

Creating Articulate and Captivating e-Learning Courses

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ABSTRACT

Creating training material that communicates the key messages while being engaging is critical to a successful learning experience. The purpose of this paper is to describe how two commercially available software packages, Articulate and Captivate, are being used to help develop tailored e-Learning courses for applications used by statisticians and programmers at GlaxoSmithKline.

INTRODUCTION

Electronic learning (e-Learning) is a method for delivering training material to students or users via computer based technology. e-Learning most commonly refers to web-based education, with no face-to-face interaction. The main benefits of e-Learning over traditional classroom or instructor led training are that the training is self-paced and that students do not have to wait to attend a class. The drawbacks of e-Learning are the loss of face-to-face interaction and the lack of opportunity to ask the instructor questions.

When GlaxoSmithKline's standard reporting system HARP (Harmonisation of Analysis & Reporting Program) was initially rolled out, training was delivered via classroom sessions. Three e-Learning courses were then developed by an external vendor to replace the classroom training. New members of staff are required to complete the e-Learning as a pre-requisite to gaining access to HARP.

However, we were not able to maintain the material in-house which meant that the content was not kept up to date with new versions of the system. It also no longer reflected the reporting processes and best practices we want our users to follow. Therefore, we have begun a project to re-write the e-Learning courses in-house.

APPROACH

PLANNING

As with any project, proper planning is important. These are some of the key factors to decide when developing e-Learning materials.

First consider whether the material should be broken down into multiple courses. For example, HARP has different levels of user access (Basic User, Advanced User, Administrator) so we are developing separate courses for each access level.

Next, consider what the learning objective is for each course. Ideally this should be written in terms of the skills the learner will gain from the training, not just about the knowledge they will acquire. For example, it is one thing to know that standard SAS macro X creates adverse event tables, but it is better to understand how to apply this knowledge when reporting a study.

Within each course, decide how to split it up into manageable chunks or modules. If the course is short, e.g. administrator training, one module may be sufficient. Otherwise, determine a logical way of breaking down the material, e.g. for a reporting system consider creating a module for each step in the process (study set-up, plan & create analysis datasets, create data displays etc.). One rule of thumb is to aim for about 30 minutes per module. This allows the learner to take a break between modules, rather than having to complete the whole course in one go.

At the planning stage, also start thinking about how the material will be presented, e.g. whether you plan to use voiceovers to accompany the text, whether you will use interactive content such as software demonstrations.

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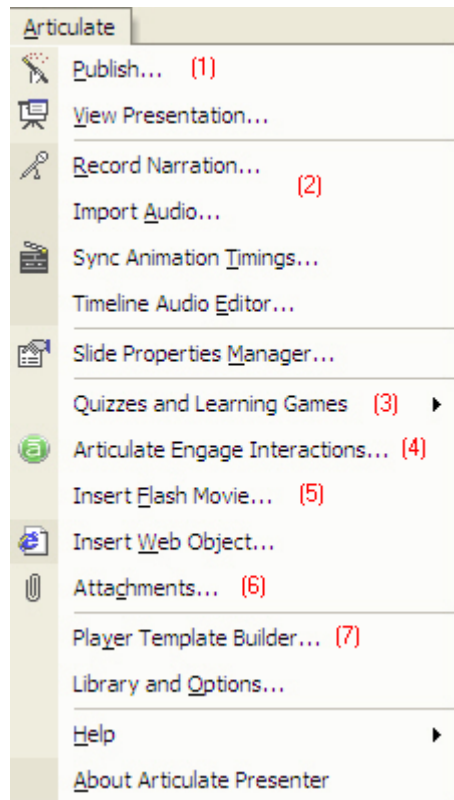
Finally, consider whether you need to test the learner's understanding of the course. For awareness training, you may not need to do this at all. However, if the course is a pre-requisite for gaining system access, a formal quiz or assessment may be needed. You'll need to think about how many questions to ask, what the pass mark is, how many attempts should be given if a wrong answer is submitted etc.

SOFTWARE

We have selected two software packages to help develop the e-Learning material:

- Articulate® Studio
- Adobe® Captivate™

Articulate Studio comprises three tools. The first is Articulate Presenter, which lets you turn Microsoft PowerPoint slides into an e-Learning course. Once installed, Articulate Presenter appears as an extra menu in PowerPoint. See Figure 1 below for an illustration and description of some of the features.



