



# E-Learning Fundamentals

**A Practical Guide**

**Diane Elkins and Desirée Pinder**

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Diane Elkins and Desirée Pinder

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# 4

## TOOLS OF THE TRADE

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Newcomers to the world of e-learning can be easily overwhelmed by all the technology decisions they have to make, the number of choices available, and the unfamiliar terminology. This chapter describes the tools necessary to create or manage a self-paced e-learning program.

This information works in conjunction with the material in later chapters: Chapter 5, covering the analysis phase, helps you define your company's hardware and software needs. Chapters 6, 7, and 8, discussing the design phase of the project, help you determine what specific features you want to incorporate into your courses. Making these decisions helps you understand what the best tools are to meet your needs.

### Authoring Tools

What is an authoring tool? Definitions may vary based on whom you ask. For the purposes of this book, an authoring tool is the software you use to assemble the course. It is the tool you would use to place all your course elements (such as text, graphics, and questions) and turn individual screens into a complete course (with pages, navigation, menus, and buttons).

Authoring tools have a variety of features, come in a wide range of prices, and require different levels of skill. Some tools are very simple to use with templates, wizards, and features that work just like

**? Jargon Alert:**

An authoring tool is the software you use to assemble the course.

common business software such as Word or PowerPoint. Other tools allow for greater design flexibility but are more difficult to learn—some even require programming knowledge.

Selecting the right tool involves consideration of the price, time for development, the level of skill of your users, and the features you want to include in your course.

## Classifications of Authoring Tools

### Web Authoring

An e-learning course can be considered a type of website or web page. Because of this, any tool that can be used to create a website can be used to create an e-learning course—even if the course will not be delivered over the Internet.

Web-authoring tools, such as Adobe Muse, can be a good choice because they are widely used. This means it is easy to find training on how to use the software and easy to find team members who already have the needed skills. You may even have people in your company already (such as in the IT or marketing departments) who know how to use the software.

The disadvantage of web-authoring tools is that they are not designed specifically for e-learning. Therefore, many of the course elements have to be custom built, or you would need to buy third-party software to get around this issue and build some of the course structure for you.

### HTML Editors

An HTML editor, such as Adobe Dreamweaver, is a software package that allows you to build HTML pages either by creating the code yourself or by designing the pages visually and allowing the software to create the code behind the scenes.

Courses created with an HTML editor tend to be low bandwidth, easy to update, and very compatible on different operating platforms. In addition, web programmers can use programming languages (such as JavaScript) to create advanced features.



### Caution: Flash-Only Output

If you want your courses to play on an iPhone or iPad, be careful about any tool that only outputs to Flash formats. Look for tools that offer HTML5-friendly output, and be sure to test your courses carefully on those devices before getting too far into your decision-making process.

### Media and Application Tools

For more interactivity and media, you could consider using more advanced web applications such as Adobe Flash or After Effects. These programs are designed to create slick visual presentations and are

even used to build new software programs. The capabilities are almost endless, but the learning curve is extensive.

