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.

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.

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.

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.

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.

## 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
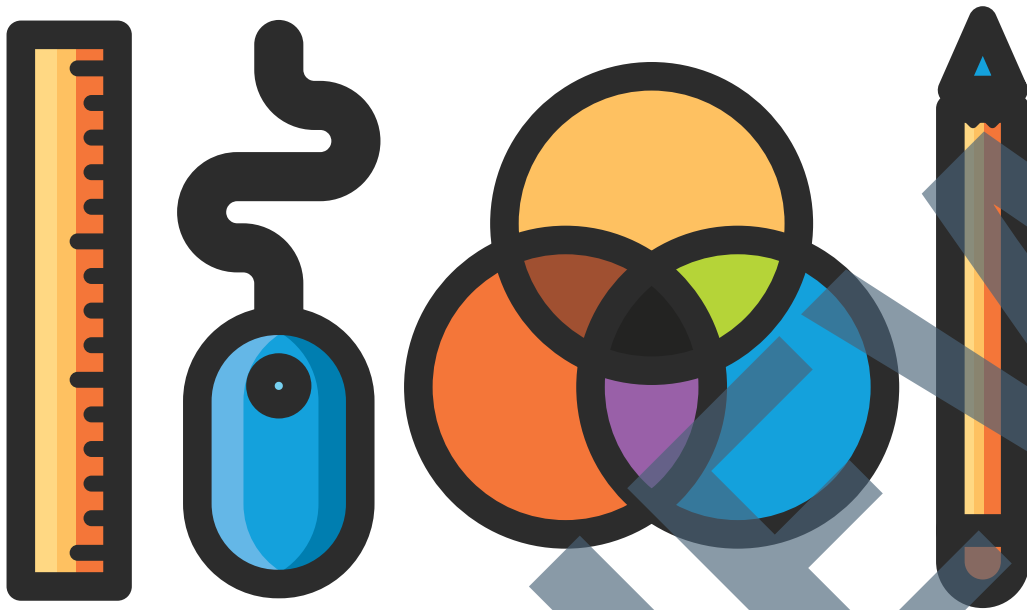
Design

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.

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.

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*