eLearning 101:
A Practical Guide

An eBook by **Trivantis**®

Preface & Objectives

Welcome to the wonderful world of eLearning—a place where you can create and deliver exciting and helpful instructional content, and then implement it online. If you haven't switched over yet, what are you waiting for? eLearning has been proven to reduce training costs and offers authors the ability to easily create content that can be accessed anywhere, anytime by your learners.

In this eBook you'll learn the answers to these questions:

1. What is eLearning and what should you look for?
2. What is Instructional Design?
3. What is an authoring tool and how can you create inspiring eLearning?
4. What is a Learning Management System (LMS), Learning Record Store (LRS), and xAPI?
5. What does the life cycle of a course look like (following ADDIE)?

What Is eLearning?

eLearning is learning that happens on an electronic device. It also refers to the practice of creating a learning activity using a tool capable of web distribution to be placed into an online repository. But that leaves the following questions:

1. What type of electronic device?
2. What is an online repository?
3. What is a learning activity?
4. Which tools are capable of web distribution?

In order for eLearning to be successful, you need four components, which answer the above questions. The electronic device is the computer, phone, or tablet used by the learner, which is accessible and linked to an online repository. The online repository is the location in which learning activities are published and shared, usually referred to as a Learning Management System (LMS). To create the learning activity, a professional (instructional designer) will use models and theories to develop a vessel for sharing information or teaching new skills. This learning activity is usually called a course, and the tool capable of development and Web distribution is an authoring tool.

1921

The first teaching machine was developed by Sidney L. Pressey. While originally developed as a self-scoring machine, it demonstrated its ability to actually teach.
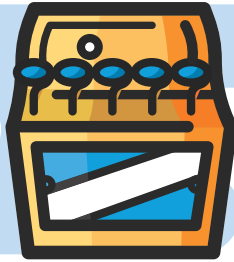
1960

PLATO (Programmed Logic for Automatic Teaching Operations) was the first generalized computer assisted instruction system.

1990–PRESENT

The adoption of eLearning in the corporate sector soared during the 90s and continued into the 2000s—with no sign of stopping.

A Brief History
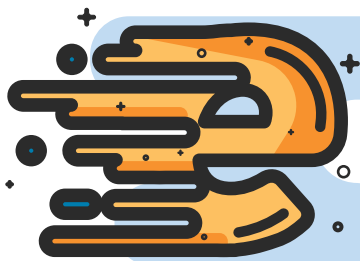
The idea of eLearning has been around since the 1920s when the first testing machine was created. This was advanced even further when the University of Illinois created PLATO (Programmed Logic for Automatic Teaching Operations), a terminal where students could access course work. A few years later, Stanford introduced computer aided instruction to elementary students in the gifted program for the Palo Alto Unified School District of California. With the rise of personal computers and the World Wide Web through the 70s and 90s, the adoption of online teaching practices grew. The adoption of eLearning in the corporate sector soared during the 90s and continued into the 2000s and has since become a common practice.

"WE NEED TO BRING LEARNING TO PEOPLE INSTEAD OF PEOPLE TO LEARNING."

- ELLIOT MASIE
LEARNING TECHNOLOGY EXPERT

Advantages

Many corporations and businesses have transitioned to eLearning because it saves time and is more accessible than traditional training. Because learners can access material through their personal or work computers, the need to travel is removed, and in-class materials are replaced with shareable files. eLearning also saves time, as instructors are no longer required to manually grade tests and quizzes, which reduces the need for and costs of third party trainers. Since eLearning can happen anytime and anywhere, there are no restrictions. This makes eLearning ideal for global businesses or those with non-traditional work schedules. When done correctly, eLearning can provide just-in-time training, which means content is ready for learners when they need it. Content can also be tailored to meet the specific needs of your company.

Disadvantages

If not designed effectively, eLearning can create a feeling of isolation since it's based on an action that can be completed with little to no human interaction. This means questions might not be answered in a timely manner, and coaching occurs after the fact. Becoming an eLearning student also presents challenges, as the learner will need to learn how to log in to the LMS, navigate to the desired course, and complete the learning activity. Learners who lack motivation may also find it hard to pay attention or schedule time for eLearning. A skilled eLearning developer, however, can create engaging, easy-to-use courses that mitigate these factors.

How to Transition Smoothly

To successfully transition from traditional training to eLearning, it's important to hire or have someone on staff who understands online learning. To be successful, this person (along with other key members of the company) must be able to identify how and when learners will receive training, help to identify training needs, and act as a champion for the initiative. Because this person will need to work across departments, it's also important to get manager (or higher) buy-in. Once a person is in place, it's important to formulate a learning strategy. This is a process that outlines how requests and projects will be handled through the various steps. Within this strategy, this person must identify Instructional Design models or theories that will be used, develop documents to help guide the process, identify roles within the company such as a subject matter expert (SME), review employee placement within the organization to identify curriculums and learning paths, and invest in the proper tools.

What Is Instructional Design?

What Is Instructional Design?

Instructional Design is the practice of creating material in a systematic manner with the intention of increasing knowledge or improving upon a skill. An instructional designer acts as the project manager of training incentives and is responsible for analyzing the training need, helping to design and create engaging and empowering content, and evaluating the training's effectiveness. To create a systematic approach, instructional designers use repeatable processes that include the application of models or theories.

Common Models and Theories

ADDIE

ADDIE is an instructional model comprising phases of Analyze, Design, Develop, Implement, and Evaluate. First used by Florida State University for the U.S. Army in 1975, ADDIE is considered the most relevant model and is widely adopted and used in the Learning and Development field. During the process, you collect and analyze data to make informed decisions, design content which supports the analysis, develop robust learning material, assist with a successful implementation, and evaluate the effectiveness to provide data and make adjustments for future revisions. In between each step, you're required to revisit and revise content. In total the model contains 19 essential steps.

Bloom's Taxonomy

Bloom's Taxonomy is a theory created by Dr. Benjamin Bloom in 1956 to explain the psychology of educational performance. In the theory Bloom explains that learners progress through six levels of learning. At each level learners refine the information being presented until they're able to master the content. In the theory each learner goes through the stages of Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating.