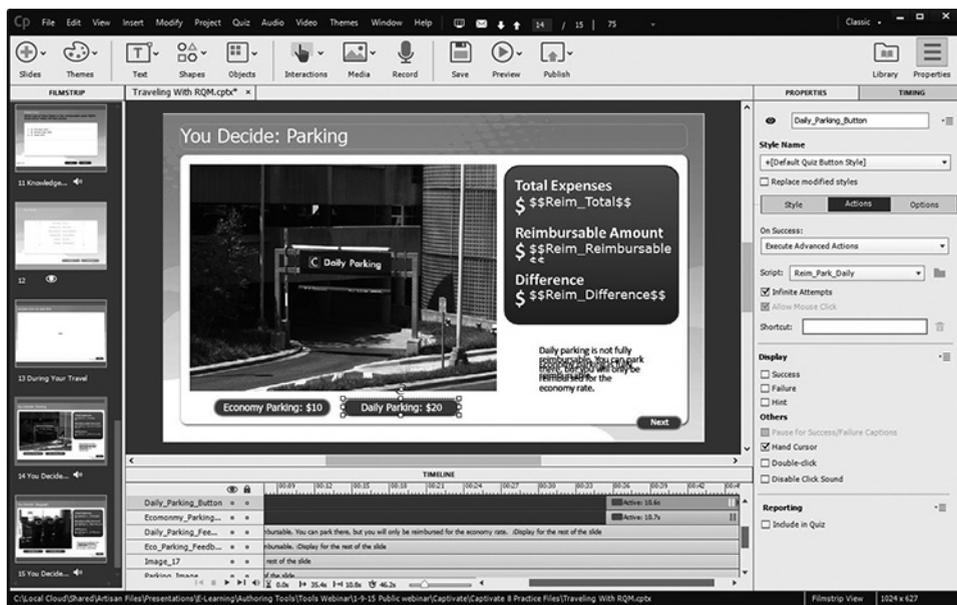
## Course Authoring

Years ago, programming skills were required to create any sort of computer-based training. However, today, there are more and more tools that are built for the non-techie. Some systems are template or form based and very easy to learn and use. Other systems are more flexible, but only require the use of menus and dialog boxes rather than coding.

These tools, such as Trivantis Lectora, Articulate Studio and Storyline, and Adobe Captivate, are easy to learn and use. They can be used in a rapid development environment (meaning you are looking for quicker turnaround times and using solutions that don't require programming), and especially when you want subject matter experts to help build the content.

The downside of such tools is that you are locked into the features that come with the software and may not get every feature you want.

FIGURE 4-1: ADOBE CAPTIVATE COURSE AUTHORING TOOL



## PowerPoint Conversion Tools

Several tools on the market automatically convert PowerPoint presentations into an online course. Many of the software packages listed in the previous sections have the ability to import content from these programs, but there are also tools that allow you to author 100 percent in PowerPoint.

## Chapter 4

Some of these conversion tools simply convert the PowerPoint document to a Flash file or other web-enabled format. While this doesn't make for very interactive learning, it makes it easy to launch and track the presentation on your LMS.

Other conversion tools let you add e-learning elements such as interactions, quizzing, and tracking, available on a new menu in your PowerPoint software. Two examples are Articulate Studio and Adobe Presenter.

These tools allow for the shortest learning curve and development time, as well as for any number of end users to create content. The downsides are that you are limited to the templates and features available and that the final product may really look more like an online presentation than online learning.

FIGURE 4-2: ARTICULATE STUDIO TEMPLATE DESIGN SAMPLE

The screenshot shows the Articulate Studio interface for a PowerPoint presentation titled "Form 5266.pptx - PowerPoint". The software is running on a Windows operating system, as indicated by the taskbar at the bottom. The main window displays a slide titled "Submitting Daily Forms". The slide content includes a calendar grid for a week, with the following data points:

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
6	7	8	9 5266	10 5266	11 5266	12 5266
13 5266	14 5266	15	16	17 15 4:45 PM	18	19 5266
20	21	22	23	24 6:00 PM	25	26
27	28	29	30	31		

Handwritten annotations on the slide include:

- "COB 5:00 PM" with an arrow pointing to the 17th.
- "Submit 11:59 PM" with an arrow pointing to the 24th.
- A checkmark and an 'X' next to the 17th and 24th respectively, indicating submission status.

Below the calendar, the slide text reads:

After the first Form 5266 is submitted, subsequent forms should be completed daily until there is minimal activity.

The form should capture all activity up until the close of business, which is 5:00 p.m. local time. For example, a health services contact made at 4:45 p.m. would go on that day's Form 5266. However, a contact made at 6:00 p.m. would go on the next day's form.

While many people believe the form is due by 5:00 p.m., actually it's not. You want to be capturing data up until 5:00 p.m. local time and then compiling the form.

The operation should try to submit the Form 5266 in DSARS by 11:59 p.m. local time at the operation.

Image provided courtesy of American Red Cross.



