evaluations and cumulative tests. Hence, despite all this variety, there seems to be redundancy of exercises and inclusion of concepts and tasks that are not always related to the chapter without any contribution to understanding.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter.

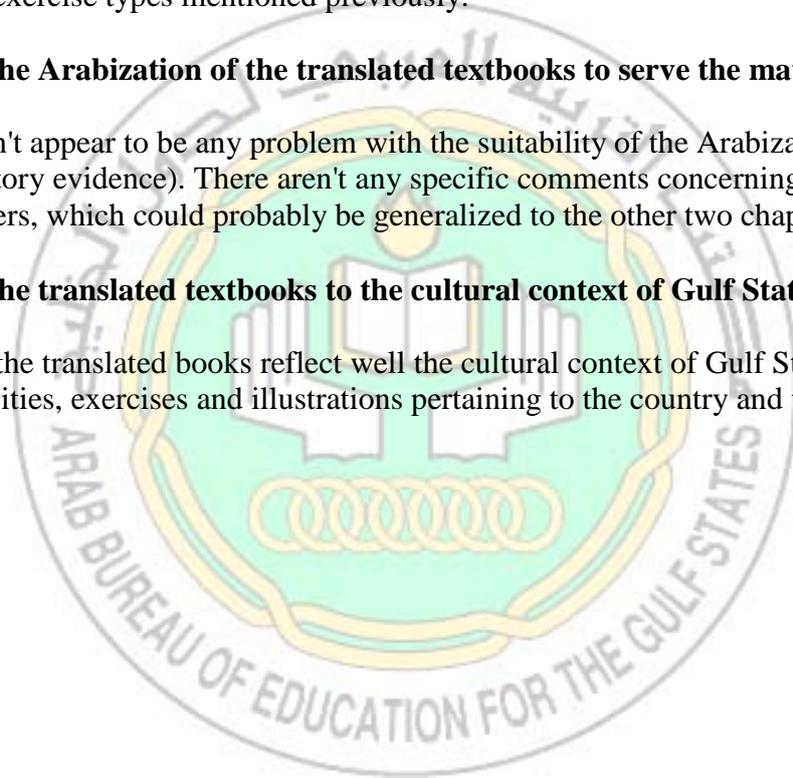
However, there seems to be redundancy in sentence structures in exercises, with instructions always given in a verbal form, starting with the same verbs, even in word problems where the questions should have different forms, which again reflects the redundancy in exercise types mentioned previously.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence). There aren't any specific comments concerning the two analyzed chapters, which could probably be generalized to the other two chapters of this set.

### **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities, exercises and illustrations pertaining to the country and the culture.





## Report Mathematics – Algebra – Grade 11 – Semester 2

The following report is an evaluation of grade 11 - semester 2 set of books (textbook, practice and teacher's manual). Two out of the four chapters were evaluated chapter 6: sequences and series, and chapter 7: Probabilities. For each set of books, the textbook and practice book, were analyzed in conjunction resulting in one evaluation form per chapter. The evaluation form examines 4 criteria: 1-alignment of the translated texts to the philosophy of the original textbook, 2-suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students, 3-suitability of the Arabization of the translated textbooks to serve the math concepts, 4-suitability of the translated textbooks to the cultural context of Gulf States ; using a 4-scaled rubric (no evidence, little evidence, almost satisfactory evidence, satisfactory evidence). General results of the evaluation forms of each set of books were then combined to develop the following report.

### **Alignment of the translated texts to the philosophy of the original textbook**

#### Philosophy

Mathematics is considered one of the main school subjects that provide students with opportunities to acquire higher order learning skills, which allow him to develop his ability to think and solve problems, and help him deal with the requirements of everyday situations.

These books are characterized by the use of a modern approach to mathematics, involving elements of motivation and attraction, making the students more open to learning and interacting with the subject, through the variety of exercises and activities provided. These books also provide the teacher with a complete set of instructional material that caters to student individual differences. In addition, these books focus on important aspects of mathematics teaching, essentially:

- Building solid connections between mathematical content and real-life situations
- Presenting mathematical content using attractive & motivating ways
- Emphasizing on the role of the student in the teaching & learning processes (among others, providing the student with the opportunity to employ modern techniques and communication based on practice)
- Developing mathematical skills necessary for the wholeness and integration of mathematical content, such as mathematical communication skills, mathematical sense skills, problem solving, and higher order thinking.
- Applying different techniques in different mathematical situations
- Implementing the steps of the "problem solving method" and applying its different strategies in the way of thinking about mathematical problems and their solutions
- Using a variety of assessment and evaluation methods to suit different student learning styles

The content of the books is designed in a way to employ teaching strategies based on research which support the general goals of the motto "no failing" and the principals and standards of school mathematics. The nine teaching strategies included in the books are: compare & contrast, summary & note taking, providing knowledge, homework & practice, non-verbal representations, cooperative learning, writing objectives & providing feedback, writing & testing hypotheses, implications questions & advanced organizers.



In general, there seems to be almost satisfactory evidence of alignment of the books with the philosophy in both chapters evaluated, regardless of the topic differences, hence this should also be the case for the rest of the chapters.

In fact the content, activities, & skills are mostly aligned with the philosophy. To being with, unlike chapters in books from previous grades, these chapters are very well organized, the display is neat, and most importantly the sections within each lesson are well defined with a clear sequence which is consistent throughout the book: first examples (some including real life situations), then the lesson (formulas, properties, definitions...), then "check your understanding" applications, followed by "practice exercises", then "higher order tasks", and finally the "cumulative evaluation" section. There are fewer pictures and illustrations than in textbooks from previous grade levels, and the few ones available bring no added value and have no relevance to the mathematical content of the chapters, they are only used to make the add color and life to the page display, but this is not surprising for a grade 11 book (except in the chapter about probabilities which is attractive, with many colorful pictures and illustrations of geometric figures and elements from everyday situations).

The textbook activities are interesting, frequently inspired from real life situations, and there appears to be reasonable use of technology if we take into consideration both the textbook and the teacher manual, which varies according to the topic. However, in both chapters, a couple of activities per chapter promote the use technology or research as atool for learning and discovery (mainly the graphical calculator and spread sheets), and a reference to a website for extra introductory exercises is found at the beginning of every chapter and of every section of the chapter. Also in relation to technology, in the teacher's manual, there are suggestions to use online applications or websites, smart boards, and even a digital camera.

Although the content and activities seem to be generally aligned, the main problem is with the learning objectives and the exercises; they show little evidence of alignment with the philosophy regardless of the chapter topic.

Regarding the objectives, they are purely mathematical content oriented without any mention of other aspects of mathematical teaching mentioned in the philosophy such as connections to real life situations or the use of modern and motivating learning strategies. In addition, although the philosophy clearly emphasizes the student's active role in the teaching and learning process, it seems that his actual role is restricted to memorizing formulas, applying dictated techniques, and solving exercises. There isn't any flexibility or chance for the students to practice certain necessary skills such as taking notes, making summaries or concept maps, since all the information needed is provided to them throughout and at the end of the chapters in the form of tables and diagrams. At the end of the textbook, there is even a summary of all formulas from all the chapters to be memorized. This is also reflected through the detailed instructions and numerous reminders found in the teacher's manual. Providing this much guidance in teaching limits the role of the student.

Regarding the exercises, there seems to be little alignment with the philosophy. To start with, although many of the activities and the solved exercises of the textbook chapters are based on real life situations, these are mostly very basic and shallow, and sections called links to "real-life situations" sometimes do not have any mathematical application, or are simply irrelevant to the exercise. In addition, there seem to be fewer connections to everyday life in practice and assessment exercises, particularity in the practice book, and in the mid-chapter and end of chapter evaluations and tests. This doesn't apply to the chapter about probabilities since this is a particular topic which can only be taught though real life situations. However,



if we consider the other two chapters of the book which were not evaluated (trigonometry and rational functions), we are inclined to say that things should be similar to the chapter on sequences and series due to the nature of the theoretical content of these chapters.