Gagné's Nine Events of Instruction

Gagné's Nine Events of Instruction is a model by Robert Gagné based on behaviorism and cognitive psychology that was first published in 1965. This model is used to present and then refine information that is presented to learners. In the model you:

1. Gain the learner's attention and interest in the topic
2. Inform the learner of the objective for teaching the topic
3. Stimulate recall of previous knowledge
4. Present a new stimulus
5. Provide the learner with guidance
6. Elicit performance through demonstration
7. Give feedback
8. Assess a performance activity
9. Enhance knowledge retention and transfer with a final activity

The Kirkpatrick Model

The Kirkpatrick Model was created by Donald Kirkpatrick in 1959. It explains the four levels at which learners should be evaluated after a training exercise. The model states that a learner should be evaluated based on reaction, learning, transfer, and results. With each step the application increases in complexity, therefore refining the knowledge retained.

What Is an Authoring Tool?

What Is an Authoring Tool?

Authoring tools enable designers to create and publish multimedia eLearning content. Most authoring tools, such as Lectora®, are visually (or WYSIWYG "what you see is what you get") oriented, so the designer doesn't need to have any special programming or coding skills. In addition, most authoring tools enable non-programmers to quickly and easily create content and then publish to HTML or CD-ROM.

eLearning tools come in all shapes and sizes. Determining your needs before you begin your search will ensure you pick the best tool to maximize your eLearning's effectiveness.

Things to Look for in an Authoring Tool

Ease of Use

Ease of use should be a top priority when choosing eLearning software. If it will take weeks or months for your developers, instructors, and employees to learn the software, they won't want to use it for their courses. Your courses should be easy for your designers to create (and maintain) and easy for your learners to use. When selecting an authoring tool, you'll also need to have a specific LMS in mind. The LMS will help guide how content is uploaded, tracked, and interpreted. The most common publishing options include AICC and SCORM.

Multimedia Support

Choose a tool that makes it simple to upload audio, video, and image files. If your company is looking to reduce the number of computer programs necessary, it's also a good idea to find something that has beginner to intermediate ability to create new multimedia content or edit existing content.

Simulation Capability

A simulation is the imitation of a process that a learner may encounter with a conversation, activity, or computer program. For the simulation to be successful, the authoring tool should support features that help you guide the learner through the process. Some developers also like to include a voiceover to reinforce the concept the simulation is teaching.

Assessment Tools

Tests and quizzes should be easy to create and edit. They should include the basic question types of true or false and multiple choice, along with some robust options. The test should easily send information to the LMS and include the option to share results with the learner.

Animation Builder

Animations add variation and interest to a course. They should work within the design ideas of a course and be included only when needed to advance or further illustrate the instruction. A robust authoring tool will allow you to create or easily import animations in common file formats.

Seamless Translation

When implementing global training, you may need to provide the material in a learner's native language. When looking for an authoring tool that supports translated material, you'll need to look for a seamless download and upload of a file containing the text of the page. You'll also want to make sure the tool supports the nuances for each language (punctuation, accent, etc.).

Mobile Friendly

Look for an authoring tool that produces mobile-friendly courses. A mobile-friendly course is one that can be successfully taken on a phone, tablet, or other mobile device. While this may not seem tricky, it actually is. There are hundreds, if not thousands, of devices, and at least ten different browsers to take into consideration. You also have to consider that not all content types are supported universally (Flash, Java, etc.).

Responsive Design

Responsive design is an approach to creating content that allows for an optimal user experience across a wide variety of devices, including phones, tablets, and desktop computers. The content should be usable across these devices with a minimum of zooming or panning, allowing the user to get the best content experience available on each device.

Publishing Languages

Just like humans need a common language to communicate with each other, eLearning courses and LMSs need a common language so that courses can send information back to the LMS. To accomplish this, the industry has come up with several eLearning standards that allow courses created by any vendor to "talk" with an LMS. There are four main types of standards an LMS will use: AICC, SCORM, xAPI, and HTML.

AICC

The AICC (Aviation Industry Computer-Based Training Committee) was formed in 1988. The aircraft industry has always had a high need for training and certification, and prior to 1988, this led to a variety of incompatible and closed system training programs that had unique hardware and software requirements. In 1993, the AICC created the CMI specification—still in use today—which specified the communications between a course and an LMS. The specification was originally intended for CD-ROM or local file-based content, and was updated in 1998 and 1999 to use a protocol known as HACP (HTTP-based AICC/CMI Protocol) to allow it to operate in a Web-based environment.

SCORM

In 1997, the Department of Defense (DOD) established the Advanced Distributed Learning (ADL) Initiative to standardize and modernize training. In 2001, the first production version of the new standard was released, and was known as the Shareable Content Object Reference Model (SCORM) 1.1. Later that year, this was replaced by SCORM 1.2, which is perhaps the most prevalent eLearning standard used today. Much of the SCORM standard was taken from the groundwork laid by the AICC, and updated to use a JavaScript framework. This required the LMS to wrap the course in a frame and use a JavaScript API to communicate between the course and the LMS. SCORM has since evolved to a newer version, known as SCORM 2004, and its most recent release is known as SCORM 2004 4th Edition, which was released in 2009. SCORM 2004 added the concept of sequencing course objects, as well as the ability for the LMS to manage navigation of the content.

Although SCORM was more modern than AICC, it was designed to work in a desktop/laptop environment, requiring a user to be online and logged in to an LMS in order to record information. In today's mobile-first, Bring Your Own Device (BYOD) world, that is not always the case. SCORM is also very restricted in the information it can record from a course—its language only supports scores, completion/pass/fail, and answers to questions.

xAPI

Experience API (also known as Tin Can, Tin Can API, and xAPI) is an eLearning language (Application Program Interface (API)) that allows learning content (courses, articles, video, social sharing, and more) across multiple channels (social platforms, mobile devices, computers, books) and learning systems (preferably a Learning Record Store (LRS)) to speak to each other and record learning activities (watching, playing, approving, searching, sharing, listening, reading, writing, thinking, and building).

If you're already in the eLearning field you'll notice some similarities in comparison to SCORM. However, xAPI speaks in a simple syntax of Noun - Verb - Object (usually referred to as "I did this") instead of predefined tags like name, score, and pass/fail. So, complex tasks like writing a blog post can become recorded and scored learning events. xAPI opens up learning experiences to easily include social learning, Web-based training, instructor-led training, mentoring, just-in-time learning, and informal learning into a program with tracking and reporting. To top it all off, xAPI talks across most devices and platforms, and you don't even have to be connected to the Internet.