## The Great Debate: PowerPoint Conversion

Is the quick conversion of PowerPoint slides into e-learning a good thing? The challenge is that these tools make it quicker and easier than ever to create bad e-learning. A PowerPoint that isn't effective in the classroom will be even less effective as e-learning. But bad design isn't the fault of the tool. If e-learning is designed thoughtfully, PowerPoint conversion tools can still be effective.

## Features of Authoring Tools

As you gather data to consider what features you want to build into your courses, one constraint on your decision is what your authoring tool can do. Figure 4-3 lists many possible features to be included in an authoring tool. Use it to create your wish list, to help you create an RFP, to compare and rank similar products, or to make design decisions.



FIGURE 4-3: SAMPLE COURSE-AUTHORING TOOL CHECKLIST

Feature	Importance	Tool 1	Tool 2
<b>General</b>			
Company name			
Website			
Access to demo			
Installed or cloud based			
Purchase price			
Maintenance and upgrade fees			
Other fees			
Training provided			
Support provided			
Can be bought alone (not with LMS)			
<b>Company Information</b>			
Years in business			
Number of users			
Year this tool was released			
Year this version was released			
<b>Media</b>			
<b>Audio</b>			
Accepts audio files (which formats?)			
Plug-ins or players learners need to play audio			

The entire checklist can be found here: [www.td.org/elearningtools](http://www.td.org/elearningtools)

### ? Jargon Alert:

You'll find each of these terms in the table of features. You'll learn more about these in chapter 6.

- **SCORM/AICC/Tin Can**—Interoperability standards that ensure e-learning products work together; for example, a SCORM-compliant course should successfully send data to a SCORM-compliant LMS.
- **Section 508**—Federal law for accessibility of electronic communications to people with disabilities; if a course is Section 508 compliant, it meets the guidelines for people with visual, auditory, or motor disabilities.

## Element Tools

While an authoring tool helps you assemble your course as a whole, you may also need tools to help you with individual course elements. These elements can then be pasted or imported into your authoring tool. In some cases, your authoring tool may have the capability to create these elements and you wouldn't need a separate tool.

## Graphics

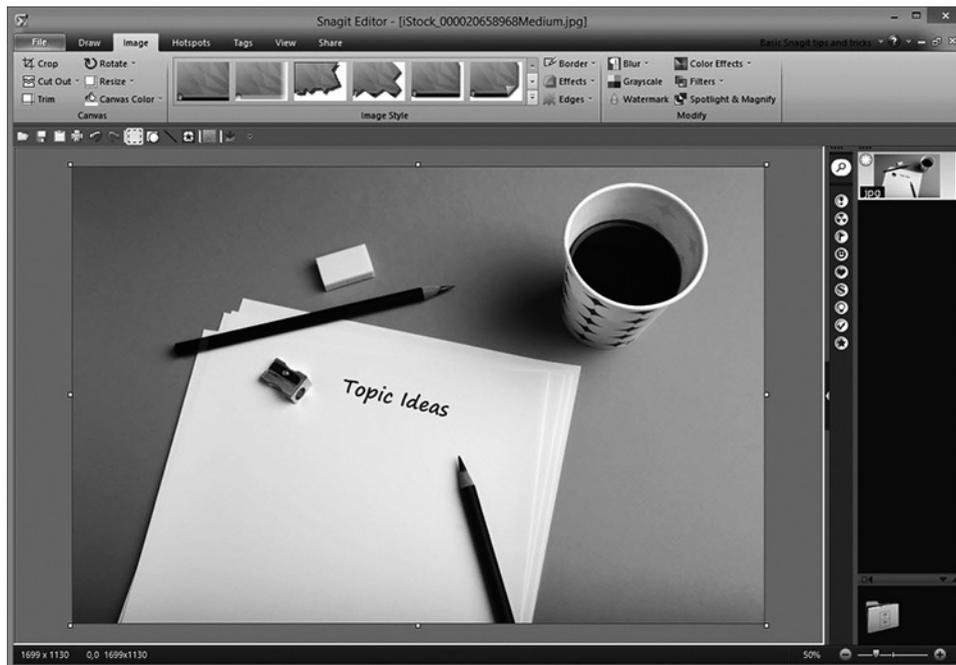
At a minimum, you will want the ability to crop and resize graphics and change the file type. Many authoring tools have this capability, but some do not. If you are more ambitious, you may want the ability to edit or create graphics yourself.

