STATISTICAL ANALYSES ON THE CHALLENGES OF ONLINE LEARNING AMONG STUDENTS IN TERTIARY INSTITUTIONS IN CROSS RIVER STATE IN THE POST COVID-19 ERA

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Abstract

This study was conducted to examine the challenges faced by students in the use of online learning resources in tertiary institutions in Cross River State in the post covid-19 era. To achieve the purpose of this study, 2 research questions and 1 hypothesis were formulated to guide the study. The study employed a descriptive survey research design and the population of the study comprised all the students in the various tertiary institutions in Cross River State. Stratified sampling technique was used to draw a total of 2000 respondents, randomly selected from the population. A structured questionnaire was used to solicit response from the students for the purpose of data collection. The questionnaire was structured in two parts. Part A captured the demographic attributes of the respondents, while B, assessed the respondents' perception and readiness towards online learning using a four point Likert scale. Data was analysed using simple percentage, bar graphs and one sample t- test. The statistical package used in obtaining the one sample t-test is SPSS and the results revealed that majority of the students were aware of the existences of online learning resources in the study area but are unable to use them due to the lack of internet facilities, internet enabled phones, training, among others. Based on the findings, it was recommended that staff and students of the various institutions in Cross River State should be trained on how to use the online learning resources for educational purpose. It was also recommended that Tertiary institutions in the state should as a matter of urgency incorporate and enforce online learning in their policies and programmes to enable the students to be prepared.

Key words: virtual learning, covid-19 pandemic, tertiary institution, Cross River State, e-learning

1.0 Introduction

The effects of corona virus was indeed a global one, the pandemic was felt across every organisation leaving its visible marks in the society. It is not a hidden fact that the COVID-19 pandemic brought massive disruption in all fields of human endeavor. Aslmost every society and organizations had a fair share of its effect and the educational sector was not left out. In most part of the world, almost all educational activities were shut down from basic to higher institutions of learning and some schools were able to revert to online learning to avoid the high risk of the C-OVID19 spread to physical contact, which had a huge impact on educational activities (Barbu, Popescu, and Moiceanu, 2022). Given the circumstances, the traditional ways of teaching and learning had to change in order to cope with the situation.

Online Learning encompasses the use of a variety of technologies such as the worldwide web, email, chat, texts, audio and video conferencing delivered over computer networks for the purpose of knowledge sharing. It gives the learner the opportunity to learn at their own pace, according to their own convenience. In Nigeria and Cross River State in particular, the story was not the same, schools in the state experienced total lockdown halting academic activities for over a year with little or no plans of reverting to online learning. The researchers wondered why this would be so when internet vendors like MTN, and globacom are all over the state with services. Some administrators attributed this poor funding and lack of training on the part of the leadership.

Bao (2020), and Filius et al. (2019) in Demuyakor, (2020) had argued that going entirely virtual requires significant planning and investments from all sectors. So, if the university has not hitherto taken the students and instructors through an online teaching training, and may not have enough resources including recording platforms both on campus and at home to get the instructor to record and present the work in a manner that can be accessed by students, then the online plan ends right here (Yang & Li, 2018). Therefore, before institutions decide to use online to teach in this Corona virus (CONVID-19) era, they should evaluate critical infrastructure and requirements very well. It should be noted that posting PowerPoint slides for students to read on their phones, for instance, does not constitute online teaching. In case the institution has a robust online platform and the instructors can record and present the material for students to access even from their homes but the students do not have the means to access these materials such as a laptop/tablet or a good phone, then they are stuck (Filius et al., 2019).

The authors observed that though various studies have been conducted globally on virtual or online learning; however, there are little or no studies that specifically address the challenges face by students in using online learning platforms in tertiary institutions in Cross River State in the post covid -19 era. This study therefore, was conducted to fill this gap and suggest a way forward for online learning in the post covid -19 era with particular reference to students in engagement.

2.0 Objective of the study

The purpose of this study is to investigate the challenges faced by students in the use of virtual learning in tertiary institutions in Cross River State in the post covid-19 era. Specifically, the study seeks to:

1. Examine the level of awareness of students on the use of the online learning resources?
2. To assess the perceived challenges that could affect students' utilization of online learning resources in the post covid -19 era

3.0 Research questions

The following research questions were raised to guide the study:

1. What is the level of awareness of students on the use of the online learning resources?
2. What are the perceived challenges that could affect students' utilization of online learning resources in the post covid -19 era?