 With xAPI, you can track experiences like:

- Mobile learning
- Serious games
- Simulations
- Informal learning
- Real world performance

HTML

With HTML (Hyperlink Text Markup Language), eLearning developers can create more engaging and interactive training for use on mobile devices and tablets. Since the output runs within the browser instead of a standards package, you have more options when creating interactive content.

Lectora®16

Try the most value-packed authoring tool—free for 30 days.

30-day Free Trial

What Is an LMS?

What Is an LMS?

A Learning Management System (LMS) is a software application that administers, tracks, reports, and delivers educational technology to an individual (learner) on behalf of a company, educational system, or other entity.

Which LMS Is Right for Me?

When choosing an LMS, it's important to first look at your company's organizational structure and tailor the curriculum to individual departments and their needs. This defines where you align courses and how your learners will interact with the LMS. Then, consider these four aspects:

1. **Administration**: The act of supporting, updating, and maintaining an LMS

2. **Tracking**: The ability to record and review certain aspects of a learner's performance in an LMS

3. **Reporting**: The ability to pull tracking and learner information as metrics or numerical values

4. **Delivery**: The way in which educational technology is given to the individual

Most recently, Learning Management System providers have responded to the demand for mLearning by supporting mobile delivery of content. This means that learners will still be able to access content on the go. Some companies also have downloadable apps so that learners can access content offline.

As xAPI begins to gain traction, many companies now want their authoring tools and LMS to support xAPI's capabilities. In order for an LMS to successfully sync with xAPI, it must act as a Learning Record Store (LRS) or be able to work in tandem with an LRS software. Because xAPI is so customizable, planning and discipline is required when deciding what data is accepted and used.

ADDIE

What Does the Life Cycle of a Course Look Like With ADDIE?

Before starting an eLearning project, schedule a meeting with the necessary team members to share basic project information like why the course should be built, who is assigned to each role, and what the timeline will be. Conversation should flow freely and openly until everyone is comfortable with the basic information. This should not be a conversation where the instructional designer or course developer meets with the subject matter expert to dump knowledge or teach the subject. Six roles (at minimum) should be assigned for the whole process: an instructional designer, eLearning developer, graphic or multimedia designer, subject matter expert, stakeholder, and pilot participant. Let's take a look at each role to understand how it fits into the life cycle of a course.

> The **instructional designer** is the advisor. This person is present to help steer people in the right direction by developing and implementing a model to follow. He or she will use instructional design models and theories to help create content that provides value to the learner.

> The **eLearning developer** is the creator. This person is responsible for using an authoring tool to turn the prioritized content into an interactive course with a logical flow and knowledge checks to assess learning progress.

The **graphic or multimedia designer** creates the visuals for the course. This person is also responsible for helping to define a style guide. He or she will use available tools to create content, such as images and buttons, to ensure the course is cohesive and follows design standards.

★ It's also important to note that sometimes these three roles are combined. The instructional designer may have knowledge and experience needed to create content within the tool as well as design features. A person who is in this combined role should act on behalf of each interest separately.

The **subject matter expert (SME)** is the person who is considered knowledgeable on a topic or procedure. This person is responsible for consultation during the process. SMEs are usually employees with direct experience with the topic or procedure.

The **stakeholder** is the person who initiated the request for training and/or the person who can provide overall guidance about the topic and audience as well as weigh in on company goals that should be considered. The stakeholder is often a manager or senior employee, but may have a different title, depending on your organization's structure. He or she will share knowledge of the topic, team, or company initiatives.

The **pilot participant** is someone within the target audience. This person provides his or her opinion and feedback on the course during the different stages. He or she will use knowledge of current procedures combined with the information gathered during development to make sure content is presented effectively.

Did You Know?

There are many spin-offs and variations of ADDIE. Pick a process that works best for you.

Analyze

The first step of the Analyze phase is to review any existing information and issues and come to an educated conclusion on how to continue. Having a worksheet or presentation ready with these questions and additional considerations will help speed along the process. During this step, it's important to ask yourself Who, What, When, Where, Why, and How. Specifically:

1. Who is the audience?

2. What is your objective?

3. When will content be delivered and for how long?

4. Where will training be conducted?

5. Why was the training created?

6. How does the training resolve an issue or help to achieve an initiative?

Who is the audience?

An audience is the viewers of your eLearning object, defined during the analysis stage. During this stage, developers should determine key factors like:

1. Demographics

2. Age

3. Education

4. Level in company

5. Location

6. Skill level

7. Motivation

8. Expectations

9. Accessible technology

What is your objective?

An objective in eLearning is a goal, which the learner should be able to achieve after taking the course. This goal should be a cognitive or physical action, which will be discussed and made obtainable by the completion of the course. Your objective should be action-orientated in nature, and the results should be measureable. An objective is essentially three components that when combined create a clear path to your goal. An objective should include:

- **An Action/Concept/Performance/Description** – The primary focus for your training
- **Rate/Deadline** – The rate of increase/decrease as a result of the action or deadline for which the action needs to take place
- **Result or End Criteria** – The goal that drives the reason for the training

When determining an objective, you should:

- Ask for information on the root cause for requesting training
    - This information is usually a gap (identified or unidentified) which can help drive your objective(s)
- Speak candidly with the requestor/SME/manager about attainability of the goals, measures, rate, and deadline
- Use action words wisely
    - Telling someone you want him or her to understand a process does not mean competence or demonstration
- Objectives may not always remain concrete through the whole creation process
    - Take time during development and review to reevaluate current content

When will content be delivered and for how long?

Establishing a time frame for both delivery and relevance helps guide the creation and determine when the course should be reevaluated. For time sensitive content, it's important to move quickly through the process while maintaining a level of quality. It's a good idea to list guidelines for creating specific types of content, which you can then share with SMEs and stakeholders during the process.

Where will training be conducted?

eLearning isn't the only method of training that can be conducted. It's important to consider if someone should be facilitating or guiding the training experience. If determined that eLearning is the answer, then you can continue through the process. If an instructor is needed, you can either use instructor-led training (ILT) or virtual instructor-led training to present material. You could also consider a blended approach. This approach allows for both eLearning and ILT content to be presented for one training initiative.

"WHERE MY REASON, IMAGINATION, AND INTEREST WERE NOT ENGAGED, I WOULD NOT OR I COULD NOT LEARN."

- WINSTON CHURCHILL
FORMER BRITISH PRIME MINISTER

Why was this training created?