## Photo-Editing Software

In addition to cropping and resizing graphics, you may want the ability to edit or manipulate graphics. For example, in a course on customer conflict, you may want to find a picture of an angry customer and make the whole photo red. Perhaps you would like to create a photo collage for a title graphic. Or maybe you returned from a photo shoot from your manufacturing floor and you need to lighten up some of the pictures.

Photo editing packages such as Adobe Photoshop or Photoshop Elements or Snagit by TechSmith give you the ability to modify and enhance photos and other graphics.

FIGURE 4-4: SNAGIT BY TECHSMITH PHOTO EDITING SCREEN

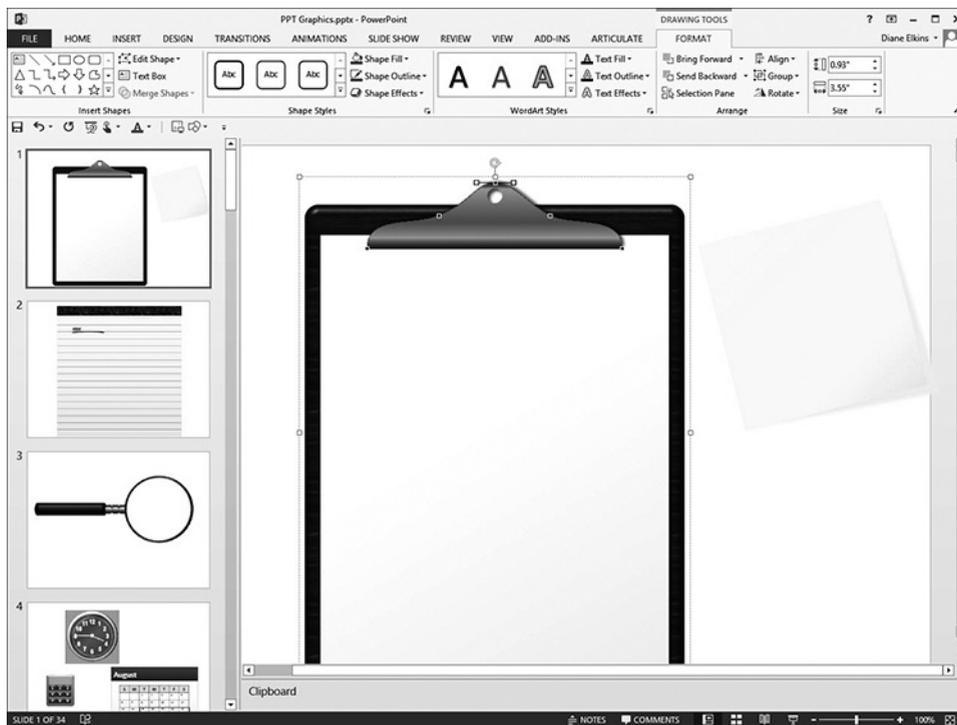


## Graphics-Creation Software

You may want the ability to custom-create graphics. Perhaps you want to create a cartoon character to serve as the “host” of the course. Maybe there are diagrams or processes you need to illustrate, or maybe you want to create your own interface buttons. Here are some choices:

- illustration software, such as Adobe Illustrator
- photo-editing software (some have drawing capability), such as Adobe Photoshop or TechSmith Snagit
- end-user business applications, such as Microsoft PowerPoint
- animation software, such as Adobe Edge Animate.