Furthermore, although the mathematical content is getting harder and allows more sophistication and complexity in tasks, most exercises remain simple direct applications of the chapter's concepts or basic word problems; very few deserve to be called real problem solving exercises that require higher order thinking or go beyond elementary computations. In addition, there isn't much variety in the types of exercises and activities used, some exercises are almost identical with only values being modified, mainly when comparing between the textbook and the practice book, and even within the textbook lesson, exercises are repeated in "test your understanding" and "practice exercises" sections, and in chapter evaluations and cumulative tests.. Moreover, exercises in "cumulative evaluation" sections mainly include exercises about notions from previous chapters or even previous grade levels which do not contribute to the actual chapter, and chapter revision section, mid chapter exam and end of chapter exam use the same types of exercises again without any new or challenging tasks. This also applies to probabilities despite the variety in situations and context, it is only a content shallow variety but the skills and concepts tackled in the exercises show redundancy.

On the other hand, it is worth mentioning the variety of assessment tools and methods used to match different student needs, learning styles and achievement levels, and to ensure vertical alignment of the concepts throughout grade levels. In fact, in the teacher's manual, for every chapter, the homework is assigned at the end of each lesson according to different levels of difficulty, and so are the exercises. There are also suggestions for remediation according to students' results and mistakes on chapter preparation, mid chapter & end of chapter evaluations. Adding to that, in the teacher's manual, there are extra activity suggestions that take into account different learning styles (visual learners, social learning, tactile learners, rational learners, linguistic learners...), referred to as "diversified teaching". The teacher's manual also includes many suggestions about cooperative learning (group work and pair work) activities.

### **Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students**

The Arabic language used is generally suitable to the educational level of the students (satisfactory evidence of suitability of the Arabic language). There are many new vocabulary terms to be learned in each chapter, however they are well defined, illustrated and repeated throughout chapter.

However, depending on the chapter, there seems to be redundancy in sentence structures in exercises, with instructions always given in a verbal form, starting with the same verbs, which again reflects the redundancy in exercise types mentioned previously.

### **Suitability of the Arabization of the translated textbooks to serve the math concepts**

There doesn't appear to be any problem with the suitability of the Arabization of the books (satisfactory evidence). There aren't any specific comments concerning the two analyzed chapters, which could probably be generalized to the other two chapters of this set. **Suitability of the translated textbooks to the cultural context of Gulf States**

In general, the translated books reflect well the cultural context of Gulf States including examples, activities, exercises and illustrations pertaining to the country and the culture.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 11 – Semester1			
	Textbook Title: Algebra 2			
	Chapter Title: Matrices – chap2			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>93. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>93.1. Content of the Chapter</i>				
		<b>X</b>		<b>X</b>
<i>93.2. Activities included in the chapter</i>				
		<b>X</b>		
<i>93.3. Learning objectives</i>				
		<b>X</b>		
<i>93.4. Practice exercises</i>				
		<b>X</b>		
<i>93.5. Assessment exercises</i>				
		<b>X</b>		
<i>93.6. Skills</i>				
			<b>X</b>	
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.2) There seems to be reasonable use of technology (a modern learning method) in activities. One activity shows the use of Excel sheets for data organization (textbook p64, showing the quantities of dates sold in a store over a period of 4 weeks). Two other activities involve using graphical calculator to find matrix products (p90) and to solve 3 by 3 systems of equations (p93). There is also a reference to a website for more warm up questions in the activity at the beginning of the chapter (textbook p57).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about their connection to real life applications</li> <li>- (1.3 &amp; 1.6) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed summaries of concepts found in lessons (textbook pp 65, 70, 75, 85...) and at the end of the chapter (textbook p94), which limit the role of the student, and don't him to develop certain necessary skills such as creating concept maps or writing summaries. This is also reflected through the fact that some interesting tricks and shortcuts are provided to students throughout the lesson to solve tasks faster, without however explaining the reasoning behind them or showing parts of proofs; students are only required to memorize them and we are dealing with 11<sup>th</sup> graders! For example in (textbook pp 80-83 diagonal rule to find 3 by 3 matrix determinants, and Cramer's rule to solve 2 by 2 systems of equations, findings areas of area determined by 3 vertices using determinants...)</li> <li>- (1.2, 1.4 &amp; 1.5) There are several examples from everyday life in the textbook chapter activities and practice exercises (football pp 60 &amp; 70, student elections p 63...), however very basic and shallow (textbook p 56, the main application of matrices mentioned is its use in data organization i.e. as an alternative to displaying data in the form of a table; and again p 67, matrices are used by financial planners to organize</li> </ul>				



data), however the links to "real-life situations" referred to do not have any mathematical application, and sometimes are irrelevant to the exercise (examples from textbook: p 73, the exercise is about organizing the results of 4 teams in a swimming contest using a matrix, and the link to real life is the fact that swimming is one of the best sports to lose weight since 1 hour of swimming burns off 250 to 500 calories; p 85 the activity consists in using coordinates of 3 vertices to calculate the area of an archeological spot, and the link to real life is the fact that archeologists use maps to trace sites where ruins are found). There are even fewer real life examples in the practice book and in the assessment exercises of the cumulative and end of chapter evaluations (in the practice book, only 6 out of 21 exercises are simple word problems about real life situations, in the end of chapter exam only 1 out of 7 exercises is a word problem).

- (1.4 & 1.5) Although matrices is a topic which could be studied in a deeper more advanced manner, exercises are of a very low level of difficulty with very few requiring problem solving skills or involve several steps. In the practice book, only 4 out of 21 exercises could be called simple problems because they go one step beyond simple applications of formulas/computations (p11 ex 13-14, p12 ex 19, p13 ex 23). In addition, even the tasks labeled "higher order thinking", they mostly don't actually need such skills. Here are some examples of these tasks: asking if term of index 53 could be found in a square matrix with 4 columns (textbook p 62 ex 32), or given two matrices A and B and the matrix  $3A-4B+6C$  and asking to find matrix C (p 69 ex 28)... Tasks like these may require some more thinking than simple application exercises but can definitely not be labeled higher order problems.
- (1.4 & 1.5) There is redundancy of types of exercises despite the variety of concepts of the chapter. Exercises in the practice book and in different parts of the textbook chapters (whether "test your understanding" sections or "practice exercises" sections) are identical (textbook p 11 ex 1 to 12 simple operations on matrices –addition & subtraction-, p13 ex 1 to 15 calculating determinants of 2 by 2 and 2 by 2 matrices... same exact exercises are found in the practice book pp 11 & 13). Moreover, although a variety of evaluation methods are used to suit different student learning styles, in "cumulative evaluation" sections, chapter revision section and end of chapter exam at the end of the chapter use the same exercises again without any new or challenging tasks (textbook pp 95-96-97).



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>51. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>51.1.Length of sentences</i>				<b>X</b>
<i>51.2.Complexity of sentences</i>				<b>X</b>
<i>51.3.Diversity of language structures</i>		<b>X</b>		
<i>51.4.Number of concepts per chapter</i>				<b>X</b>
<i>51.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>51.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>51.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>51.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There seems to be redundancy in sentence structures in exercises, with instructions always given in a verbal form, starting with verbs "find", "define", "solve" and "write a matrix", which again reflects the redundancy in exercise types mentioned previously, even in word problems where the questions should have different forms.</li> <li>- There are many new vocabulary terms to learn in this chapter however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for instance, there is a list of all the vocabulary terms of the chapter on p 94 of the textbook).</li> </ul>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>101. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>101.1. Illustrations</i>				<b>X</b>
<i>101.2. Content</i>				<b>X</b>
<i>101.3. Activities</i>				<b>X</b>
<i>101.4. Practice Exercises</i>				<b>X</b>
<i>101.5. Assessment exercises</i>				<b>X</b>
<i>101.6. Skills</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>102. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
<i>102.1. Illustrations</i>				<b>X</b>
<i>102.2. Content</i>				<b>X</b>
<i>102.3. Activities</i>				<b>X</b>
<i>102.4. Practice Exercises</i>				<b>X</b>
<i>102.5. Assessment exercises</i>				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				
<ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the lifestyle and culture of Gulf States (reference to king Fahed's library p 69, an chart about exportation of dates p 61, an explanation about government infrastructure reform projects p 91, comparison of gas prices in different cities in KSA p 90...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

