

## **From Dull to Dynamic: Using Rapid E-Learning Tools to Create Engaging Course Materials**

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**Abstract:** Ideally, development of interactive e-learning content is undertaken by a skilled team consisting of web programmers, graphic designers, content experts, and instructional designers. However, this is impractical for many online educators who are more likely to develop learning materials on their own. Without the specialized skills necessary to create dynamic and engaging course materials, the results are often static content similar to a PowerPoint presentation or online workbook. Fortunately, rapid e-learning tools allow educators with no programming skills to transform their content into quality interactive learning opportunities that promote active learning and engage students. Readers are offered practical and innovative tips and techniques that can be easily and readily implemented at their home institutions.

### **Introduction**

Developing e-learning content is ideally a collaborative effort that brings together subject matter experts, instructional designers, technical or creative writers, web programmers, and graphic designers. It has been argued that a quality online course requires these specialized resources as well as a considerable investment of time (Thompson & MacDonald, 2005). Some higher education institutions have been fortunate enough to have resources that allow for a similar model in creating their online programs (Kidney & Puckett, 2003). Most, however, do not. While larger universities often have campus support from course management system experts and perhaps an instructional technology office, rarely do the resources exist for such a collaborative effort.

The 2008 Sloan Survey of Online Learning found that online enrollment in higher education rose by over twelve percent in the course of a year, with nearly four million students being enrolled in at least one online course in fall of 2007 (Allen & Seaman, 2008). For many educators, there is now an expectation to make courses available online. Most educators receive little training on how to do this effectively. They tend to develop online courses independently and rely on the authoring tools they already know how to use, such as Microsoft PowerPoint and Word. The result is often static, passive course materials that do little to capture students' attention.

## Rapid E-Learning Tools

Fortunately, advancements in educational technology are providing educators who have limited technology skills the opportunity to create interactive, engaging, and pedagogically sound course materials. Using authoring programs that allow for rapid content development, often referred to as rapid e-learning tools, educators can more effectively transform activities used in the traditional classroom into the online environment. While some of these tools require training in order to use them, educators can now produce interactive Flash content without the need for a Flash programmer. More rapid e-learning tools are being introduced into the market each year, each with similar user-friendly features that produce dynamic end products.

Three of these tools are described briefly in Table 1; while there are many more, these tools were selected since they are the ones currently used by the authors. Note that this paper does not intend to promote any particular tool, but rather introduce the reader to the sorts of tools that are available.

**Table 1.** Rapid E-Learning Tool Chart

Name of Tool	Cost (excluding academic discount)	Best For
Adobe Captivate	\$799	Demonstration of web functions; learner interactivity with screen captures; assessment; branching; customization
Articulate	\$1846	Rapid content creation; transfer of Powerpoint presentations; assessment; menu templates
Lectora	\$2790	Template-based content creation; global editing across slides; assessment; customization

All of these tools include the ability to work within a template, create quizzes, record narration, and add interactive click boxes. They also include branching capabilities so that the course material can be designed to include multiple paths of activity and complex navigation options. Both Captivate and Lectora include screen capturing features, although Captivate's editing abilities for this are much stronger. While many of the authoring tools can be costly, they tend to have academic discounts and ultimately can save time and resources in content creation.

## Active Learning Theory

Research has long supported the incorporation of active learning into instruction. Empirical studies have demonstrated that students learn best when they are able to participate in their own learning experience in an active way; students retain information better when they interact with the course content, solve problems, and apply their knowledge (Page, 1990; Bonwell & Eison, 1991; Prince, 2004).