FIGURE 4-5: GRAPHIC OPTIONS WITH MICROSOFT POWERPOINT

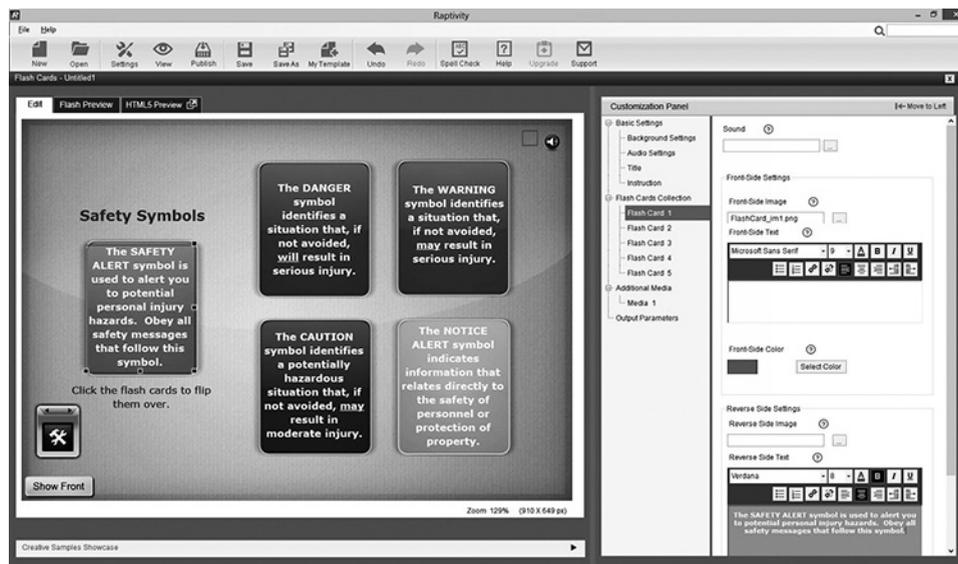


## Interactions and Animations

Once again, the authoring tool you use may provide the ability to create the interactions (such as a roll-over screen) and animations (such as a moving diagram of a chemical or manufacturing process) you want. However, the use of animation software often allows you to create more advanced, more flexible, and more creative interactive elements. Adobe Flash has long been the industry standard for creating such custom interactions, but its output is not directly compatible with iPads and iPhones. Adobe Edge Animate is a popular replacement for creating animations (but not interactivity).

Another option is using a template-based interaction software, such as Articulate Engage or Raptivity, which allow you to easily add your content to the template to significantly decrease development time.