On page 16, the illustrations are not visible (black) due to printing.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 11 – Semester1			
	Textbook Title: Algebra 2			
	Chapter Title: Matrices – chap2			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>94. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>94.1. Content of the Chapter</i>				
		<b>X</b>		<b>X</b>
<i>94.2. Activities included in the chapter</i>				
		<b>X</b>		
<i>94.3. Learning objectives</i>				
		<b>X</b>		
<i>94.4. Practice exercises</i>				
		<b>X</b>		
<i>94.5. Assessment exercises</i>				
		<b>X</b>		
<i>94.6. Skills</i>				
			<b>X</b>	
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.2) There seems to be reasonable use of technology (a modern learning method) in activities. One activity shows the use of Excel sheets for data organization (textbook p64, showing the quantities of dates sold in a store over a period of 4 weeks). Two other activities involve using graphical calculator to find matrix products (p90) and to solve 3 by 3 systems of equations (p93). There is also a reference to a website for more warm up questions in the activity at the beginning of the chapter (textbook p57).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about their connection to real life applications</li> <li>- (1.3 &amp; 1.6) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed summaries of concepts found in lessons (textbook pp 65, 70, 75, 85...) and at the end of the chapter (textbook p94), which limit the role of the student, and don't him to develop certain necessary skills such as creating concept maps or writing summaries. This is also reflected through the fact that some interesting tricks and shortcuts are provided to students throughout the lesson to solve tasks faster, without however explaining the reasoning behind them or showing parts of proofs; students are only required to memorize them and we are dealing with 11<sup>th</sup> graders! For example in (textbook pp 80-83 diagonal rule to find 3 by 3 matrix determinants, and Cramer's rule to solve 2 by 2 systems of equations, findings areas of area determined by 3 vertices using determinants...)</li> <li>- (1.2, 1.4 &amp; 1.5) There are several examples from everyday life in the textbook chapter activities and practice exercises (football pp 60 &amp; 70, student elections p 63...), however very basic and shallow (textbook p 56, the main application of matrices mentioned is its use in data organization i.e. as an alternative to displaying data in the form of a table; and again p 67, matrices are used by financial planners to organize</li> </ul>				



data), however the links to "real-life situations" referred to do not have any mathematical application, and sometimes are irrelevant to the exercise (examples from textbook: p 73, the exercise is about organizing the results of 4 teams in a swimming contest using a matrix, and the link to real life is the fact that swimming is one of the best sports to lose weight since 1 hour of swimming burns off 250 to 500 calories; p 85 the activity consists in using coordinates of 3 vertices to calculate the area of an archeological spot, and the link to real life is the fact that archeologists use maps to trace sites where ruins are found). There are even fewer real life examples in the practice book and in the assessment exercises of the cumulative and end of chapter evaluations (in the practice book, only 6 out of 21 exercises are simple word problems about real life situations, in the end of chapter exam only 1 out of 7 exercises is a word problem).

- (1.4 & 1.5) Although matrices is a topic which could be studied in a deeper more advanced manner, exercises are of a very low level of difficulty with very few requiring problem solving skills or involve several steps. In the practice book, only 4 out of 21 exercises could be called simple problems because they go one step beyond simple applications of formulas/computations (p11 ex 13-14, p12 ex 19, p13 ex 23). In addition, even the tasks labeled "higher order thinking", they mostly don't actually need such skills. Here are some examples of these tasks: asking if term of index 53 could be found in a square matrix with 4 columns (textbook p 62 ex 32), or given two matrices A and B and the matrix  $3A-4B+6C$  and asking to find matrix C (p 69 ex 28)... Tasks like these may require some more thinking than simple application exercises but can definitely not be labeled higher order problems.
- (1.4 & 1.5) There is redundancy of types of exercises despite the variety of concepts of the chapter. Exercises in the practice book and in different parts of the textbook chapters (whether "test your understanding" sections or "practice exercises" sections) are identical (textbook p 11 ex 1 to 12 simple operations on matrices –addition & subtraction-, p13 ex 1 to 15 calculating determinants of 2 by 2 and 2 by 2 matrices... same exact exercises are found in the practice book pp 11 & 13). Moreover, although a variety of evaluation methods are used to suit different student learning styles, in "cumulative evaluation" sections, chapter revision section and end of chapter exam at the end of the chapter use the same exercises again without any new or challenging tasks (textbook pp 95-96-97).

	e	nc	de	CVT	e	nc	de	CVT	e	nc	de	CVT	e	nc	de	CVT	
<b>52. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																	<b>X</b>
<i>52.1.Length of sentences</i>																	<b>X</b>
<i>52.2.Complexity of sentences</i>																	<b>X</b>
<i>52.3.Diversity of language structures</i>						<b>X</b>											
<i>52.4.Number of concepts per chapter</i>																	<b>X</b>
<i>52.5.Reuse of technical terms in subsequent lessons and chapters</i>																	<b>X</b>
<i>52.6.Clarity of definitions of technical terms</i>																	<b>X</b>
<i>52.7.Using concrete examples to illustrate concepts</i>																	<b>X</b>
<i>52.8.Redundancy of terms and sentences</i>																	<b>X</b>



<i>with no educational benefit.</i>				
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				
<ul style="list-style-type: none"> <li>- There seems to be redundancy in sentence structures in exercises, with instructions always given in a verbal form, starting with verbs "find", "define", "solve" and "write a matrix", which again reflects the redundancy in exercise types mentioned previously, even in word problems where the questions should have different forms.</li> <li>- There are many new vocabulary terms to learn in this chapter however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for instance, there is a list of all the vocabulary terms of the chapter on p 94 of the textbook).</li> </ul>				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>103. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
103.1. Illustrations				<b>X</b>
103.2. Content				<b>X</b>
103.3. Activities				<b>X</b>
103.4. Practice Exercises				<b>X</b>
103.5. Assessment exercises				<b>X</b>
103.6. Skills				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>104. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
104.1. Illustrations				<b>X</b>
104.2. Content				<b>X</b>
104.3. Activities				<b>X</b>
104.4. Practice Exercises				<b>X</b>
104.5. Assessment exercises				<b>X</b>
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				
<ul style="list-style-type: none"> <li>- Examples from real life in the textbook reflect well the lifestyle and culture of Gulf States (reference to king Fahed's library p 69, an chart about exportation of dates p 61, an explanation about government infrastructure reform projects p 91, comparison of gas prices in different cities in KSA p 90...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

On page 16, the illustrations are not visible (black) due to printing.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 11 – Semester1			
	Textbook Title: Algebra 2			
	Chapter Title: Inverse and radical functions and relations – chap4			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>95. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>95.1. Content of the Chapter</i>				
		<b>X</b>		<b>X</b>
<i>95.2. Activities included in the chapter</i>				
		<b>X</b>		
<i>95.3. Learning objectives</i>				
	<b>X</b>			
<i>95.4. Practice exercises</i>				
	<b>X</b>			
<i>95.5. Assessment exercises</i>				
	<b>X</b>			
<i>95.6. Skills</i>				
			<b>X</b>	
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.2) There seems to be good use of technology (i.e. a modern learning method) in textbook activities as a learning tool which is very efficient in studying functions. Four activities use graphical: to draw graphs of functions and their inverses (p 186), to represent functions with powers and nth roots (p 198), to check graphically that the curves of two given functions don't intersect (p 213), and to solve equations and inequalities with radicals through tables of values and graphical representations. There is also a reference to a website for more warm up exercises in the activity at the beginning of the chapter (textbook p 173).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about their connection to real life applications</li> <li>- (1.3 &amp; 1.6) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed summaries of concepts found in lessons (textbook pp 209, 194, 183, 174,188...) and at the end of the chapter (textbook p 220) which limit the role of the student, and don't him to develop certain necessary skills such as creating concept maps or writing summaries.</li> <li>- (1.2, 1.4 &amp; 1.5) There are several examples from everyday life in the textbook chapter activities and practice exercises (application of function composition through consecutive discounts on car prices p177, application of rational exponents in formula for price inflation p208...), however many are very basic and shallow (p172 stating that functions are used in daily life financial stuff, such as finding the total income of a family by adding the income of the husband and the wife which are given by functions p174). There are even fewer real life examples in the practice book and in the</li> </ul>				



assessment exercises of the cumulative and end of chapter evaluations (in the practice book, only 12 out of 30 exercises are simple word problems about real life situations, in the end of chapter exam no applications to real situations).