(1) Articulate publishes the final material in Flash format, e.g. for web delivery or for uploading to a SCORM- or AICC- compliant Learning Management System (LMS).

(2) If your course will contain voiceovers, Articulate lets you record narrations or import them from audio files.

Articulate also lets you add interactive elements to the content such as (3) quizzes, (4) interactive content from Articulate Engage (discussed later) and (5) software demos, which can be inserted as Flash movies.

(6) If you have course hand-outs or links to web pages you want to make available to the learner, you can add these as Attachments

(7) The Player Template Builder allows you to create templates which customise the Articulate Player used to view the published content. This means you can control the appearance of e-Learning module as well as how the user navigates it.

Figure 1 – Articulate menu in PowerPoint

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A published presentation viewed in Articulate Player is shown in Figure 2 below. The appearance has been customised using a template, for example to include the company logo. The course outline is shown on the left and is navigable by clicking on the title of the slide, e.g. Definitions. The actual content is shown in the main window. Extra information about the slide can be accessed by clicking on the “Notes” icon in the player controls section along the bottom, which is populated from the slide notes in PowerPoint. Links to other material such as the glossary and attachments can be found under the menus along the top.

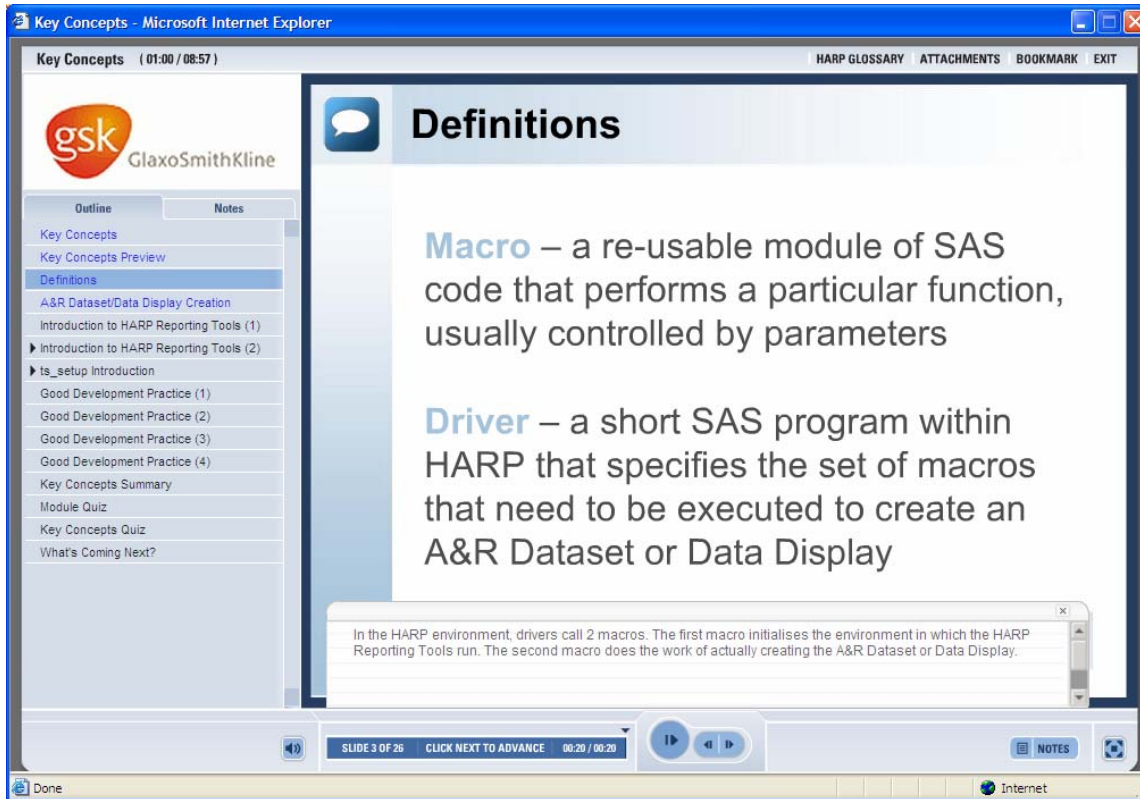


Figure 2 – Presentation viewed in Articulate Player

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The second component of Articulate Studio is Articulate Quizmaker, which lets you create quizzes, end of course assessments and surveys. For creating quizzes, there are a variety of question types that can be used, e.g. true/false, multiple choice and matching drag and drop (see Figure 3 for an example). You can also customise the properties of the quiz, for example to include instructions, set the pass mark for the quiz and randomise the questions.