FIGURE 4-6: RAPTIVITY INTERACTION TEMPLATE



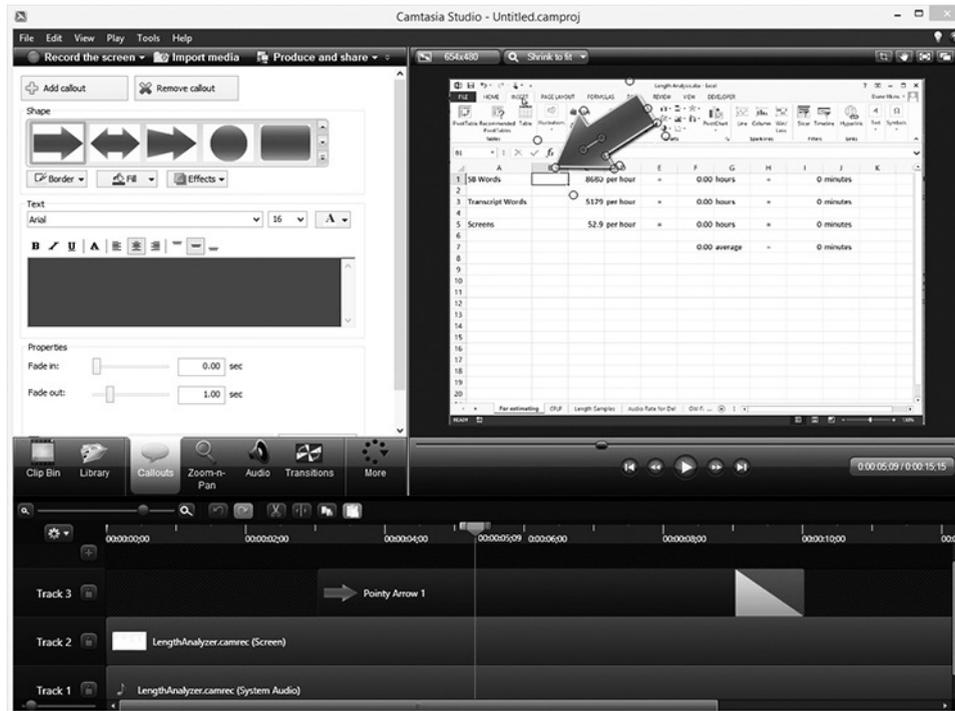
## Simulations

### Computer Simulations

When creating courses designed to teach software applications (such as an order-processing or customer-relations management software), you can include on-screen simulations of how the software works. You can even create practice or testing sessions where learners may try the steps themselves.

Special tools are available that make it quick and easy to create these simulations. With tools such as Adobe Captivate, TechSmith Camtasia, and Articulate Storyline and Articulate Studio, you can create a short software simulation in a few hours.

FIGURE 4-7: TECHSMITH CAMTASIA SIMULATION SOFTWARE

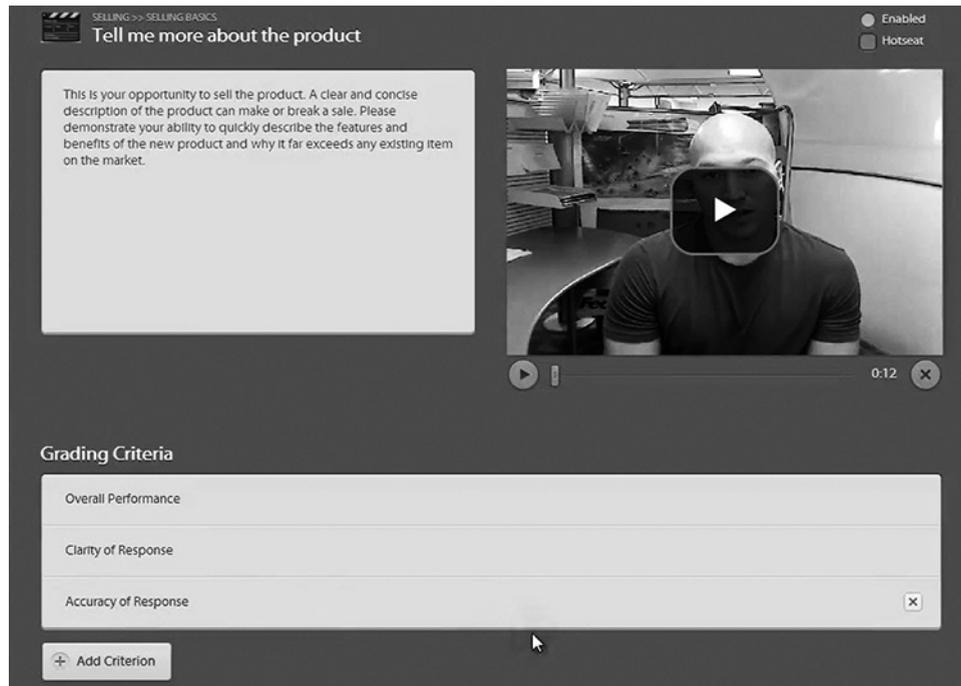


### Business and Technical Simulations

One way to make sure your learners know how to apply what they have learned back on the job is to create a real-world simulation. These simulations may just be a series of screens outlining a situation, followed by some multiple-choice questions. This type of simulation or scenario can often be done in your authoring tool.

However, some software packages are available that allow you to create more complex and interactive business simulations where the learners control variables, make decisions, and see the impact of their choices. Tools include Rehearsal VRP (video role-play) and PeopleSIM. Some of these companies have premade simulations you can integrate into your courses.