Course content that promotes active learning will often:

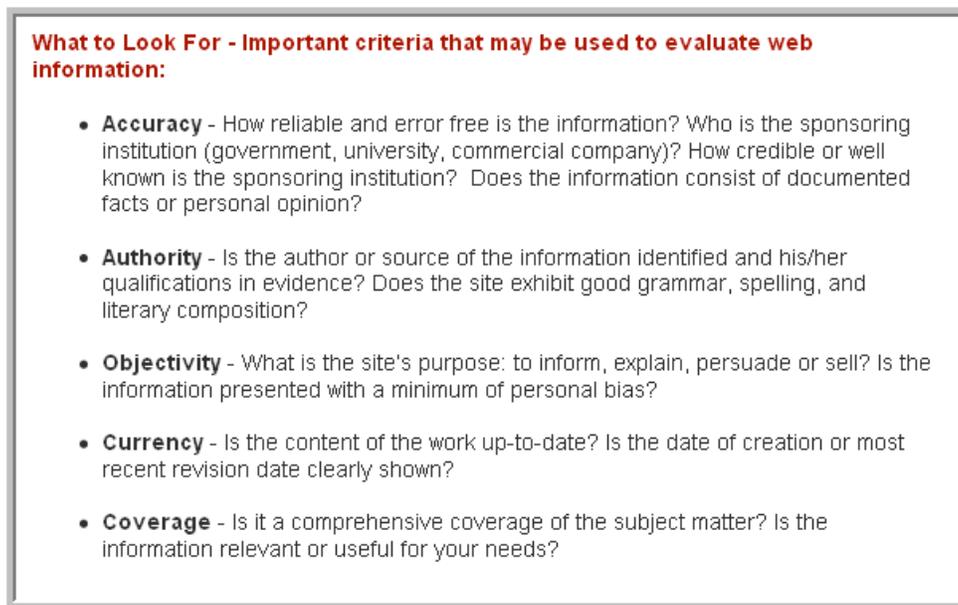
- Be presented across multiple learning styles (Fritz, 2002)
- Include problem-based activities based on realistic scenarios (Salomon & Perkins, 1989)
- Allow opportunities for reflection and self-assessment (Westberg & Jason, 1994)

However, online educators often struggle to incorporate such techniques due to the limitations of time and technology. Without the proper tools, it can be a considerable challenge to translate these techniques into an online environment.

## From Dull to Dynamic

Online educators often find themselves limited to static, text-based objects when creating their course content. In this section, examples from the University of Arizona Libraries (UAL) will demonstrate how passive, static instructional content can be transformed into engaging, dynamic presentations with the help of rapid e-learning tools.

The following example demonstrates a passive approach to teaching the concept of website evaluation.



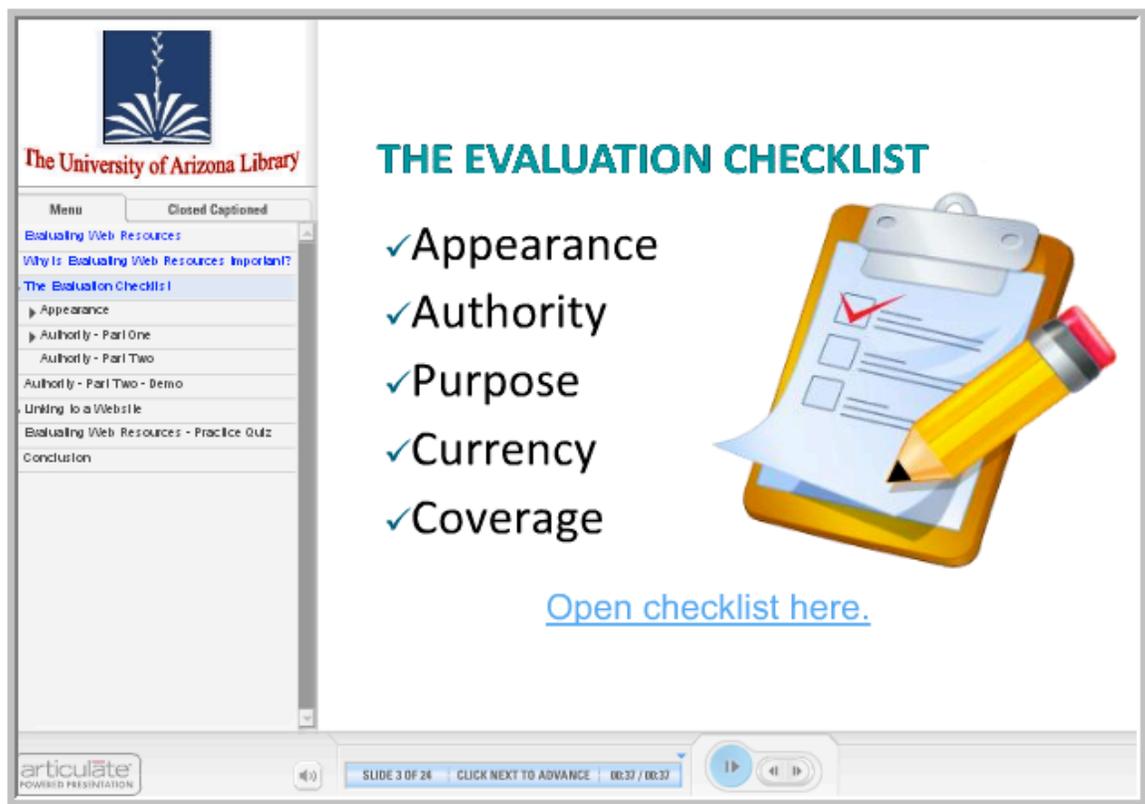
**What to Look For - Important criteria that may be used to evaluate web information:**