- (1.4 & 1.5) Although the chapter could be taken to a more advanced level in grade 11, exercises are of a very low level of difficulty with very few requiring problem solving skills or involve several steps. In the practice book, only 3 out of 21 exercises require computations (p 25 ex 17, p 27 ex 38, p28 ex 35), while all other word problem involve simply plugging in values in functions representing scientific formulas to find a certain unknown. In addition, even the tasks labeled "higher order thinking" in the textbook, they mostly don't actually need such skills. Here are some examples of these tasks: solve the equation  $7^{3x-1} = 49^{x+1}$  with a hint given (p 217 ex 51), give an example of a function and its inverse (p185 ex 30)... Tasks like these may require some more thinking than simple application exercises but can definitely not be labeled higher order problems. As for the other exercises in the practice book, they are as simple as simplifying algebraic expressions (p 28 ex 1-33), drawing graphs of functions and giving the range and domain (p 26 ex 2-9)...
- (1.4 & 1.5) There is redundancy of types of exercises despite the variety of concepts of the chapter. Exercises in the practice book and in different parts of the textbook chapters (whether "test your understanding" sections or "practice exercises" sections) are identical (textbook p 178 ex 1-6, 8-16, & 21-29 are all finding the compositions of two functions or simple operations functions –addition & subtraction-, p190 ex 1 to 29 consist in drawing graphs of functions with radicals... same exact exercises are found in the practice book pp 24 & 26). Moreover, although a variety of evaluation methods are used to suit different student learning styles, exercises in "cumulative evaluation" sections (pp 180, 185, 192, 197 & 205) only cover notions from previous chapters or even previous grade levels which do not contribute to the actual chapter, and chapter revision section, mid chapter exam and end of chapter exam use the same types of exercises again without any new or challenging tasks (textbook pp 199 & 225).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>53. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>53.1.Length of sentences</i>				<b>X</b>
<i>53.2.Complexity of sentences</i>				<b>X</b>
<i>53.3.Diversity of language structures</i>		<b>X</b>		
<i>53.4.Number of concepts per chapter</i>				<b>X</b>
<i>53.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>53.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>53.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>53.8.Redundancy of terms and sentences</i>				<b>X</b>



<i>with no educational benefit.</i>				
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There seems to be redundancy in sentence structures in exercises, with instructions always given in a verbal form, starting with verbs "find", "define", "simplify" and "draw a graph", which again reflects the redundancy in exercise types mentioned previously, even in word problems where the questions should have different forms.</li> <li>- There are many new vocabulary terms to learn in this chapter however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for instance, there is a list of all the vocabulary terms of the chapter on p 220 of the textbook).</li> </ul>				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>105. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
105.1. Illustrations				<b>X</b>
105.2. Content				<b>X</b>
105.3. Activities				<b>X</b>
105.4. Practice Exercises				<b>X</b>
105.5. Assessment exercises				<b>X</b>
105.6. Skills				<b>X</b>
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>106. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
106.1. Illustrations				<b>X</b>
106.2. Content				<b>X</b>
106.3. Activities				<b>X</b>
106.4. Practice Exercises				<b>X</b>
106.5. Assessment exercises				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 4 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- Examples and applications from real life in the textbook reflect well the lifestyle and culture of Gulf States (conversion from US dollars to Gulf States Riyal using inverse functions textbook p 181...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

On page 16, the illustrations are not visible (black) due to printing.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 11 – Semester2			
	Textbook Title: Algebra 2			
	Chapter Title: Sequences and series – chap6			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>Criterion/Indicator</b>				
<b>96. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>96.1. Content of the Chapter</i>				
<i>96.2. Activities included in the chapter</i>				
<i>96.3. Learning objectives</i>				
<i>96.4. Practice exercises</i>				
<i>96.5. Assessment exercises</i>				
<i>96.6. Skills</i>				
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1 &amp; 1.2) There seems to be reasonable use of technology (i.e. a modern learning method) if we consider both the textbook and the teacher manual. In the textbook, only one activity uses a graphical calculator to find limits of infinite sequences (p 89). There is also mention of using the graphical calculator to calculate combinations (p 91), and a reference to the same website as all other chapters and books at the beginning of the chapter (for more warm up exercises in the activity textbook p 61). In the teacher's manual, the use of a smart board to give examples is recommended (p70), and there is constant reference to the same website at several places (p 61, 82, 103...). Another interesting technological tool suggested in the teacher's manual is the use of videotapes by students to film themselves explaining the expansion of polynomials (p92) and by teachers to film their classes and share the tapes on a blog accessible to the students (p96).</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about their connection to real life applications (teacher's manual pp 60 A&amp;B, textbook p 60).</li> <li>- (1.3 &amp; 1.6) There seems to be evidence indicating very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed summaries of concepts and formulas found in lessons (for example textbook pp 70 formulas for sums) and at the end of the chapter (textbook p 99), as well as the detailed instructions and numerous reminders found in the teacher's manual, even the use of foldables and taking small notes (teacher's manual 60, 82, 99...). Providing this much guidance in teaching limits the role of the student, and doesn't allow him to develop certain necessary skills such as</li> </ul>				



creating concept maps or writing summaries.

- (1.2, 1.4 & 1.5) There are several examples from everyday life in the textbook chapter activities and practice exercises (patterns found in flowers and seeds p60, chain emails as an example of geometric expansion, genetics of colors of flowers as application of binomial theorem p92...) as well as in the extra activities suggested in the teacher's manual (doing statistics on animal count in a natural reserve in KSA p60). However, many of the examples are very basic and shallow, and the "links to real-life" situations referred to do not have any mathematical application, and sometimes are irrelevant to the exercise (in an exercise about scouts and the lines they form while standing, the link to real life is the fact that in military celebrations special arrangements are made regarding the form in which troops march textbook p 62; in another exercise about loans and interests, the link is how people should write contracts with those they lend money to using a surat from the Quran textbook p73). There are even fewer real life examples in the practice book and in the assessment exercises of the cumulative, mid and end of chapter evaluations (in the practice book, only 9 out of 28 exercises are simple word problems about real life situations, in the mid chapter exam only 1 out of the 15 exercises is a word problem, and in the end of chapter exam only 2 out of 23 exercises are applications to real situations).
- (1.4 & 1.5) Although the chapter could be taken to a more advanced level in grade 11, exercises are of a very low level of difficulty with very few requiring problem solving skills or involve several steps. In the practice book, although the examples used are interesting, they are direct simple applications of the lesson (such as finding a term in a sequence, writing general formulas, calculating sums and determining the nature of a sequence, pp 10-13). In addition, even the tasks labeled "higher order thinking" in the textbook, many of them don't actually need such skills (for example, why isn't the following list of numbers an arithmetic sequence 8, 10,13,14,22? textbook p 67 ex 35; or finding the differences and similarities between arithmetic and geometric sequences p 75 ex 57).
- (1.4 & 1.5) There is redundancy of types of exercises despite the variety of concepts of the chapter and the numerous applications it could have. Exercises in the practice book and in different parts of the textbook chapters (whether "test your understanding" sections or "practice exercises" sections) are identical (textbook p 66 ex 1-6 & 13-31, are all about finding terms of a sequence or determining whether the sequence is arithmetic or geometric - except for ex 18 & 19 which are word problems, p 97 ex 1-16 consist in proving or disproving equalities using recursive reasoning and counter examples... the same exact exercises are found in the practice book pp 10 & 15 respectively). Moreover, although there is a variety of evaluation and assessment methods used to suit different student learning styles and their understanding levels, exercises in "cumulative evaluation" sections (pp 67, 75...) mainly include exercises about notions from previous chapters or even previous grade levels which do not contribute to the actual chapter, and chapter revision section, mid chapter exam and end of chapter exam use the same types of exercises again without any new or challenging tasks. For instance, the exercises found in the mid chapter evaluation p 82 are the same as the examples of sections 6.1 thru 6.3 of the chapter.