FIGURE 4-8: REHEARSAL VRP SIMULATION SOFTWARE



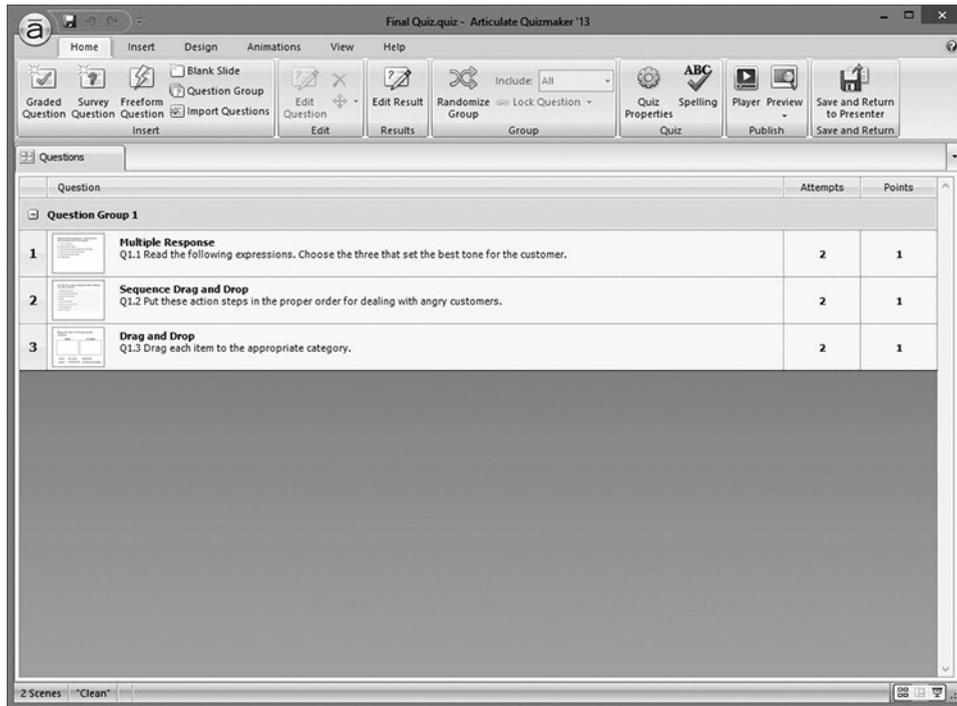
## Assessments

Most authoring tools, learning management systems, and learning content management systems have the ability to create tests and assessments. In addition, you may want to look at software specifically designed for that purpose.

## Quizzes and Tests

Tools such as Questionmark Perception and Articulate Quizmaker allow you to create and manage tests and exams.

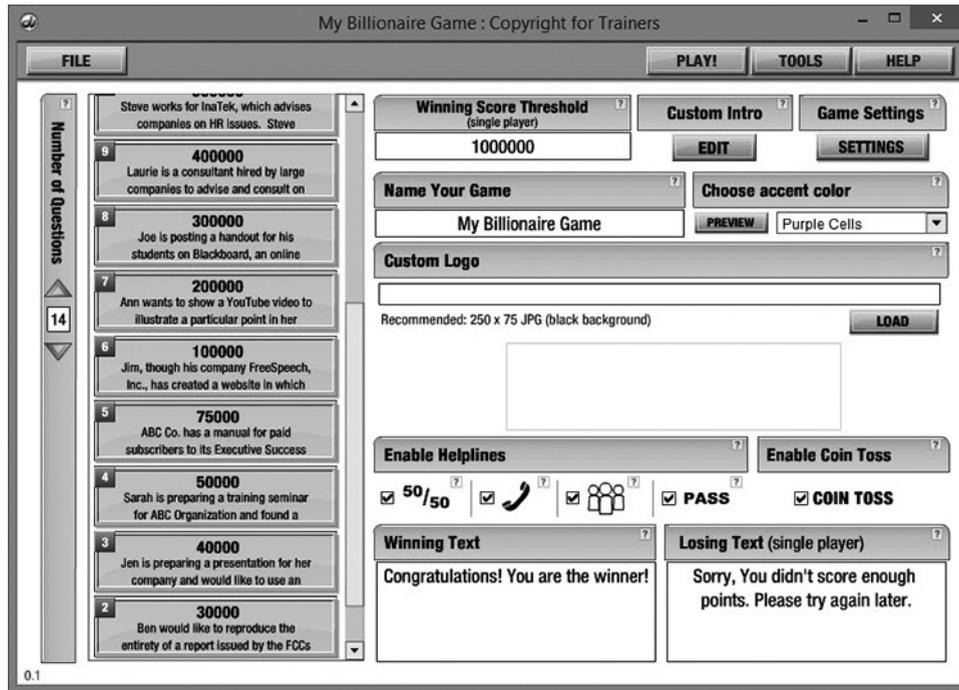
FIGURE 4-9: ARTICULATE QUIZMAKER SAMPLE QUIZ