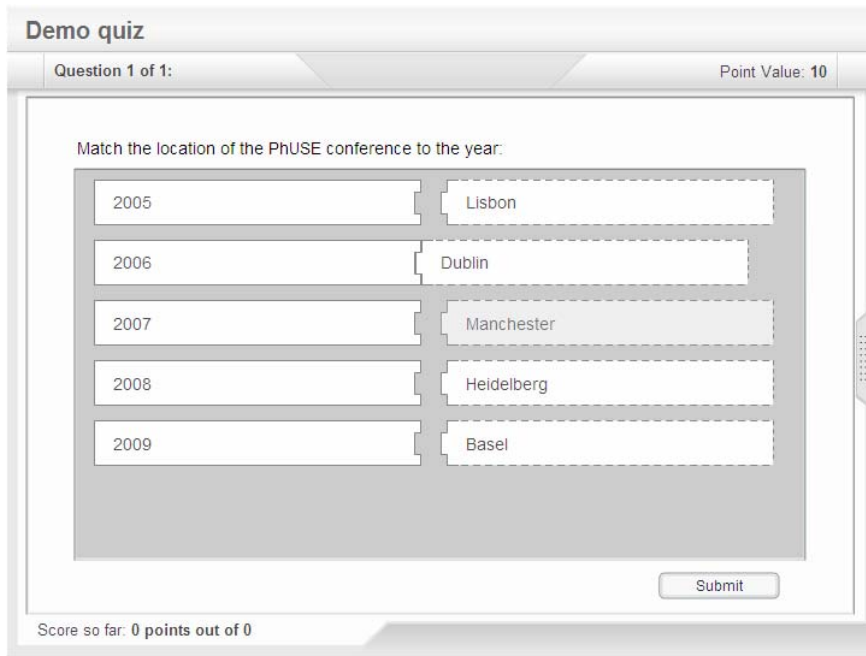


Figure 3 – Example matching drag and drop question in Articulate Quizmaker

The third tool within Articulate Studio is Articulate Engage, which can be used to create interactive, visual content. A number of different types of interaction can be created, e.g. process interactions, which let users drill down into the steps of a process, and glossaries (see Figure 4 for an example).