4.0 Statement of Hypotheses

This hypothesis was formulated to give direction to this study:

1. The level of awareness of students on the use of the online learning resources is not significantly high.
2. There is no significant difference between students being conversant with online learning resources.

5.0 Literature review

The online learning became a necessary tool to prevent the spread of corona virus or any other outbreak and to ensure that educational activities are not halted. Online education has useful learning tools which gives access to educational platforms around the clock at their time preference which makes it flexible, regardless of place and time (Almahasees Mohsen and Amin, 2021). A study by Stec, Smith, and Jacox, (2020) observed that online teaching has three main approaches, namely, enhanced, blended learning, and online approach. Enhanced learning uses the intensive use of technology to ensure innovative and interactive instruction. Blended learning mixes both face-to-face and online learning. The online approach according to them, indicates that the course content is delivered online. Online learning is convenient for students, where they can access online materials round the clock. Online education turns education to be student-centered, where students take part in the learning process, and teachers work as supervisors and guides for students. Online platforms have different tools to facilitate conducting online interactive classes to reduce students' loss. Online education platforms are designed to share information and coordinate class activities. There are most famous prominent interactive online tools: DingTalk, Hangouts Meet, Teams, Skype, WeChat Work, WhatsApp, and Zoom. These are all interactive online platforms that aid learning in an online environment (UNESCO, 2020).

The online learning experience is different globally. Some countries have the required resources to facilitate learning, while many others do not have the equipment available in high and middle-income countries. In the Arab region, some countries such as Jordan, KSA, Qatar, Emirates, Bahrain, and Kuwait are relatively developed compared to other Arab countries. During COVID-19, most Arab higher education institutions shifted to

synchronous and asynchronous online learning methods. However, the level of digital learning in Nigeria is still at low ebb due to the resistance to change from traditional pedagogical methods to more innovative, technology-based teaching and learning methods by the educational sector. This may not be far connected with the facts that there is inadequate ICT infrastructure, the educational sector is generally underfunded, poor and limited expertise, lack of training and retraining of both staff and students in the use of the various ICT for online learning as well as the overdependence of educational institutions on government (Nwachukwu, Ugwu, and Wogu, 2021). For instance, Digital readiness indicates a nation's ability to implement digital learning and harness advantage of ICT. In most developing countries, especially Nigeria in particular, learning is mostly done traditionally (face-to-face), thus adapting to online learning would require certain behavioral changes and regulatory directives in order to make it work for both students and teachers. This became important because not all the students and lecturers are adequately equipped on how to use online learning platforms. As such, online learning can only be effective if adequate provision is made for both lecturers and students to support the online system. For such support to be sustainable, both students and lecturers must have seamless access to electronic devices, internet as well as the required skills to navigate the platform. Furthermore, they must be attuned to the new environment and culture of learning. Hence, it is the responsibility of management to make sure that all the groups involved are catered for in terms of providing conducive environment,

facilities, training and access to be able to pull through with the online learning process.

Almahasees, Mohsen and Amin (2021) carried out a study on Faculty's and Students' perceptions of online learning during COVID-19. The result of the analysis showed that the common online platforms in Jordan were Zoom, Microsoft Teams and WhatsApp which are used for communication with students outside the class. The study found that both faculty and students agreed that online education is useful during the current pandemic. At the same time, its efficacy is less effective than face-to-face learning and teaching. Faculty and students indicated that online learning challenges lie in adapting to online education, especially for deaf and hard of hearing students, lack of interaction and motivation, technical and Internet issues, data privacy, and security. They also agreed on the advantages of online learning. The benefits were mainly self-learning, low costs, convenience, and flexibility. Even though online learning works as a temporary alternative due to COVID-19, it could not substitute face-to-face learning.

Consequently, Barbu, Popescu and Moiceanu, (2022) conducted a research on the Perspective of Teachers and Students towards the Education Process during COVID-19 in Romanian Universities. The results highlighted the discrepancy between the perspectives of the two parties directly involved in the university educational process. The study revealed that the pandemic forced both stakeholders to work harder than before, which negatively affected the way the educational process unfolded, the pleasure of the

teaching/learning process, the level of enthusiasm, and sometimes even the academic results. Furthermore, the results also highlighted the need for government to make financial investments for the acquisition of licenses to create virtual animations or simulations, as well as for the training of academic on how to use them.