-



	e nc de cvt	e nc de cvt	e nc de cvt	e nc de cvt
<b>54. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>54.1.Length of sentences</i>				<b>X</b>
<i>54.2.Complexity of sentences</i>				<b>X</b>
<i>54.3.Diversity of language structures</i>		<b>X</b>		
<i>54.4.Number of concepts per chapter</i>				<b>X</b>
<i>54.5.Reuse of technical terms in subsequent lessons and chapters</i>				<b>X</b>
<i>54.6.Clarity of definitions of technical terms</i>				<b>X</b>
<i>54.7.Using concrete examples to illustrate concepts</i>				<b>X</b>
<i>54.8.Redundancy of terms and sentences with no educational benefit.</i>				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 2 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- There seems to be redundancy in sentence structures in exercises, with instructions mostly given in a verbal form, starting with verbs "find" and "write", (practice book pp 10-13) which again reflects the redundancy in exercise types mentioned previously.</li> <li>- There are many new vocabulary terms to learn in this chapter however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for instance, there is a list of all the vocabulary terms of the chapter on p 99 of the textbook, and a note about vocabulary clarifications p 69).</li> </ul>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>107. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
<i>107.1. Illustrations</i>				<b>X</b>
<i>107.2. Content</i>				<b>X</b>
<i>107.3. Activities</i>				<b>X</b>
<i>107.4. Practice Exercises</i>				<b>X</b>
<i>107.5. Assessment exercises</i>				<b>X</b>
<i>107.6. Skills</i>				<b>X</b>
Illustrate by at least one example any indicator of criterion 3 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>108. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
<i>108.1. Illustrations</i>				<b>X</b>
<i>108.2. Content</i>				<b>X</b>
<i>108.3. Activities</i>				<b>X</b>
<i>108.4. Practice Exercises</i>				<b>X</b>
<i>108.5. Assessment exercises</i>				<b>X</b>
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				
<ul style="list-style-type: none"> <li>- Examples and applications from real life and illustrations in the textbook reflect well the lifestyle and culture of Gulf States (counting animals in a natural reserve in KSA teacher's manual p 60...)</li> </ul>				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

On page 16, the illustrations are not visible (black) due to printing.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 11 – Semester2			
	Textbook Title: Algebra 2			
	Chapter Title: Probabilities – chap7			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>97. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>97.1. Content of the Chapter</i>				
		<b>X</b>		
<i>97.2. Activities included in the chapter</i>				
		<b>X</b>		<b>X</b>
<i>97.3. Learning objectives</i>				
	<b>X</b>			
<i>97.4. Practice exercises</i>				
		<b>X</b>		
<i>97.5. Assessment exercises</i>				
		<b>X</b>		
<i>97.6. Skills</i>				
				<b>X</b>
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <ul style="list-style-type: none"> <li>- (1.1) The content display is neat, organized and at the same time attractive, with many colorful pictures and illustrations of geometric figures and elements from everyday situations (sports, arts...).</li> <li>- (1.2) There seems to be very limited use of technology in this chapter. Besides the reference to the website at the beginning of the chapter (textbook p57) which is repeated at the beginning of every section in the chapter, there is only one mention of using a calculator to generate random lists of numbers (textbook p 129). In the teacher's manual, p 129, teachers are advised to look on their own for a website with an interactive probability tool to prove the theoretical results of some exercise of their choice using simulation on real data. Also related to the use of technology, suggestions for students to use a digital camera to document charts and tables constructed to solve problems (teacher's manual p 123) and mention of using a smart board (pp 137 &amp; 142), to draw diagrams or have students solve exercises which can then be saved and sent to them to keep as reference.</li> <li>- (1.3) The learning objectives are purely mathematical content oriented, with no indication about their connection to real life applications (textbook p 106, teacher's manual pp 106 A&amp;B).</li> <li>- (1.3 &amp; 1.6) There seems to be very limited involvement of the student in his learning although the philosophy encourages the student to have an active role. This is reflected through the detailed summaries of concepts and rules found throughout lessons and at the end of the chapter (textbook pp 144 &amp; 148), which limit the role of the student, and don't him to develop certain necessary skills such as creating concept maps or writing summaries. This is also reflected in the detailed instructions found in teacher's manual about all details of the learning process, even things that not primary to the students' understanding or the concepts of the chapter (for example several reminders about the</li> </ul>				



- use of foldables pp 106, 127 & 148).
- (1.2, 1.4 & 1.5) Due to the nature of the chapter, all the examples, activities and exercises of the textbook, practice book and the teacher's manual (suggestions of extra examples or activities) are based on real life situations (all are word problems). In fact, probabilities cannot be taught in theoretical context, the formulas and rules must be applied to actual situations in order to make sense. Typical probability situations are being used such as predicting outcomes of games, picking numbers, colors, balls,... items from an urn, throwing dice or tossing a coin to make choices, combinations and permutations of people to make committees and groups....
  - (1.4 & 1.5) Thanks to the nature of the chapter, there is a remarkable variety in the topics and situations of exercises, all branching from real life. However, despite this interesting variety, the exercises are still of a low to average level of difficulty, and very rarely requiring problem solving skills or involve several steps. This applies to exercises of the practice book, as well as exercises in different sections within each lesson, and at the mid and end of chapter evaluations. Even the tasks labeled "higher order thinking", they mostly don't actually need such skills. Here are some examples of these tasks: giving an example of a two stage experiment and drawing its corresponding tree diagrams (textbook p113 ex 17); finding the mistake in a sector degree measurement (p 125 ex 24); determining if a coin can be used to create a simulation of a Bernoulli situation (p134 ex 15)... Tasks like these may require some more thinking than simple application exercises but should not be labeled higher order problems.
  - (1.4 & 1.5) Again thanks to the nature of the topic, there is a variety in the topics and situations used in the exercises and applications, which reflect the numerous concepts of the chapter. However, despite this variety in appearance, there is redundancy in the types of tasks used. In fact, the exercises in the practice book and in different parts of the textbook chapters (whether "test your understanding" sections or "practice exercises" sections) are identical in terms that they require the same skills and tackle the same concepts. For instance, in the textbook p 11 ex 1-15 and in the practice book p 16 ex 1-7 all consist in representing the sample space using different representation forms or finding the number of possible outcomes using the multiplication rule. The same applies to the part of the chapter about combinations and permutations (textbook pp 118-119). Although a variety of evaluation methods are used to suit different student learning styles and achievement levels, again redundancy is noticed in the mid chapter and end of chapter evaluations (pp 127 & 151) where the same exercises are used again without any new or challenging tasks. As for the "cumulative evaluation" sections (textbook pp 113, 120, 126...), they include many exercises from previous chapters or even grade levels which have no added value to the chapter.
  - (1.6) Students are well trained to create different kinds of representations for the same situation - tree diagrams, tables, lists, Venn diagrams – (for example p133 using an experiments, a graphical calculator, a table and a graphical representation to track predicted values).

	e nc de cvi	e nc de cvi	e nc de cvi	e nc de cvi
<b>55. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				<b>X</b>
<i>55.1.Length of sentences</i>				<b>X</b>
<i>55.2.Complexity of sentences</i>				<b>X</b>



55.3. Diversity of language structures				<b>X</b>
55.4. Number of concepts per chapter				<b>X</b>
55.5. Reuse of technical terms in subsequent lessons and chapters				<b>X</b>
55.6. Clarity of definitions of technical terms				<b>X</b>
55.7. Using concrete examples to illustrate concepts				<b>X</b>
55.8. Redundancy of terms and sentences with no educational benefit.				<b>X</b>

Illustrate by at least one example any indicator of criterion 2 given a score of less than 3

- There are many new vocabulary and symbols terms to learn in this chapter, a language which is particular to probability, however they are well defined, illustrated and constantly referred to throughout the chapter so that students learn them and practice using them (for instance, there is a list of all the vocabulary terms of the chapter on p 148 of the textbook & small notes of vocabulary reminders p 130 & 148).