To determine why training should be created, your team should do a needs analysis. This approach helps to define the root cause and appropriate type of course content needed. For example, the needs analysis may uncover that the training program is organizational, personal, performance related, or has a lack of contextual knowledge. There are several basic ways to conduct a needs analysis: observe the issue first hand, review the results of a questionnaire, consult with people in the same position or who have specific knowledge, use standard literature, conduct interviews, run a focus group, review the results of an assessment or survey, review report or record studies, or review work samples. In most cases an approach that combines multiple techniques will yield higher results.

How does this training resolve an issue?

For a training to be successful, it must resolve the issue. To find out how the training will do this, you'll select the option with the highest probability for yielding results and evaluate the possible outcomes. The option which will provide the most impact should be implemented into the training and include a measurable change.

Evaluate

During the process, it's important to continuously revise content until it perfectly meets your objective. After the analysis phase, you should focus on answering your key questions and determining any possible setbacks or complications.
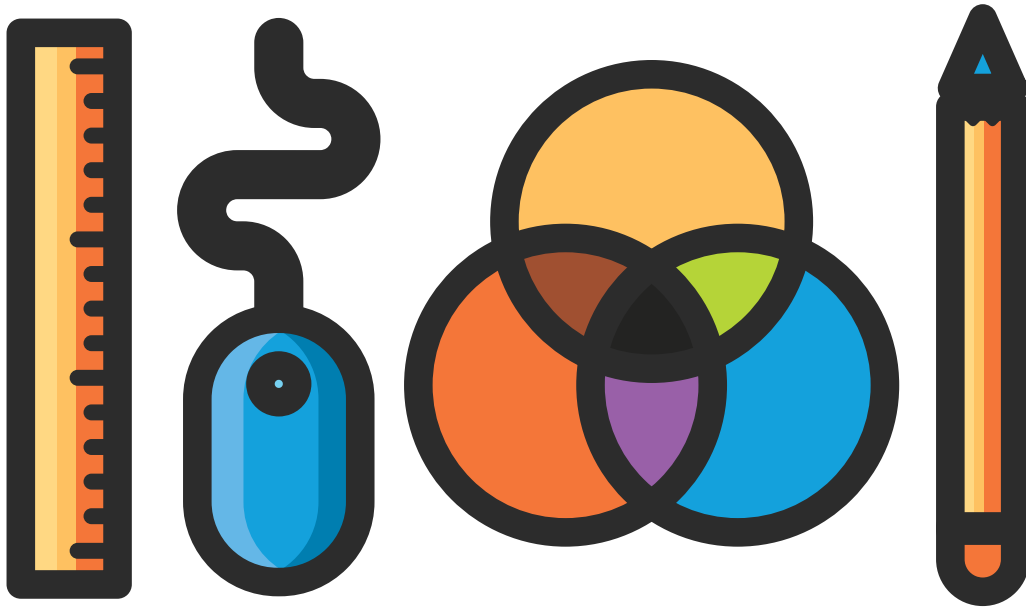
Design

The design phase is when you combine the information gathered from analysis and place it into a systematic and specific layout. This is where the instructional designer will create a logical flow and plan knowledge checks using instructional methods, the graphic designer will create the look for the course, and the eLearning developer will determine a technical design.

The most common application of these strategies is for the instructional designer to create a storyboard or prototype with the help of the graphic designer and/or eLearning developer. Microsoft PowerPoint™ is recognized by many as the most versatile application to storyboard in since most authoring tools will import its content.

A prototype is a roughly constructed course that includes placeholders for tentative content but still gives everyone an idea of how the course will look or behave.

By developing in an authoring tool right away, you can save time and effort when transferring content from one medium to another. If this isn't a possibility, then having a storyboard template and design sheet can decrease the amount of time necessary to collect information. The stakeholder, SME, and pilot participant will act as advisors while completing the process.
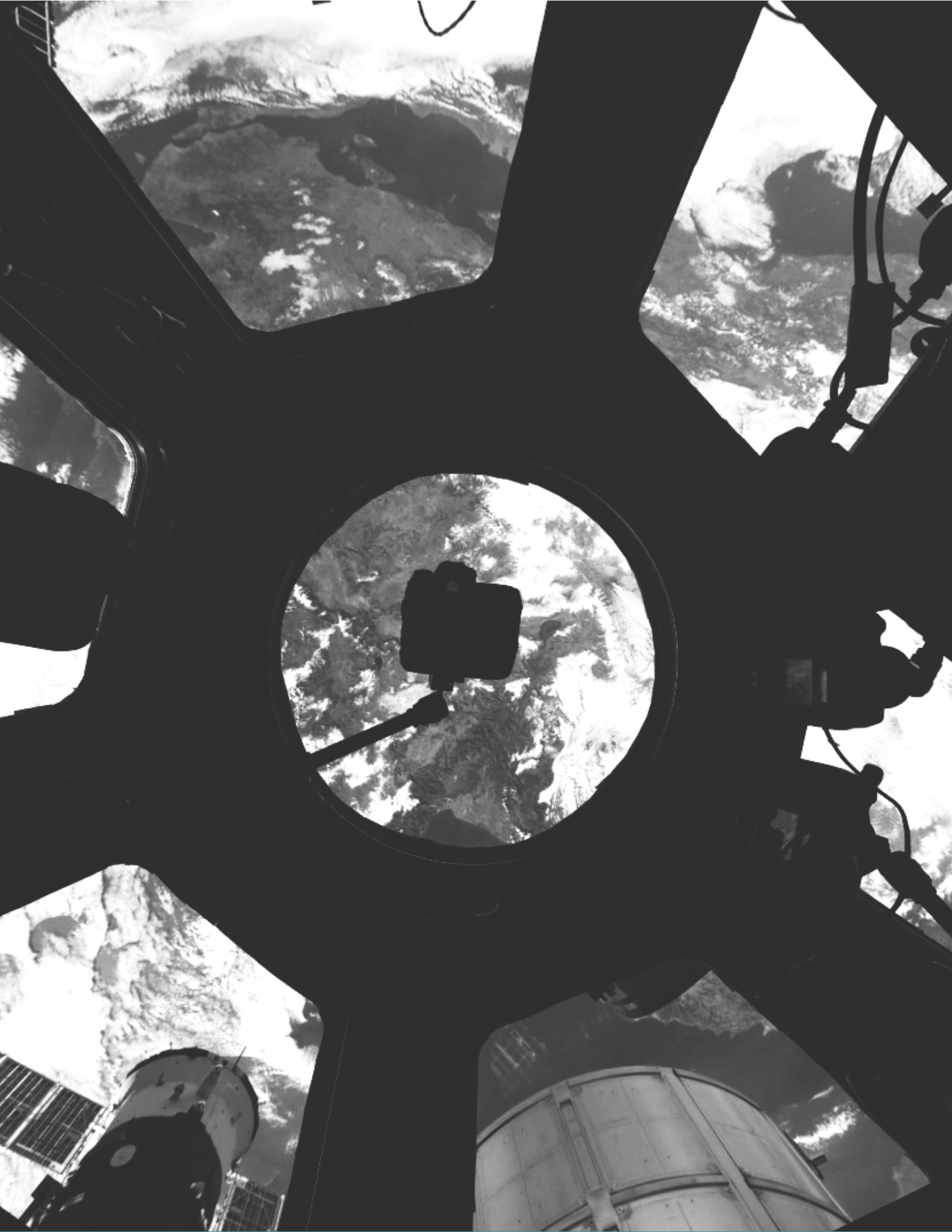
User Interface and Navigation