Demuyakor (2020) conducted a study to examine the Corona virus (COVID-19) and Online Learning in Higher Institutions of Education. The paper aims at assessing whether Ghanaian international students in China are satisfied with the ''mass'' online learning in higher educational institutions in Beijing, China. The study used an online survey to investigate the level of satisfaction of online learning in higher educational institutions and how Ghanaian international students are coping with these ''new initiatives''. The findings of the study revealed that the implementation of online learning programs was a very great idea as the majority of the sampled students supported the initiative. The study also showed that students have adequate knowledge of the COVID-19 pandemic. Further findings of the study revealed that students incurred high cost of data in the cause of participating in the online learning. It was further observed from the study that internet connectivity was very slow for students leaving within the dormitories of various universities in China. Confirming this view, Karagul, Seker and Aykut, (2021) in their study aimed at exploring the digital literacy of different school levels, ages, and gender. The result of the findings revealed that there is no significant difference between the variables under study, and all the groups showed that their digital literacy

levels were high. The reasons according to the authors is that, students were already aware and have knowledge of information technology before the COVID-19 pandemic, and e-learning for them, was a near-perfect fit.

More recently, Shetty, Shilpa, Dey and Kavya, 2020) carried a study on virtual learning to find out the perception and attitudes of students during the covid 19 pandemic. The result shows that majority of the students had never experienced any form of e-learning before the pandemic; hence they identified technical issues as one of their key challenges. This result might stem from the fact that the students were not previously exposed to online learning due to inadequate awareness and accessibility to facilities required. The result also showed that the students have favourable perceptions towards online learning for sustaining their academic interest and development during the pandemic. Nevertheless, they perceived many challenges during online learning like lack of face-to-face interactions, lack of socialization, distraction by social media, technology related issues and so on.

From the literature review it can be deduced that several authors have carried out study on student's perception, attitude, readiness as well as student's challenges in using online learning. Some authors found out that students have positive attitude to online learning, while others in their study revealed that students were aware of online platforms thus, have favourable perception towards online learning. Nonetheless, all the studies acknowledged the fact that all the students faced some kind of challenges or the other. Therefore, the present study attempts to find

out the challenges faced by students in tertiary institutions in Cross River State in the post covid-19 era.

6.0 Methodology

The study employed a descriptive survey research design. The population of this study comprised all the students in the various tertiary institutions in Cross River State. Stratified sampling technique was used to select a total of 2000 respondents, randomly selected from the population. A structured questionnaire was used to solicit response from the students for the purpose of data collection. Stratified sampling technique was used for this study, to enable the researcher draw smaller samples from the larger groups. To ensure validity of the questionnaire, face and content validity was done by experts in the area of test and measurement. The questionnaire was structured in two parts. The first part of the questionnaire captured the demographic attributes of the respondents. While the second part of

questionnaire assessed the respondents' perception and readiness towards online learning using a four point Likert scale format. The instrument was trial tested using Cronbach's Alpha co-efficient and the coefficient of the sub scales ranges from 0.76 to 0.86. Data was analysed using simple percentage, bar graphs and one sample t- test.

7.0 Presentation of result
7.1 Research question one

What is the level of awareness of students on the use of the online learning resources? The question is a one variable research question with level of awareness of online learning resources as its primary focus. To answer this research question, the results of the research are presented in simple percentages in table 1. The results are further presented in the form of and bar graphs for simplicity and ease of interpretation.

Table 1: Simple percentages analysis on the awareness of online learning resources among students

S/N	Items	HA	A	SA	NA	Remarks
1	Zoom	1042(52.1%)	402(20.1%)	258(12.9%)	284(14.2%)	Aware
2	Skype	442(22.1%)	1104(55.2%)	52(2.6%)	402(20.1%)	Aware
3	Microsoft Team	52(2.6%)	402(20.1%)	442(22.1%)	1104(55.2%)	Not aware
4	Google hang out	374(18.7%)	218(10.9%)	294(14.7%)	1114(55.7%)	Not aware
5	WhatsApp	410(2.05%)	1170(58.5%)	90(4.5%)	330(16.5%)	Aware
6	Youtube	864(43.2%)	462(23.1%)	446(22.3%)	228(11.4%)	Aware