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>109. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				<b>X</b>
109.1. Illustrations				<b>X</b>
109.2. Content				<b>X</b>
109.3. Activities				<b>X</b>
109.4. Practice Exercises				<b>X</b>
109.5. Assessment exercises				<b>X</b>
109.6. Skills				<b>X</b>

Illustrate by at least one example any indicator of criterion 3 given a score of less than 3

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>110. Suitability of the translated textbooks to the cultural context of Gulf States</b>				<b>X</b>
110.1. Illustrations				<b>X</b>
110.2. Content				<b>X</b>
110.3. Activities				<b>X</b>
110.4. Practice Exercises				<b>X</b>
110.5. Assessment exercises				<b>X</b>

Illustrate by at least one example any indicator of criterion 4 given a score of less than 3



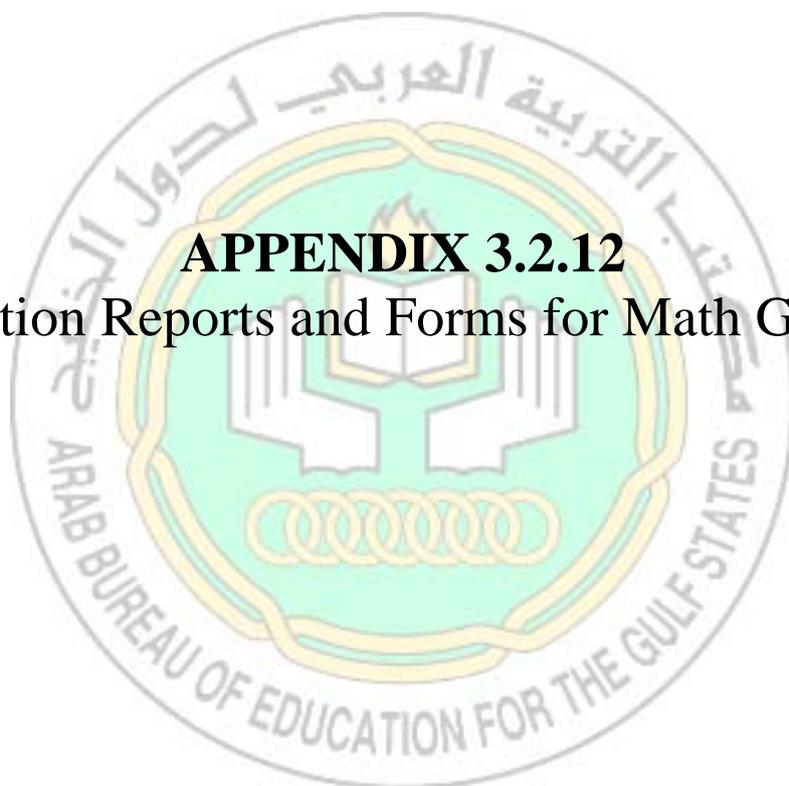
- Examples from real life in the textbook reflect well the lifestyle and culture of Gulf States (p 110 a link to real life explains that Saudi men pick large white/light colored gowns as their traditional wear because it looks nice and it is convenient with the weather in the desert, p 116 there is a link about the longest word in the Quran without repetition of letters...)

Comments and explanation on implementing the indicator.

Additional indicators and other comments.

On page 16, the illustrations are not visible (black) due to printing.





**APPENDIX 3.2.12**  
Evaluation Reports and Forms for Math Grade 12



<b>Book Evaluation Form</b>	Subject: Mathematics				
	Grade: 12		Semester: 1		
	Textbook Title: Pre-Calculus / Grade 12				
	Chapter Title: Trigonometric identities and equations				
	Completely different	Large difference	Little difference	Difference due only to cultural	No difference
<b><i>Criterion/Indicator</i></b>					
<b>98. Agreement of the translated Arabic book with that of the English book</b>					
98.1.	<i>Definitions and explanations in the chapter</i>				
98.2.	<i>Activities included in the chapter</i>				✓
98.3.	<i>Learning objectives</i>				✓
98.4.	<i>Practice exercises</i>				✓
98.5.	<i>Assessment exercises</i>				✓
<i>1.6 Figures, pictures and illustrations</i>					
<b>99. Table of content of the textbook: Compare table of contents of the English version with the tables of content of the Arabic textbooks at each grade level. In addition, for grades 10, 11, and 12 list the missing chapters in the report of Grade 12.</b>					
99.1. For the Table of Content, compare the titles of the chapters in the tables of content between the Arabic and English versions and based on counting the differences in the titles between them and include the results of your comparison in the report along with copies of the coded table of contents.					

***1.1 Definitions and explanations in the chapter***

The analysis of the chapter “trigonometric identities and equations” in both textbooks showed “little difference” between the explanations. The differences are due to several issues: (1) the appearance of lessons in the original textbook that are not introduced in the translated textbook. For example, “graphing technology lab – solving trigonometric inequalities” is found only in the original textbook. This lesson explains how the student can use a graphing calculator to solve trigonometric inequalities; (2) incomplete explanations. For example, on page 320 – in the original textbook, there is an explanation of what is meant by “to verify an identity”. This explanation is not found in the translated version; (3) differences in the explanations. For example, the strategies for verifying trigonometric identities in the “concept summary” in the original textbook, on page 323, are different from those listed in the translated version; (4) differences in the introductory examples and activities. For example, the introductory activities in the lesson entitled “verifying trigonometric identities” are different.



### 1.2 Activities included in the chapter

The analysis of this chapter has showed “large difference” in the activities included in both textbooks. This is due to: (1) the appearance of lessons in the original textbook that are absent in the Arabic version. For example, “graphing technology lab – solving trigonometric inequalities” is found only in the original textbook; (2) more activities are introduced in the original text in the lessons that appear in both textbook. For example, the activity “determine whether an equation is an identity” is introduced only in the original textbook on page 323; (3) cultural reasons.

On the other hand, although the type of questions in most of the activities in both textbooks is similar, the contexts are different.

### 1.3 Learning objectives

There is little difference between the alignment of objectives in the original and translated textbooks. This is due to the appearance of objectives in lessons or sections that are only introduced in the original textbook. For example, “graphing technology lab – solving trigonometric inequalities” is found only in the original textbook. This lesson explains how the student can use a graphing calculator to solve trigonometric inequalities and the objective is stated as follows: “use a graphing calculator to solve trigonometric inequalities”. Another objective that is not recorded in the translated textbook is found in lesson “sum and difference identities” – objective: use sum and difference identities to solve trigonometric equations.

On the other hand, the objectives in the sections that appear in both versions are similar.

### 1.4 Practice exercises

The analysis of this chapter has showed “large difference” in the practice exercises included in both textbooks. This is due to: (1) the appearance of lessons in the original textbook that are absent in the Arabic version. For example, “graphing technology lab – solving trigonometric inequalities” is found only in the original textbook; (2) more exercises are introduced in the original text in the lessons that appear in both textbook. For example, the activity “Rewrite as an expression that does not involve a fraction” is introduced only in the original textbook on page 317; (3) cultural reasons.

On the other hand, although the type of questions in most of the exercises in both textbooks is similar, the contexts are different.

### 1.5 Assessment

Even though some of the assessment activities in the “chapter practice test” are similar (differences due to culture), “large difference” appeared in both textbooks due to several reasons: (1) introducing lessons that only appear in the original textbook; (2) Cultural reasons; and (3) introducing a larger number of exercises in the original textbook in the section entitled “skills review for standardized tests”; (3) differences in the mid-chapter quiz and in the practice test.

### 1.6 Figures, pictures and illustrations

The analysis of the chapter in both textbooks showed that little differences between the figures and illustrations due to cultural reasons or to the appearance of lessons or sections in the original textbook that are not introduced in the translated version.



## Report about mathematics textbooks in grade 12 first semester

The following report is an evaluation of math books in grade 12, first semester, which were translated into Arabic and adopted by the Gulf States Ministries of Education. These books include students' textbook and practice book. Each of these books is divided into four chapters. Two chapters were selected to represent as much as possible the content of the books and were analyzed: (1) Chapter 2: Exponential and logarithmic relations and functions; (2) Chapter 8: Identifying and describing Geometrical shapes; and (3) chapter 3: Trigonometric identities and equations.

One evaluation form, which consisted of four rubrics, was filled out for each chapter. Each rubric focused on evaluating one of the following criteria on a four-scaled basis: (1) alignment of the translated texts to the philosophy of the original textbook; (2) suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students; (3) suitability of the Arabization of the translated textbooks to serve the math concepts; (4) suitability of the translated textbooks to the cultural context of Gulf States. The scale in each of the four rubrics was rated as: satisfactory evidence; almost satisfactory evidence; little evidence; or no evidence.