- **Accuracy** - How reliable and error free is the information? Who is the sponsoring institution (government, university, commercial company)? How credible or well known is the sponsoring institution? Does the information consist of documented facts or personal opinion?
- **Authority** - Is the author or source of the information identified and his/her qualifications in evidence? Does the site exhibit good grammar, spelling, and literary composition?
- **Objectivity** - What is the site's purpose: to inform, explain, persuade or sell? Is the information presented with a minimum of personal bias?
- **Currency** - Is the content of the work up-to-date? Is the date of creation or most recent revision date clearly shown?
- **Coverage** - Is it a comprehensive coverage of the subject matter? Is the information relevant or useful for your needs?

Figure 1. Evaluating Web Resources, static webpage

As demonstrated here, the content is simply presented through text on a webpage. It only addresses one learning style by requiring the student read the content to obtain the information. This is a standard presentation format, but it is mono-media instruction; students are only interfacing with the content using a single, visual modality. Research in learning styles and multimedia learning has suggested that student learning improves with multimodal delivery of instruction (Fritz, 2002), and that online educators should implement a Multiple Representation Principle, in which multiple modes are always used when presenting explanatory content (Mayer, 1999, p.559).

Recognizing the presentation format used in the online guide as a problem, a librarian at the UAL transformed this guide into a multimodal, interactive tutorial. The next example presents similar content that was created using Articulate.



**Figure 2.** Evaluating Web Resources, addressing multiple learning styles

The content is presented in multiple ways, reaching across students' multiple learning styles. Audio narration is included for auditory learners, as well as the ability to view closed captioning for those who learn better by reading. Kinesthetic learning is also included in multiple instances; students are in control of their navigation, and can click to open the checklist which can be filled in by the student. The graphic and corresponding speech is presented at the same time, and text is kept minimal to avoid redundancy with the narration; evidence has demonstrated that these techniques improve student retention of knowledge (Moreno & Mayer, 1999; Kalyuga et. al., 2000).

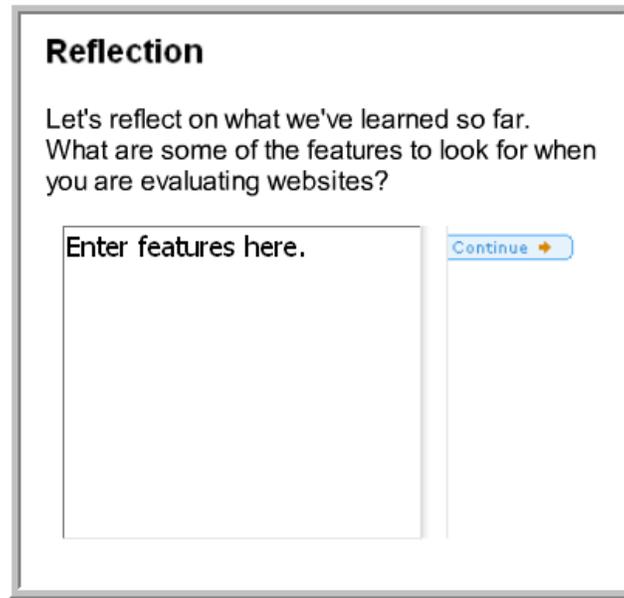
In addition to using multiple modes of presentation, realistic scenarios and problem-solving opportunities ought to be incorporated into online course design. Research indicates that completion of such activities lead to greater retention and transfer of skills into real life situations (Salomon & Perkins, 1989). Online guides such as the original example in Figure 1 do not allow for the application of knowledge; the students do not get any opportunities to demonstrate their learning.