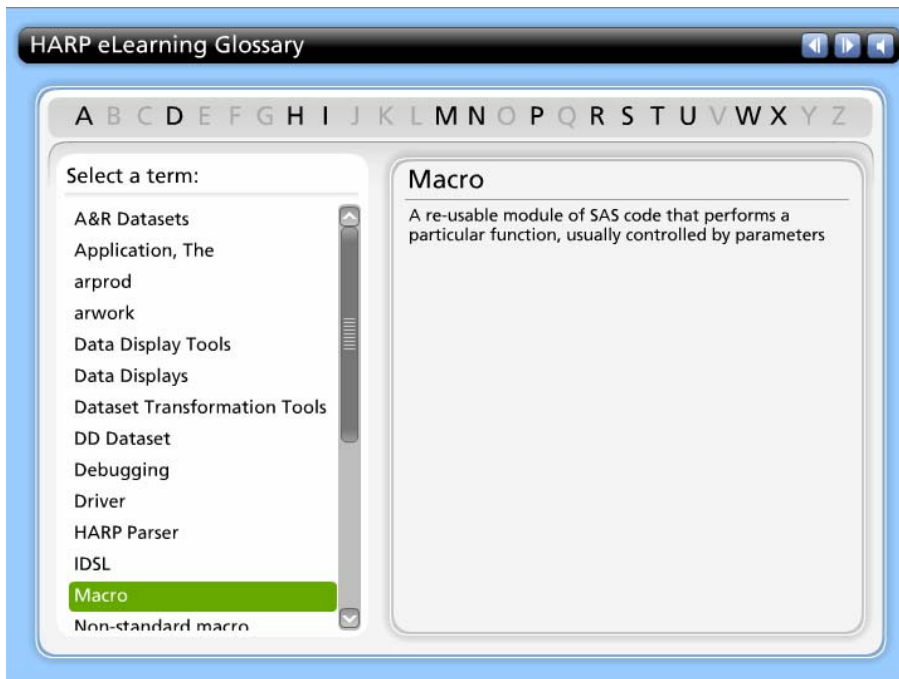


Figure 4 – Example glossary in Articulate Engage

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Once created, both quizzes and interactions can be incorporated into PowerPoint using Articulate Presenter.

Also included with Articulate Studio are a “Rapid e-Learning Course Template”, which provides a structure for creating simple e-Learning courses, and a “Content Starter Set”, which provides a variety of PowerPoint slide templates that can be used to author the e-Learning content.

Adobe Captivate allows you to record software demonstrations, which can be published as Flash movies and incorporated into PowerPoint presentations using Articulate Presenter. When you record a demo using Captivate, you use the application as you would normally and the software captures screenshots of the app along with mouse movements, typing on the keyboard and menu navigation. Captivate automatically inserts highlight boxes and text captions which illustrate certain actions during the demo, e.g. clicking buttons and making selections from drop down lists (see Figure 5 for an example).

Once you have recorded the demo, it is saved as a series of slides known as a project or storyboard. The slides can be edited to add extra captions, change the timings of when the captions appear or alter the movement of the mouse. If need be, you can also record additional slides. Interactivity can be added to demos by adding click boxes which require the user to perform certain actions, e.g. clicking a button, before continuing to the next slide or screen. Optionally, Captivate can also be used to record narrations and create quizzes.

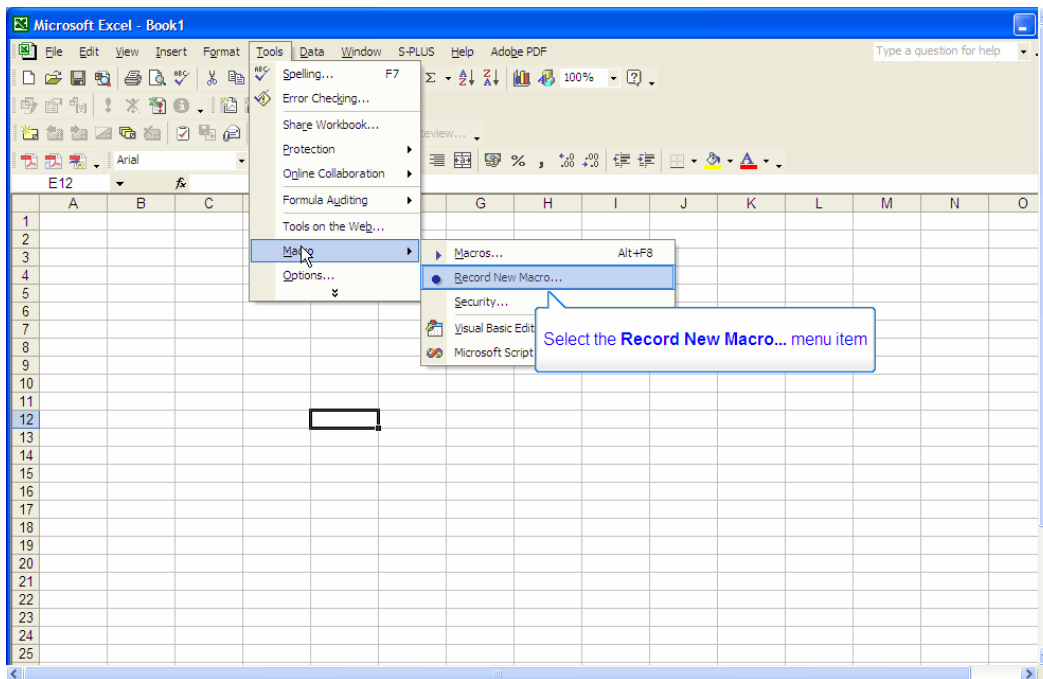


Figure 5 – Slide from Adobe Captivate movie

Note: subsequent to selecting Articulate and Captivate for our e-Learning project, Adobe released a new product called Adobe eLearning Suite. It incorporates Captivate, Adobe Presenter and several other Adobe applications (e.g. Photoshop, Acrobat) in one package and may be an alternative to Articulate Studio.