Total	3184(26.53%)	3758(31.31%)	1582(13.18%)	3462(28.85%)	Aware

HA-highly aware, A-aware, SA-somehow aware and NA-Not aware
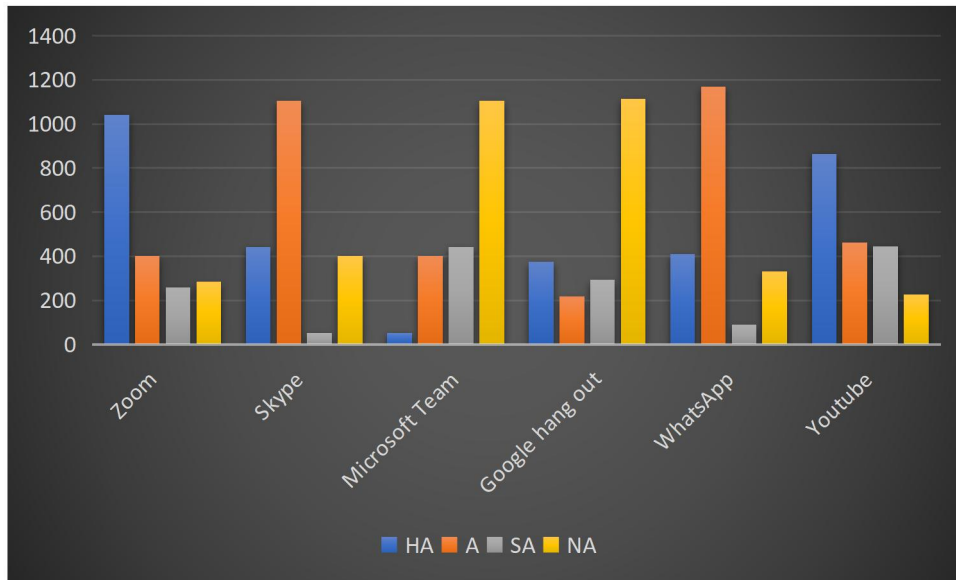
(Source: field work, 2022).

Fig 1: Bar graph showing respondents responses on awareness of online learning resources among students

The result in Table 1 and Figure 1 showed that, 3184 responses representing 26.58% noted that they are highly aware of the use of online learning resources, 3758 response representing 31.3% noted that they are aware of the use of online learning resources,1582 responses representing 13.18%% noted that they are somehow aware of the use of online learning resources while 3462 responses representing 28.85% noted that they are not aware of the use of online learning resource. On aggregate, 57.92 % responses showed that they are aware of the use of online learning resources while, 42.08% responses showed that they are not aware of the use of online learning resources. This implies that majority of the students are aware of the utilization of online learning resources in the study area

7.2 Research question two
What are the perceived challenges that could affect students' utilization of online learning resources among students? The variable in this research question is perceived challenges to the utilization of online learning resources among students. To answer this research question, the results of the research are presented in simple percentages in table 2 and further presented in the form of bar graphs for simplicity and ease of interpretation.

Table 2: Simple percentages analysis on the perceived challenges of the utilization of online learning resources among students

S/N	Items	SA	A	D	SD	Remarks
1	Lack of internet facilities	246(12.3%)	462(23.1%)	864(43.2%)	428(21.4%)	Agreed
2	Poor access to online resources	684(34.2%)	778(38.9%)	202(10.1%)	336(16.8%)	Agreed
3	Inadequate data for surfing the net	864(43.2%)	640(32.0%)	442(22.1%)	54(2.7%)	Agreed
4	Poor power supply	264(13.2%)	378(18.9%)	1064(53.2%)	294(14.7%)	Not agreed
5	Lack of internet enabled phones	864(43.2%)	676(33.8%)	324(16.2%)	136(6.8%)	Agreed
6	Lack of sufficient school-based laptops	650(32.5%)	910(45.5%)	436(21.8%)	4(0.2%)	Agreed
7	Financial constraints	684(34.2%)	804(40.2%)	406(20.3%)	106(5.3%)	Agreed
8	Low level of knowledge of internet surfing	284(14.2%)	330(16.5%)	886(44.3%)	500(25.0%)	Not agreed
	TOTAL	**4540 (28.38%)**	**4978 (31.11%)**	**4624 (28.9%)**	**1858 (11.61%)**	**Agreed**