The results of the following report are based on the evaluation forms that were filled out. It includes a section on each rubric with a summary of strengths and weaknesses along with comments.

**Alignment of the translated texts to the philosophy of the original textbook:** In both chapters, there is "little evidence" that objectives, practice exercises, and skills are aligned with the philosophy of the original book. The other indicators were not rated equally in the two chapters. For example, the content of the chapters, activities and assessment exercises, in chapter 2, showed "satisfactory evidence" whereas in chapter 3 they showed "little evidence". The emphasis of the philosophy focuses on several points. These points are discussed in the following paragraphs according to the analysis of the books:

(1) *Building connections between the content of mathematics and real-life situations* - the analysis of student textbook and practice book showed that most of the tasks in the student practice book and above 50% of the tasks in chapter 3 are not connected to real-life situations. For example, in lesson 2 most of the activities are not connected to real-life situations. However, there is more connection to real-life applications and to science applications in chapter 2.

(2) *Showing the content of the books in a motivating way* - the analysis showed that the content of student textbook is presented in a motivating way; however, the exercises in student practice book are presented in a non-motivating way and no illustrations are integrated in the practice book.

(3) *Developing different types of skills including high level thinking and justifying or looking backwards* - the analysis showed that most activities in the chapter can be solved in a routine way. These activities are direct applications to the procedures introduced at the beginning of each lesson. In some lessons in student textbook there is a section entitled "high level task" that contains several activities written at the end of the lesson. The analysis showed that few activities are categorized as High-Level-Thinking-Questions. In addition, some of those questions are not of high level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson (no connection to other concepts and procedures). For example, in lesson 4 (chapter 2), the questions entitled "high-level-questions" involve students in solving logarithmic relations only.



(4) *Using different strategies to solve the mathematical activities and exercises* – Although students are introduced to several strategies throughout the chapter. However, it seems that these strategies or procedures are presented in different lessons in fragmented way. In addition, students are not requested to use more than one strategy to solve the activities or exercises in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems.

(5) *Using technology in solving mathematical exercises* - The usage of technology is limited to a reference of website to do more practice: [www.obeikaneducation.com](http://www.obeikaneducation.com).

(6) *Using different types of assessments to evaluate students taking into consideration that students learn differently because of their differences* – In chapter 2, assessment exercises were rated “almost satisfactory evidence” whereas in chapter 3 assessment exercises were rated “little evidence”. The analysis of chapter 3 showed that most of the assessment exercises are of low-level, not related to real life context, and can be solved in a routine way. For example, most of the exercises in chapter 3 involve the students in finding a value of a function. Also, students are not asked to solve the assessment exercises using more than one strategy.

(7) *The central and active role of the student in the learning process* – The analysis of chapter 3 showed little of the **central and active role of the student** in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures are explained at the beginning each lesson. For example, in lesson 2, several examples are solved at the beginning of the lesson.

**Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students:** There is almost satisfactory evidence that the Arabic language in the translated textbooks is suitable to the educational level of Gulf States students. The analysis showed that there is almost satisfactory evidence of the suitability of the Arabic language in each of the indicators eight indicators: (1) length of the sentences, (2) complexity of sentences, (3) diversity of language structures; (4) number of concepts per chapter, (5) reuse of technical terms in subsequent lessons (6) clarity of definitions of technical words; (7) redundancy of terms and sentences with no educational benefit; and (8) using concrete examples to illustrate concepts.

**Suitability of the Arabization of the translated textbooks to serve the math concepts:** Three indicators (the illustrations, content and activities) in the rubric showed almost satisfactory evidence. However, the other indicators: practice exercises and skills showed little evidence in both chapters whereas assessment exercises showed little evidence in chapter 3 and almost satisfactory evidence in chapter 2. These findings may be due to several reasons:

(1) Most of the practice and assessment exercises are direct applications and can be solved in routine ways.

(2) Most of the activities donot involve the students in high level thinking and the students do not need procedures and concepts other than the ones used during the lesson.

(3) little evidence of involving students in justifying and explaining. These skills are only emphasized at the end of each lesson in the activities entitled: high-level-thinking questions or in lessons focusing on the usage of a specific strategy to solve problems.

**Suitability of the translated textbooks to the cultural context of Gulf States .**

Satisfactory evidence was found with respect to all the indicators of this rubric: (1) illustrations, (2) content, (3) activities, (4) practice exercises and (5) assessment.



<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 12 (semester 2)			
	Textbook Title:			
	Chapter Title: Chapter 3 Trigonometric identities and equations			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>100. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>100.1. Content of the Chapter</i>		✓		
<i>100.2. Activities included in the chapter</i>		✓		
<i>100.3. Learning objectives</i>		✓		
<i>100.4. Practice exercises</i>		✓		
<i>100.5. Assessment exercises</i>		✓		
<i>100.6. Skills</i>		✓		
<p>Illustrate by at last one example any indicator of criterion 1 given a score of less than 3</p> <p><u>1.1 and 1.2 Content of the chapter and Activities included in the chapter</u></p> <p>Little evidence of connection to real-life situations (more than 50% of the activities are not connected to real-life situations) in contrast to the philosophy of the book which emphasis on involving students in developing mathematical thinking through solving mathematical activities connected to real-life contexts. For example, in lesson 2 most of the activities are not connected to real-life situations.</p> <p>Students are not requested to use more than one strategy when doing the activities in contrast to the philosophy of the book which emphasizes on the usage of different strategies to solve problems.</p> <p>Little evidence of the <b>central and active role of the student</b> in the learning process in contrast to the philosophy of the book which emphasizes the central role of the student. The definitions and procedures are explained at the beginning each lesson. For example, in lesson 2 several examples are solved at the beginning of the lesson.</p> <p><u>1.3 Learning objectives</u></p> <p>The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives is listed as follows: students will learn how to solve trigonometric equations.</p>				



#### 1.4 Practice exercises

Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. Most of the practice exercises are direct applications, can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and are not connected to real-life. For example, in lesson 5, only two practice exercise (out of 22) involve students in real-life contexts.

Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook. In addition, no explanation or justification is required from the students. For example, in lesson 4 most of the exercises involve students in finding some functions. No questions are asked that involve the students in justifying.

#### 1.5 Assessment exercises

Little evidence of (1) using technology; (2) acquiring skills (high level thinking, writing, justification, collecting and analyzing data); (3) solving real-life problems; (4) using different strategies to solve a problem. The assessment exercises are written at the end of the chapter in students' textbook. Most of the exercises are not related to real life context which is not aligned with the philosophy of the book. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, in the exam written at the end of the chapter, most of the exercises involve the students in finding a value of a function.

#### 1.6 Skills

In the philosophy of the book, the following skills are listed: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense. According to the philosophy of the book, students should be involved in developing these skills by playing an active and central role in the learning process. However, the analysis of the chapter showed little evidence to these criteria.

**Little evidence to High level thinking questions.** Few high level questions are only found in student's textbook (at the end of each lesson). Very few questions are open-ended since most of the tasks involve students in the procedures learned throughout the lesson.

	e	nc	de	CVI												
<b>56. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>																
<i>56.1.Length of sentences</i>										✓						
<i>56.2.Complexity of sentences</i>										✓						
<i>56.3.Diversity of language structures</i>										✓						
<i>56.4.Number of concepts per chapter</i>										✓						
<i>56.5.Reuse of technical terms in subsequent lessons and chapters</i>										✓						
<i>56.6.Clarity of definitions of technical terms</i>										✓						
<i>56.7.Using concrete examples to illustrate concepts</i>										✓						
<i>56.8.Redundancy of terms and sentences with no educational benefit.</i>										✓						



Illustrate by at last one example any indicator of criterion 2 given a score of less than 3