DEVELOPING COURSE MATERIAL

Once the scope of each module is determined, it can either be broken down into a series of bullet points or items to be covered in that module, or storyboards can be developed. These can then be used as a basis for preparing the PowerPoint slides, software demos and other interactive content. If you are planning to use voiceovers, you will need to prepare a script for the narrations that will accompany the slides.

One approach to authoring the material is to begin each module with a statement of its purpose and a list of the key things the learner should be able to do as a result. Then move onto presenting the actual content before finishing with a summary of what has been presented. Or in other words, say what you're going to say, say it and say what you've said.

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REVIEWS

Various reviews are being conducted to check that the e-Learning development is on the right track. To begin with, we had regular meetings amongst the team working on the project to ensure a common approach across courses and to agree what content would be covered in each module. Once the materials were drafted, we used subject matter experts such as support staff to review the material from a technical perspective and end users from the business to check that the material was understandable to them and met their needs from a training perspective.

For testing the e-Learning locally and for ongoing reviews, we have published the material for web viewing and distributed the modules via shared areas and databases. We are planning to conduct a final end-to-end business review of the e-Learning courses in our LMS to verify that the modules will work correctly in the production setting.

LEARNINGS

Some hints & tips gained from our e-Learning project are described below.

The main resource considerations for creating e-Learning courses are time and money. If you are authoring the course materials from scratch, allow plenty of time to do this and create your storyboards first. Even if you know the topic well, it can be challenging to turn the subject matter into a set of slides that get across the key points and keep the attention of the user. Recording and editing software demos in Captivate can also be a time consuming process. If your application changes, you may need to re-record the demos. The cost of licenses for Articulate Studio and Adobe Captivate are approximately US\$1400 and US\$800 respectively.

As well as thinking about how long the authoring will take when planning your timelines, allow time for people to review the content and to make the resulting updates. If possible, give people plenty of notice of upcoming reviews. For business reviews, try to target users with differing levels of experience of both the subject and, if applicable, the industry.

It is important to make sure the material engages the audience. This can be done in a few ways, for example by using different slide templates such as flowcharts and highlighted diagrams rather than just bullet points, and use of appropriate ClipArt and other visuals. Also remember that users have different learning styles. For some people just presenting the material will be fine, whereas for visual learners more interactive content may be required and voiceovers or background music may be needed for auditory learners. Some users will also want copies of the training material or transcripts of demos that they can print and use to make their own notes.

Stating the key things that the learner should be able to do as a result of taking the training will help to gain interest, i.e. tell them “what’s in it for me?” (WIIFM). Let the learner know any pre-requisites they should have completed before attempting the course as well as further courses they can take and where to get help and support.

Using realistic scenarios for the software demos will also engage the user as it will help them to relate the material to their day to day work. When recording demos using Captivate, be aware that if you want to display the published movie within your slides the resolution should not be more than 719 by 539 pixels due to the maximum movie size in Articulate Player (alternatively you can display the movie in a new window outside of Articulate Player). You may also want to include instructions or a demo of how to use the e-Learning module, so that the user knows how to navigate the material and access course hand-outs, glossaries etc.

CONCLUSION

e-Learning is an increasingly popular method of delivering training, reducing the need for classroom sessions and allowing users to take courses when they choose. This paper has described how off-the-shelf software packages can successfully be used to develop e-Learning content in conjunction with Microsoft PowerPoint. It has also presented some of the key things to consider when developing courses and discussed how to make the content engaging to the user.

ACKNOWLEDGMENTS

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RECOMMENDED READING

For more information on the software packages discussed in this paper, visit the following web sites:

- Articulate Studio - <http://www.articulate.com/>
- Adobe Captivate - <http://www.adobe.com/products/captivate/>
- Adobe eLearning Suite - <http://www.adobe.com/products/elearningsuite/>

For an interesting article on e-Learning refer to the following:

- Seven Steps to Better E-learning by Clark N. Quinn - http://www.elearnmag.org/subpage.cfm?section=best_practices&article=35-1

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