The mark of a successfully designed user interface is a final course product that is easy to access, understand, and use. Is the course easy to access and navigate? Are there common elements such as a help button if users get stuck? Are users prompted with instructions if they seem lost?

There are limitless ways to navigate within a course. At minimum, your course should include the ability to move forward or backward and exit the course. The most common practice is to include highly recognizable icons (right arrow equals next, house equals home, question mark equals help, etc.). However, you can also include a horizontal or vertical menu style, tabs, breadcrumbs, or grids. The important thing to remember is that navigation should blend seamlessly into the design of the course. While instructions aren't needed each time, you should include instructions where the learner might get stuck. It's best to present the information right away or when a new option becomes available. If the learner has to think about or gets stuck on the navigation of the course, the design should be reconsidered.

Layout

The most common design layout mistake is a lack of white space. People need room to learn! New eLearning developers often put too much content on one page, not realizing you can chunk things into smaller, related pieces of content. Following a grid-based design approach can help you create layout templates that you can reuse over and over again.

Depending on how your course will be delivered, you'll want to consider the page dimensions and orientation. Orientation is either horizontal (landscape) or vertical (portrait), but dimensions can vary based on what type of device you're expecting learners to use to view your material. The following is a list of generalized standard sizes:

Standard Web Window	1009 X 662
Low Resolution	785 X 600
High Resolution	1265 X 800
iPhone	320 X 416
Android (and others)	480 X 768
Responsive	Adapts to device size

Once you've determined the correct size, you can apply a grid. This helps keep your designs clean and enables you to recreate the same layout on each page. There are two types of grids: a grid can only have an even number or an odd number of columns. You can also base your layout around the Rule of Thirds or the Fibonacci Sequence.
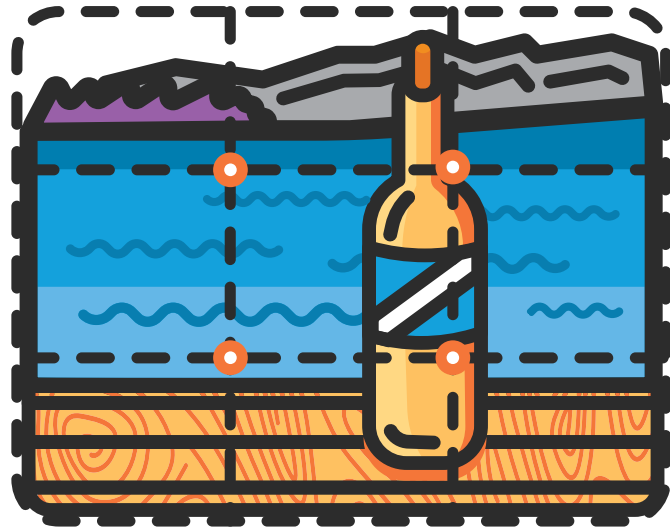
The Rule of Thirds is a grid based on a 3 x 3 area where the intersecting points are natural points of interest for the eye.

The Fibonacci Sequence is a spiral based grid. The grid places the most eye catching information in the upper right hand corner and includes a trail for the learner to follow visually. These layouts are fairly similar to each other and easy to spot in nature as well. You can find them in the spiral of a conch shell, the arrangement of rose petals, beehives, and more.

It's also important to discuss what type of page layout you may use within a course. Most authoring tools will provide you with some basic layouts such as a blank page, title only, title with text, and image with text. Present and choose a few page layouts that will match the types of pages you expect to create.

Graphic Design

Graphic Design is the art and practice of communicating ideas with visual and textual content. This can include the type, image, or layout of a page. During creation or selection, graphic designers make decisions based on the six elements of design: line, shape, direction, size, texture, and color.

The three most important design elements to keep in mind when putting together an eLearning course are consistency, simplicity, and readability. To achieve consistency, stick with a small color palette, and use the same fonts and text treatments. For simplicity, keep things simple and intuitive, and let the graphics on the screen complement the learning. Don't put too much text on one page. Don't use images as decorations; use images that emphasize the content on the screen. Readability is achieved by using the proper contrast with text to make content more readable, and letting text breathe with generous white space to help your learners soak up the content.

Content

Content should be clear and concise. Follow these tips shared by 2015 Lectora User Conference presenter, Johnny Hamilton, Online Instructional Designer from Providence Health and Services:

- Display less than 120 words at once to focus on important content, reduce clutter on the page, and enhance readability and comprehension

- Chunk content, so it's presented in simpler context

- Select font size for readability

- Incorporate white space, so content stands out and is easier to comprehend

- Limit your color palette for a professional look

     • Higher contrast also improves readability

- Indicate meanings for color

     • For example, use the same color for elements such as actionable, navigation, or focus

- Be consistent in your design to give the course a unified look

Check out Johnny's example.

Color

Color is both a strong trigger and a simple way to bring a course together. Because different colors convey different feelings, you can easily sway the learner into a particular mood about the training. Keep in mind that color differentiation should be a secondary visual representation that helps to emphasize the visuals and message being presented since some members of your audience may be color blind. Let's look at some common meanings behind colors:

Red

If you want to draw attention to a key concept in your eLearning content, use red. The eye is naturally drawn to red first. Red is the color of energy—associated with movement and excitement.