## Games

If you'd like to get more creative with your quizzing and assessments, you may want to consider software that lets you create online games. There may be game capabilities in your authoring tool or in regular assessment software, or you can look at tools designed specifically for games, such as BRAVO! (C3 Soft-Works) and Raptivity (Harbinger Group).

FIGURE 4-10: MY BILLIONAIRE GAME FROM BRAVO!



## Audio and Video

In many ways, audio and video are a whole world of their own. If you plan to record and edit your own audio and video, you may need to acquire both equipment and software to do what you want to do. At the simplest level, you may be able to record audio clips in your authoring tool or even in PowerPoint. This is a quick and easy way to record, but there are limited editing options. You might need to rerecord whenever there is a change or a mistake.

Many e-learning developers use Audacity for audio editing because it is relatively easy to use . . . and it's free. For video, tools such as Microsoft Windows Movie Maker, Adobe Premiere or Premiere Elements, and Adobe Director provide a nice balance of capability and ease of use.

On the high end, you could purchase very expensive equipment to record, mix, and edit audio and video. However, unless you have a large-scale production effort or other needs in the company for similar services, it is often best to contract out any high-end media production.

### Dive Deeper

*Rapid Video Development  
for Trainers: How to Create  
Learning Videos Fast and  
Affordably* by Jonathan Halls

FIGURE 4-11: AUDACITY AUDIO EDITING SOFTWARE

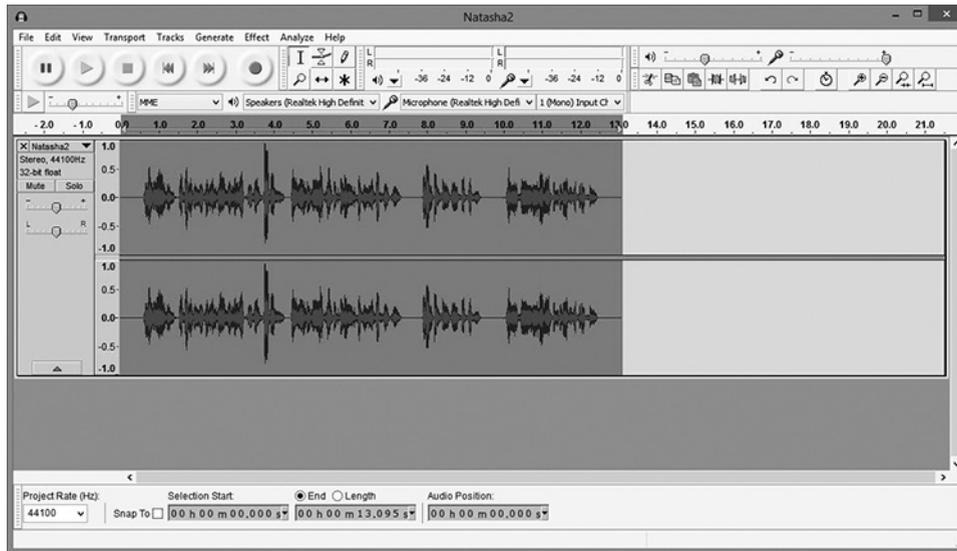


FIGURE 4-12: ADOBE PREMIERE ELEMENTS VIDEO EDITING SOFTWARE



## Summary

There are many options that allow you to create, deliver, and manage your e-learning. It is important to establish up front which features you want, prioritize them based on necessity, and then find the best product to meet your needs and your budget.

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