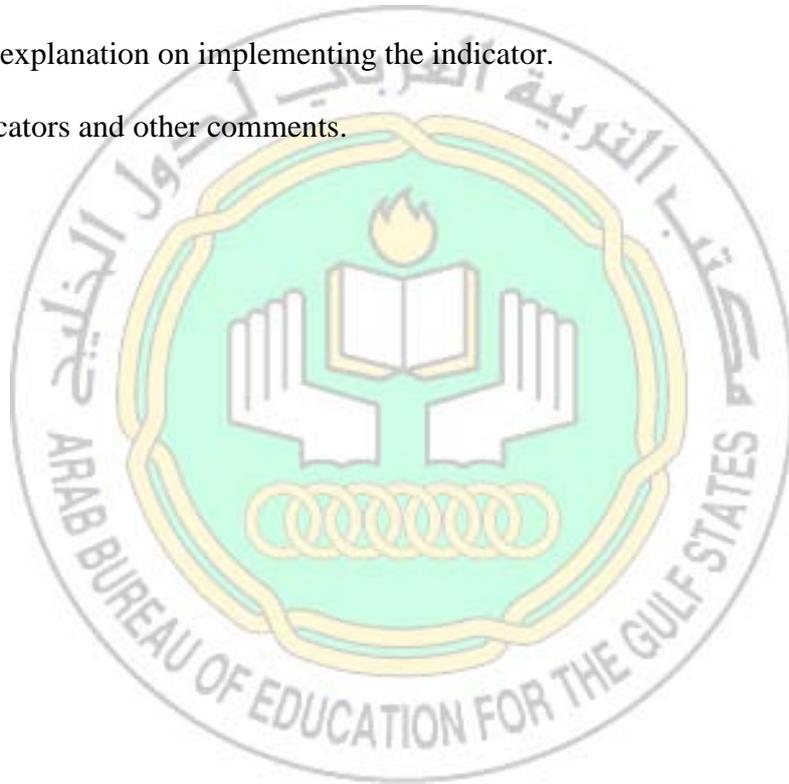
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>111. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>111.1. Illustrations</i>			✓	
<i>111.2. Content</i>			✓	
<i>111.3. Activities</i>			✓	
<i>111.4. Practice Exercises</i>		✓		
<i>111.5. Assessment exercises</i>		✓		
<i>111.6. Skills</i>		✓		
<p>Illustrate by at least one example any indicator of criterion 3 given a score of less than 3</p> <p><u>3.4 Practice Exercises</u>            Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications, can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and are not connected to real-life. For example, in lesson 5, only two practice exercises (out of 22) involve students in real-life contexts.            Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook. In addition, no explanation or justification is required from the students. For example, in lesson 4 most of the exercises involve students in finding some functions. No questions are asked that involve the students in justifying.</p> <p><u>3.5 Assessment exercises</u>            Little evidence of the suitability of the Arabization of the translated assessment exercises to serve the math concepts. Most of the assessment exercises are not related to real life context. Also, there is no request to solve the assessment exercises using more than one strategy. Furthermore, no high-level thinking questions are requested. For example, in the exam written at the end of the chapter, most of the exercises involve the students in finding a value of a function.</p> <p><u>3.6 Skills</u>            Little evidence of the suitability of the Arabization of the translated books to serve the development of skills (high level thinking, communication, mathematical sense).             Few high level questions are only found in student's textbook (at the end of each lesson). Very few questions are open-ended since most of the tasks involve students in the procedures learned throughout the lesson.</p>				



	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>112. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
<i>112.1. Illustrations</i>				✓
<i>112.2. Content</i>				✓
<i>112.3. Activities</i>				✓
<i>112.4. Practice Exercises</i>				✓
<i>112.5. Assessment exercises</i>				✓
Illustrate by at last one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.





<b>Book Evaluation Form</b>	Subject: Mathematics			
	Grade: 12 (semester 1)			
	Textbook Title:			
	Chapter Title: Exponential & logarithmic relations & functions			
	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b><i>Criterion/Indicator</i></b>				
<b>101. Alignment of the translated texts to the philosophy of the original textbook</b>				
<i>101.1. Content of the Chapter</i>				
<i>101.2. Activities included in the chapter</i>				
<i>101.3. Learning objectives</i>				
<i>101.4. Practice exercises</i>				
<i>101.5. Assessment exercises</i>				
<i>101.6. Skills</i>				
Illustrate by at last one example any indicator of criterion 1 given a score of less than 3				
<u><i>1.3 Learning Objectives</i></u>				
<p>The learning objectives focus on what students should learn as concepts and procedures in the chapter with little evidence to: (1) using technology; (2) acquiring skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem; and (5) the central role of the students in the learning process. These indicators are listed in the philosophy of the book. For example, one of the objectives of this chapter is to represent logarithmic functions by a graph.</p>				
<u><i>1.4 Practice Exercises</i></u>				
<p>Little evidence of (1) using technology; (2) developing skills (including high level thinking and writing); (3) thinking and solving real-life problems; (4) using different strategies to solve a problem. Most of the practice exercises are direct applications, can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and are not connected to real-life. For example, in lesson 5, only one practice exercise (out of 37) involves students in real-life context.</p> <p>Also, in contrast to the philosophy of the book, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook. In addition, no explanation or justification is required from the students. For example, in lesson 3 most of the exercises involve students in finding logarithms or in writing the expression in logarithmic form. No questions are asked that involve the students in justifying.</p>				
<u><i>1.6 Skills</i></u>				



The skills that are mentioned in the philosophy of the book include: (1) High level questions; (2) communication; (3) collecting and organizing data; and (4) mathematical sense.

**Little evidence to High level thinking questions.** Few high level questions are only found in student's textbook (at the end of each lesson). Some of these questions are not of high-level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, in lesson 4, the questions entitled "high-level-questions" involve students in solving logarithmic relations only.

**Little evidence to skills of collecting and organizing data, and to justification or looking backwards.**

	de nc e	de nc e	de nc e	de nc e
<b>57. Suitability of the Arabic language in the translated textbooks to the educational level of Gulf States students</b>				
<i>57.1.Length of sentences</i>			✓	
<i>57.2.Complexity of sentences</i>			✓	
<i>57.3.Diversity of language structures</i>			✓	
<i>57.4.Number of concepts per chapter</i>			✓	
<i>57.5.Reuse of technical terms in subsequent lessons and chapters</i>			✓	
<i>57.6.Clarity of definitions of technical terms</i>			✓	
<i>57.7.Using concrete examples to illustrate concepts</i>			✓	
<i>57.8.Redundancy of terms and sentences with no educational benefit.</i>			✓	
Illustrate by at last one example any indicator of criterion 2 given a score of less than 3				

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>113. Suitability of the Arabization of the translated textbooks to serve the math and science concepts</b>				
<i>113.1. Illustrations</i>			✓	
<i>113.2. Content</i>			✓	
<i>113.3. Activities</i>			✓	
<i>113.4. Practice Exercises</i>		✓		
<i>113.5. Assessment exercises</i>			✓	
<i>113.6. Skills</i>		✓		
Illustrate by at last one example any indicator of criterion 3 given a score of less than 3				
<u>3.4 Practice Exercises</u>				



Little evidence of the suitability of the Arabization of the translated practice exercises to serve the math concepts. Most of the practice exercises are direct applications, can be solved in a routine way (applying the procedure or giving the answer is required in most of the practice exercises) and are not connected to real-life. For example, in lesson 5, only one practice exercise (out of 37) involves students in real-life context.

Also, the practice exercises are presented in a non-motivating way where no illustrations are associated to the exercises (in most of the lessons) in contrast to the way the activities are presented in the student textbook. In addition, no explanation or justification is required from the students. For example, in lesson 3 most of the exercises involve students in finding logarithms or in writing the expression in logarithmic form.

### 1.6 Skills

Little evidence of the suitability of the Arabization of the translated math textbooks to serve the skills. **Little evidence to High level thinking questions.** Few high level questions are only found in student's textbook (at the end of each lesson). Some of these questions are not of high-level since the task can be solved in a routine way and the student will not need procedures and concepts other than the ones used during the lesson. For example, in lesson 4, the questions entitled "high-level-questions" involve students in solving logarithmic relations only.

There is no emphasis on collecting and organizing data, and to justification or looking backwards.

	No evidence	Little evidence	Almost satisfactory evidence	Satisfactory evidence
<b>114. Suitability of the translated textbooks to the cultural context of Gulf States</b>				
114.1. Illustrations				✓
114.2. Content				✓
114.3. Activities				✓
114.4. Practice Exercises				✓
114.5. Assessment exercises				✓
Illustrate by at least one example any indicator of criterion 4 given a score of less than 3				

Comments and explanation on implementing the indicator.

Additional indicators and other comments.