Blue

If your online training program includes physical tasks, consider using blue as the dominant color in your scheme. Some studies have shown that weight lifters can lift more weight in a blue gym and that blue surroundings lead to better performance in most sports. Steer away from blue text, however, because most learners will associate anything blue (and underlined) with a hyperlink.

Green

Green is commonly associated with finance and safety, so it's a good color to use for courses on those topics. On the other hand, to avoid looking like every other safety training course out there, you might want to skip the green. Avoid color combinations of green and red which draw out feelings of Christmas.

Yellow

If you're trying to boost office morale or get employees excited about eLearning, try some yellow. A person surrounded by yellow feels optimistic because the color stimulates serotonin (the feel-good chemical) in the brain.

Orange

Trying to encourage social learning at your workplace? Orange invokes feelings of sociability, enjoyable connection, and happiness. It has an emotionally strong presence and promotes extroverted behavior, so this would be a great color to use for a social network or LMS.

Purple

Purple stimulates the problem solving areas in our brain, and it promotes creativity, intuition, and artistic ability. This would be a good color to use for soft skills courses. Purple also can elicit the feeling of wealth and power. It is associated with royalty since purple fabric dye was once a high end product only available to those with money. Use purple to stimulate sales and finance comprehension.

Color Schemes

Folowing a set color scheme can help when you're stumped on color ideas. Basic color schemes, also called color harmonies or color chords, consist of two or more colors with a fixed relation in the color wheel. There are six types of color schemes.

Complementary

Complementary colors are those that are opposite each other on the color wheel (red and green). The high contrast of complementary colors creates a vibrant look, especially when used at full saturation. Complementary color schemes are tricky to use in large doses without being jarring, but work well when you want to emphasize something. Beware—complementary colors can make text difficult to read.

Split-complementary

Split-complementary is a base color and the two colors on either side of its complement (green paired with fuchsia and orange instead of red). This color scheme has the same strong visual contrast as the complementary color scheme, but with less tension.

Analogous

Analogous colors are next to each other (red, orange, yellow) on the color wheel. These usually match well and create serene and comfortable designs. Analogous color schemes are often found in nature and are harmonious and pleasing to the eye. Make sure you have enough contrast when creating an analogous color scheme. Choose one color to dominate and a second to support. Use the third color (along with black, white, or gray) as an accent.

Triple (Triad)

Triple colors are three colors evenly spaced around the color wheel (green, purple, orange). These schemes are quite vibrant, even if you use pale or unsaturated versions of your hues. It's important to carefully balance your three colors—choose one color to dominate and use the other two as accents.

Rectangle (Tetradic)

Rectangle colors are four colors arranged into two complementary pairs (red and green, orange and blue). This rich color scheme offers many opportunities for variation! Tetradic color schemes work best if you use one color as the main color. Remember to pay attention to the balance between warm and cool colors in your design.

Square

A square color scheme is similar to the rectangle, but with all four colors spaced evenly around the color circle (red, blue, green, yellow). The same advice holds true for square color schemes—let one color be your main focus and pay attention to the balance between warm and cool colors in your design.

Font

The font you use should be a Web-safe font (like Arial, Verdana, and Tahoma), so it's easy to read. Stick with three main styles: a title, header, and body. Decorative fonts should be used sparingly—if at all—because they can be hard to read. You can, however, use fonts to create a graphic such as a word cloud or sign.

Quick Tip:

Visit the Trivantis Everything eLearning Blog for ways to use custom fonts in your course.

Imagery

Don't clutter your course with unnecessary visuals. Just because you can add a drop shadow and five different animations to an image doesn't mean you should. Pick a few effects and use only those consistently throughout your course on photos, shapes, and animations. This keeps your design cohesive and adds a professional feel to the course without being boring.

When possible, use custom photography. This adds a personal element to the course. It also ensures that you're guaranteed to get the right context instead of someone fretting over a small detail such as the way your lobby looks in a simulation. It's simple! Ask HR for permission, grab your smartphone, or have an employee bring in his or her personal camera, and start shooting. Just remember to turn on the grid feature, so you can take a level picture, or invest in a smartphone tripod.

Make sure images are optimized for Web viewing by selecting or converting images to optimal file types. It's best to use GIFs for lines and shapes, PNGs for small images or anything requiring transparency, and JPEGs for larger images. You should also optimize the file size by making sure you save an edited image in its new format.

Before downloading or taking an image, ask yourself these five questions:

Does the image reinforce your message?

We've all seen eLearning that features endless stock photos of people in business environments, sitting at desks but not actually doing anything related to the job your learners are training for. Don't fall into that trap! Take the time to create your own images if your budget allows, or really search through stock photo sites to find the best image.

Does it invoke interest or excitement?

Remember, the best visuals are those that evoke an emotional response. Choose an image that will make your learners laugh, or something that gets them excited. People are naturally drawn to photos that follow basic design principles, such as the Rule of Thirds or Fibonacci Sequence concepts discussed earlier.

Does it attract your learner's attention?

Your image should be more than just generic clipart. It needs to stand out and grab your learner's eye. Use bright colors and detailed images to draw your learner in.

Does it convey the right message to learners?

Consider the context and location where your course will be used. You want to select images that will make sense to your learners and convey the correct impression. We've all laughed at the viral photos of mistranslated signs and logos—don't let that happen to your eLearning course!

Is the style consistent with other graphics used in the course?

To keep your course looking neat and professional, don't mix and match clipart and photos. Clipart photos are tempting because they generally have a small file size, but they also don't resonate as much as real photos do. If you can't find photos that fit your eLearning, high quality vector images and silhouettes are the best alternatives.

Create a Prototype

The best way to make sure your design is ready for the next level is to create a prototype. A prototype is a preliminary model of your course. To do this you'll place together a sample of everything you determined in the design phase. To create a prototype:

1. Start by creating a page with the correct width, size, orientation, and grid determined when discussing layout

2. Duplicate the page and incorporate at least three different page layouts (maximum of six)

3. Adjust the font to match specification

4. Change the color to match your color scheme

5. Add sample images and be prepared to present alternatives

6. Add navigation that blends into the design

Continuously Evaluate

During the development process, it's important to continuously revise content until it perfectly meets your objective. After the design phase you should focus on reviewing the prototype. Does it match the guidelines determined? Does it still convey everything determined in the analysis phase?