SA-strongly agreed; A-agreed; D-disagreed and SD-Strongly disagreed
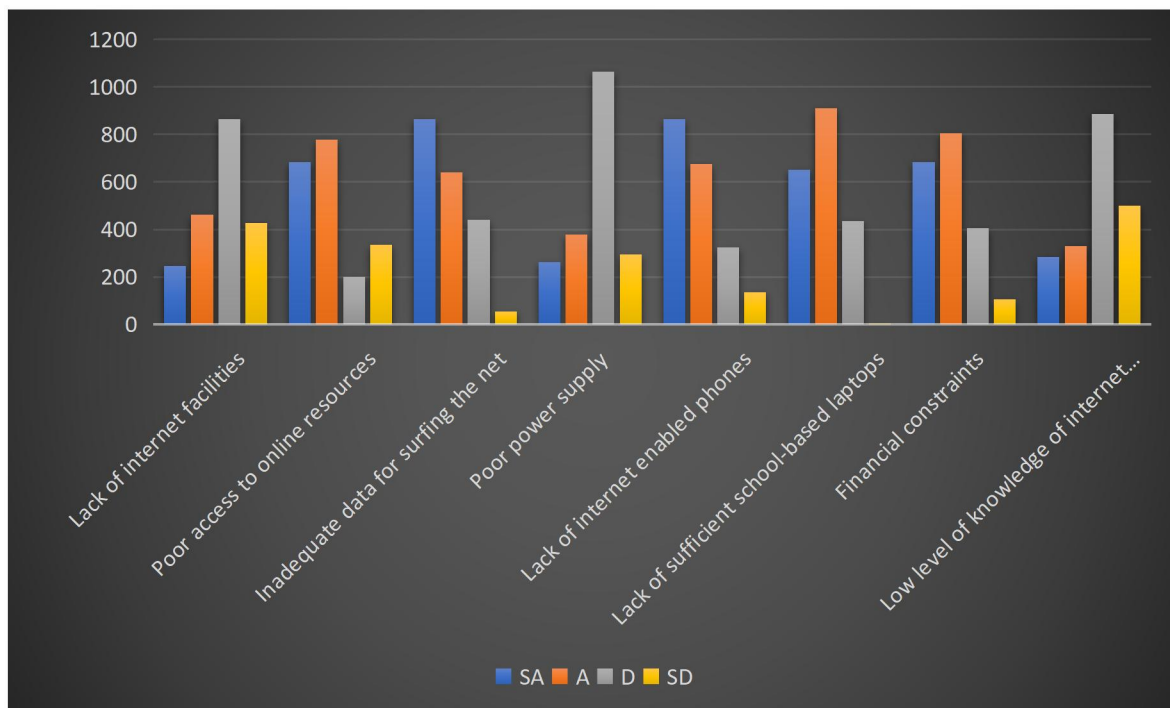(Source: Field work 2022)

Fig 2: Bar graph showing respondents responses on perceived challenges to the utilization of online learning resources

The result in Table 2 and Figure 2 showed that on aggregate, 4540 responses representing 28.37% strongly agreed that there is lack of internet facilities, lack of internet enabled phones ,poor power supply, lack of sufficient school based laptops, low level of knowledge of internet surfing are perceived factors that challenges the utilization of online learning resources , 4978 responses representing 31.11% agreed that the aforementioned are the challenges, 4624responses representing 28.9% disagreed that the aforementioned factors are not challenges that are militating against the utilization of online learning resources while 1858 responses representing 11.61% strongly disagreed that lack of internet facilities, lack of internet enabled phones , power supply, lack of sufficient school based laptops, low level of knowledge of internet surfing are perceived factors that challenges the utilization of online learning resources. On the average, 59.49% of the responses showed agreed that lack of internet facilities, lack of internet enabled phones , power supply, lack of sufficient

school based laptops, low level of knowledge of internet surfing are perceived factors that challenges the utilization of online learning resources while 40.51% respondents representing disagreed that lack of internet facilities, lack of internet enabled phones ,poor power supply, lack of sufficient school based laptops, low level of knowledge of internet surfing are perceived factors that challenges the utilization of online learning resources. This implies that the aforementioned factors are the perceived challenges to the utilization of online learning resources among students

8.0 Hypothesis testing
8.1 Hypothesis one
The level of awareness of students on the use of the online learning resources is not significantly high. The main variable in this hypothesis is awareness of students on the use of the online learning resources, measured continuously. To test this hypothesis, one sample t-test was used and the result is presented in Table 3.