The slide features a green header with a 'WWW.' logo and the title 'Evaluating Web Resources'. Below the title is a 'Practice' section with a text prompt and two response options, 'Yes' and 'No'. A screenshot of the HistoryLink.org website is shown below the text, featuring a navigation menu with links like Home, About Us, Fun & Travel, Education, Contact Us, Sponsors, and Advanced Search. At the bottom of the slide are two green buttons labeled 'BACK' and 'NEXT'.

**Figure 3.** Evaluating Web Resources, incorporating problem-based learning

Figure 3 is a slide from a newer version of the Evaluating Web Resources tutorial that a librarian created in Captivate; features used include branching as well as click boxes for opening websites and providing students with feedback. The students are presented with several scenarios where they must review a website and determine whether or not they would use it as a resource. They are also presented with scenarios where they must compare two websites on similar topics and determine which would be a better choice to use in their research. These tasks engage the learners as they are required to apply their knowledge in a realistic setting.

A final but important technique for incorporating active learning into a course is to provide the student with assessment and reflection opportunities. In the same Captivate example, students are receiving explanatory feedback each time they make a decision about a website. This means that in addition to being told the answer is correct or incorrect, an explanation is given as to why that is the case. Research demonstrates this type of feedback results in better learning, since it treats practice questions as teachable moments (Moreno, 2004).



**Reflection**

Let's reflect on what we've learned so far.  
What are some of the features to look for when you are evaluating websites?

Enter features here.

Continue ➔

**Figure 4.** Evaluating Web Resources, incorporating reflection opportunities

Additionally, the tutorial has two points at which the student is asked to reflect on their learning thus far; Figure 4 illustrates this reflection opportunity. Reflection and self-assessment further enhances learning as students are given time to better process information and skills gained up to that point (Westberg & Jason, 1994). The Captivate text entry box is used here; once the student selects the Continue button, examples of good responses appear on the screen.

### **Design Process**

Designing for online learning is in principle much the same as designing for classroom instruction. The instructor must identify the outcomes of the lesson and determine the activities needed to best meet those outcomes. The primary difference for the online instructor is that he or she must design activities within the limits of what is technologically available.

Fortunately, rapid e-learning tools allow the instructor to develop a robust quantity of interactive, engaging activities. Selecting the most appropriate tool will depend on the requirements of the instruction, so it is helpful to create a list of requirements to determine what tool best meets the instructional needs.

Prior to developing the course content using an e-learning tool, the instructor ought to storyboard the material. Planning for length, type of interactions, and script are important steps in the process and can save significantly on development time.

Once in the process of building the content, it is useful to request feedback from colleagues as well as students to determine usability and effectiveness of the instructional methods. Most importantly, the instructor must always keep in mind the pedagogy. It

ought to be the pedagogy, not the technology, which guides the development process. Addressing multiple learning styles and incorporating realistic problems, assessment, and reflection opportunities will better motivate the online student and lead to greater student success.

### **Conclusion**

As more educators are being asked to produce and teach online courses, it becomes necessary to seek out resources that can limit development time spent while improving pedagogical quality. Fortunately, educational technology is providing opportunities that were not previously available. Using rapid e-learning tools, static content can be transformed into engaging online course material without the need for a design and development specialists.

Educators are now able to create meaningful, interactive content in their online courses, better engaging online students and better meeting the learning outcomes of the course.

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