Modify the Prototype

Using the prototype created after design you can now begin to add course objects. To modify the prototype, complete one or all of the steps as needed:

1. Develop pages that include interactivity

2. Add audio

3. Add video

4. Develop the course using accessibility best practices

5. Develop the course using responsive design best practices

6. Prepare the course for translation

7. Add a test

Develop

The Development phase is when the eLearning developer uses the storyboard to create a course or expand on the prototype. Using a developer with knowledge of the tool ensures content is created within a timely fashion. The graphic designer acts as a working partner, providing additional material as needed. The instructional designer is available to provide advice or answer questions during the process regarding instructional strategies. The SME is also available to answer questions about the specific topic or process.

Interactivity

Studies show that interactivity adds a level of engagement and interest in a course. There are four engagement levels that you should know: passive, limited, moderate, and simulation. These levels are based on game and multimedia design and can help guide the overall development of a course.

Passive

Passive interactivity refers to the general actions that need to take place for a course to function correctly. This includes navigation, page animation, object animation, and a combination of true or false and multiple choice questions.

Limited

Limited interactivity includes the actions listed in the passive level, along with some additional features. These features give learners more control over their course experience. Examples of limited interaction include the addition of clickable graphics, audio, video, basic activities such as drag and drops, and modifications to navigation like a drop down menu or links to external resources.

Moderate

Moderate interactivity comprises both passive and limited interactivity with an additional level. This level gives learners the feeling of a more complex course and gives developers the chance to customize the experience with advanced programming. Moderate interactivity can include animated videos, customized audio, intermediate level simulations, scenario-based examples, and Flash-style animation.

Simulation

The final engagement level is a full simulation or game-based interaction. This is where you combine elements of passive, limited, and moderate, along with some new types of interactions. At this level the learner experiences the highest level of engagement. This level usually includes gamification, advanced or 3D simulations, a variety of multimedia, and a guide or avatar.

Scenario

A scenario is a realistic situation in which a relateable character in a setting familiar to the learner is presented with a problem and must find a solution. The learner is presented with information (the setup) and then is asked to make a decision (the climax) on how to handle the situation. Feedback is given (the result) which tells the learner if he or she is performing the actions correctly or explains what tactics and information should be used to correctly work through the problem. For a scenario to be successful,it should be treated like a story with a definite beginning, middle, and end. You should include character development, like a backstory or reason why the learner would want to learn the information or skill. You can also include a protagonist to solidify the idea of a problem and offer the learner someone to root for. The most amount of time should, however, be focused on developing the climax. The climax should be as realistic as possible and enforce the main objective for the course.

Audio

eLearning audio comes in three forms. You can either add music, sound effects, or include a voiceover.

- Music can be added to certain pages to help reinforce the feeling or idea of the content
- Sounds effects can add interesting elements to a course to help break up mundane tasks
- A voiceover is where content is read by a narrator to support the on-screen information
    - This is especially helpful when the content is best explained in examples that only a person doing the job can provide

For audio to be successful, you'll need to create a well-written and easy-to-read script, include some pre-recording activities to make sure you capture the best quality content, take your time while recording, and then allow for time to do a quality edit.

Script

Your script should be easy to read; play around with the font size and format. Be sure to select a font that's easily seen from multiple distances. The script should also be concisely written with fillers removed, unfamiliar terms explained, and free of spelling errors. Include formatting clues that help identify important moments within the script like bolding a particular word or phrase.

Pre-recording

Before recording, locate a room that doesn't have noises and distractions and where sound doesn't bounce and create echos. You'll also want to practice the script, so it'll sound as natural as possible. Feel free to write all over the script with places to pause, emphasize, and change tone.

Grab a glass of water! Your mouth will most likely dry up. Having something handy to keep your voice from becoming raspy will make sure tracks can be melded together without issue. In recent studies, it's been found that water is the best. Blowing your nose before recording will ensure your voice is not "nasally" and ensures you won't sniffle while recording.

Right before you're ready to record, lock the door and turn off all electronics. This way you'll be committed and free of distractions as you record. Block off plenty of time to record, so you're not focusing on freeing up a conference room or rushing to the next meeting. Right before you start recording, read through the script one last time to make sure you're comfortable and ready to start.

Record

Once you hit record, do some warm up exercises and read the first couple lines of the script. Then, take the time to check the audio for quality issues. This is the time to tweak the volume, pitch, or other variations a learner may hear. Allow for breaks so that you can stop frequently to check on the quality, speed, and tone of what you've recorded.

Edit

Once the audio has been recorded, move the files into your audio editing software of choice. Do a scrub through where you check the quality every so often. This will give you an idea if the audio needs to be edited overall, like normalizing, or if you need to address certain areas. While loud breaths and "umms" can seem like annoyances, they actually provide a level of humanization to the ear. Go through and remove anything that's distracting and leave everything else in. Chunk the audio into sections and record each one; then string them all together for a final run through.

Video

Video is a great way to present information for a higher form of interactivity and engagement. There are two types of video that are typically used in eLearning: animation and corporate style. An animated video explains a topic or process by using animated images. Corporate style is the creation of a video for company use that explains a topic or process, introduces a new product or service, simulates a work experience or issue, or includes a webcasting (live or prerecorded). The first step in adding video is to determine the purpose and objective of the video.

Script and Storyboard

Once an objective and purpose has been determined, it's time to create a script and storyboard. Your script should be easy to read, so play around with the font size and format. Be sure to select a font that's easily seen from multiple distances. The script should also be concisely written with fillers removed, unfamiliar terms explained, and free of spelling errors. Include formatting clues that help identify important moments within the script like bolding a particular word or phrase. The storyboard should give everyone involved an idea of actor placement, shoot angles, and shot types.

Pre-recording

Before recording you'll need to select a location, hire or select actors, and complete a test screening. A test screening helps to determine if the lighting is correct, if the actors are comfortable with their lines, and if shots need to be changed. It's important that everyone is comfortable and ready before selecting record.

Record

Once you hit record, do some warm up exercises and read the first couple lines of the script. Then, take the time to check the video and audio for quality issues. This is the time to tweak the volume, pitch, coloring, lighting, or other distracting variations a learner may see or hear. Record in chunks to allow time for breaks and to make editing easier.

Edit

Once the video has been recorded, move the files into your video editing software of choice. Do a scrub through where you check the quality every so often. This will give you an idea if the video needs to be edited overall, like normalization or color correction or if you just need to address certain areas. For video editors that are just starting out, use jump cuts or break aways to bring inconsistent content together.