Table 3: One sample t-test on the level of awareness of students on the use of the online learning resources. The statistical package used in obtaining the one sample t-test is SPSS

Variable	N	Mean	SD	Population Mean	Df	t-cal	p-val
level of awareness of online learning resources	2000	15.80	5.09	23.44	1999	-11.54	.000

The result as presented in Table 3 showed that (t=-11.54, p<.05). Since the p-value (.000) is less than (α= 0.05), the null hypothesis is rejected. Thus, the students' awareness on the use of the online learning resources is significantly high.

9.0 Discussion of findings
The results of the findings were analysed using simple percentages, bar graph and one

sample t test and the results are shown below:

9.1 Research question one

What is the level of awareness of students on the use of the online learning resources? From the result in table one figure one, it reveals that students are aware of online learning resources and are able to use them, judging from the responses of the respondents. Thus on aggregate, 57.92% of the responses showed that they are aware of the use of online learning resources. While 42.08% respondents showed that they are not aware of the use of online learning resources. This implies that majority of the students are aware of the utilization of online learning resources in the study area. This study contradicts the study carried out by Shetty, Shilpha, Dey and Kavya, (2020) who investigated student's perception and attitude towards online learning during the covid-19 pandemic and found that majority of students had never experienced any form of e-learning. Also the findings collaborate the findings of Almahasees, Mohsen and Amin (2021) in their study on Faculty and Students' perceptions of online learning during COVID-19. The result of the analysis showed that the common online platforms in Jordan were Zoom, Microsoft Teams and WhatsApp which are used for communication with students outside the class. However, a small percentage of respondents noted that they are not aware of some of the online learning platform with a cumulative response of 42.11% responses rate showing that they are not aware of the use of online learning resources.

9.2 Hypothesis One:

The level of awareness of students on the use of the online learning resources is not significantly high. The result as presented in Table 3 showed that (t=11.54, p<.05) since the p-value (.000) is less than (α= 0.05), the null hypothesis is rejected. Thus, the student's awareness on the use of the online learning resources is significantly high.

9.3 Research Question Two:

What are the perceived challenges that could affect student's utilization of online learning resources? The result gotten from the bar graph and the simple percentage analysis, it was revealed that majority of the responses strongly agreed that lack of internet facilities, internet enabled phones, poor power supply, lack of sufficient school based laptops, low level of internet surfing, inadequate data, poor access to online resources among others are seen to be the perceived factors that could affects academic staff from participating effectively in online learning platforms. This study agrees with the study of Demuyakor (2020) and Shetty, Shilpha, Dey and Kavya (2020) who both identified technical issues and lack of socialization and social media technology related issues as challenges faced by students. Also the findings corroborates with the findings of Barbu, Popescu and Moiceanu, (2022) who outlined some challenge of coping with e-learning, for teachers and students alike to include; lack of personal communication and face-to-face interaction that gives students the motivation to bond well. However, a few respondents disagree and strongly disagree that the above factors do not affect them. Based on the findings it can be said that majority of the students face varied challenges that hindered them from using the online learning resources.

10.0 Summary and conclusion

The following is a summary of the findings of this study

1. Majority of the students are aware of the utilization of online learning resources in the study area but are unable to use due to some hindrances
2. Lack of internet facilities, lack of internet enabled phones, among others are the perceived challenges that hinders students' utilization of online learning resources

These imply that students in Cross River State are faced with several challenges ranging from lack of internet facilities, lack of internet enabled phones, power supply, lack of sufficient school based laptops, low level of knowledge of internet surfing are perceived factors that challenges the utilization of online learning resources. However, the study revealed that students are aware of the online learning resources but are unable to use them because of the challenges they face.

11.0 Recommendation

1. Staff and students should be trained on how to use the online learning resources for educational purpose
2. Tertiary institutions in the state should as a matter of urgency incorporate and enforce online learning in their policies and programmes.
3. For this method of learning to be successful, both management and the government must work hand – in – hand in order to achieve this goal.

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