508/WCAG Compliant

Section 508 compliance is something you may have never heard about if you're new to eLearning. Or perhaps you've heard other eLearning developers throwing around the word "accessibility" but never quite understood what they meant. 508 compliance is based on the Workforce Rehabilitation Act, which is a law that requires federal agencies and their contractors to make their electronic and information technology accessible to those with disabilities. The Section 508 requirements are based on the Web Content Accessibility Guidelines (WCAG), an international set of standards. Here are a few things to consider when creating a 508 compliant training course:

- Layering order is correct on each page
- ALT Tags (object names) are used for images and media
- ALT Tags are turned off for decorative images
- Descriptions are available for complex graphics
- Skip navigation link is on each page
- Audio includes a transcript and/or captions
- Video includes captions and voiceover
- Text headers are identified for text
- Column headers are identified for tables
- Labels are used for form elements and questions
- Transparent buttons used as hot spots have appropriate ALT tags
- Games and tests are not timed
- Attachments are accessible within their native application
- Color is used as a secondary way to convey meaning
- A language is declared for the title and any necessary text blocks
- Images and text do not flash

Responsive Course Design

Responsive design is a method of creating one course that can be viewed on multiple platforms. Most authoring tools that offer responsive design operate on the same core principle—the content is laid out on a fluid grid. This grid responds to the width of the device that the content is viewed on. As the view area gets smaller, the grid collapses, and content is repositioned to allow for viewing without the need to scroll the content horizontally or zoom. Trivantis® does responsive design a little differently. Download a free trial of Lectora to see how the tool handles responsive development in a future-proof way.

When developing a responsive course, you'll want to:

- Use device-based page layouts to speed up design
- Create in desktop mode then move from the inside out (tablet then phone)
- Review each device individually
- Remove items on the page using inheritance
- Adjust items on the page by resizing them
- Add actions within the course that are based on standard device interaction like rotation

Translations

Be concise

Edit down the English (or other source language) version so that it's concise. This ensures the translation is more likely to come back clean and that the project scope is narrowed. Outsource translation firms often charge by the word, so you'll be saving money too! Check for clauses or phrases to see if they can be reduced to a simpler construction. Then quickly scan your script for possible edits—look for unnecessary:

- Adverbs
- Pleonasms
- Metaphors
- Inappropriate cultural gestures or references
- Clichés or colloquialisms
- Euphemisms

Check for culturally inappropriate material or potential translation material

Review the material for potential issues. Check for text on images to see if they need to be translated or recreated. Be sure the content is generalized when needed and refined to localized content when necessary.

Vary your images

As a good general practice, include images that are not biased when it comes to gender and race. Do what you can to prepare and have additional images on hand if needed.

Keep in mind text may expand

Be sure to leave enough room for text and respect the language's nuances. In some languages, punctuation is different (Thai uses none) while accents may be used in other languages (Spanish). In most cases, English has a shorter character count.

Provide guidelines

When possible, provide a document with general guidelines. Most importantly, provide instructions on how to access the English version (or other source text version) for reference. A lot of questions a translator may have can easily be resolved using reference to the native piece and context clues.

Ask for help!

Unless you're required to know the language you're translating material into, there's no harm in asking for help. For especially complicated courses with transitions or content that's presented in complex manners like charts, create a key and ask the translator to fill in the blanks. If needed, have your developer and translator meet to ensure the course is built correctly.

> **"TRANSLATION IS NOT A MATTER OF WORDS ONLY: IT IS A MATTER OF MAKING INTELLIGIBLE A WHOLE CULTURE."**

- ANTHONY BURGESS
AUTHOR OF A CLOCKWORK ORANGE

Tests

A learning experience is only worthwhile if it gives learners tools and skills they can use in the real world. The best way to check to see the progress of learners is by presenting them with a test. Tests also help to reinforce objectives and can be graded within an authoring tool so that results are instantaneous. There are two types of assessments: formative and summative.

Formative Assessments and Knowledge Checks

A formative assessment tests learners to see if they've retained key pieces of information over a short amount of time. These types of assessments require the learner to recall information. The most common application of a formative assessment is a knowledge check or quiz that isn't graded. A knowledge check typically offers immediate feedback and is used to solidify the learner's knowledge on the subject.

Summative Assessments and Performance Testing

A summative assessment takes place over a larger span of time or information. The most common application of a summative assessment in eLearning is a formal test. A test typically doesn't offer any feedback and usually includes some type of performance testing. Performance testing determines a learner's level of mastery and proficiency when completing "authentic" processes, problems, or tasks. Learners must utilize a diverse range of skills and their pre-existing knowledge base to tackle the challenge on their own, and prove that they are able to apply previously learned information in real-world environments.

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Evaluate & Test

Once content has been constructed, the whole team will meet to review the content together. At this time the team should consider less than optimal viewing settings and situations like multiple browsers or devices. Feedback is then gathered and implemented.

It's also important that at this time you enlarge your group of reviewers. After the initial group review, it's important to open the course to a new group, which could include team members of the pilot participant, people within the same department as the SME, and other stakeholders. The course should be placed into a testing environment to ensure there are no problems that arise during implementation. Once again, feedback is gathered, discussed, and implemented.

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Implement

The implementation phase is when the content officially becomes available to anyone within the curriculum focus or audience. The eLearning developer places the course where it will be accessible to all who need to view it, such as in an LMS. Knowing the requirements and being familiar with the LMS will help make sure upload is seamless. The course is monitored for a short time to ensure no problems arise. All relevant documents and copies of the course are placed into a location for safekeeping.

Evaluate Your Results

The last evaluation phase is when the material is evaluated for its effectiveness on the overall objective. This can be done in multiple ways, but the most common is looking at key pieces of data. In the case of a sales course, this could be reviewing the previous quarter to see if numbers have increased or decreased. It's important to determine these benchmarks during the analysis phase, so data can easily be extracted. You can also provide a self-evaluation to the learners in the form of a survey to see how impactful the course was.

What Should I Do Next?

Thanks for reading our eBook! The learning doesn't stop here though. Don't forget to:

- Review Lectora 101 videos
- Join the Trivantis Community
- Join an Inspiration Wednesday free webinar
- Subscribe to the Trivantis Everything eLearning Blog
- Network with other eLearning professionals