Technology Toolbox

Jennifer Katona

Walden University

Dr. Celeste Fenton

EIDT 6511: Assessments in Online Environments

November 17, 2012

Technology Toolbox

Technology is important in the design, development, and delivery of assessments. Online

courses have the opportunity to enhance instruction through the timely feedback of student

progress towards learning goals. Assessing learners online requires careful planning. There are a

variety of technology tools that can expand the quality of assessments. When designing an

assessment, the selection of the software program to use needs to align with the objective being

measured.

Assessing Learners Online

Assessing learners online affords the instructor or course designer multiple opportunities

to effectively enhance instruction. Technology can be used to provide both formative and

summative information about students' understanding of the learning objectives. Formative

assessment data allows the instructor opportunities to provide just in time learning solutions.

Summative assessments provide information to the instructor about how well students mastered

the learning objectives (Oosterhof, Conrad, & Ely, 2008).

Summative assessments provide angst for both students and faculty. If an instructor

provides students with feedback that is negatively viewed, their course approval rating may

decrease. They may also not be pleased with results showing students did not master the learning

content. Alongside this challenge is that students may misinterpret how the results will reflect

their overall performance. Runyon and Von Holzen (2005) propose, "Online assessment needs

to be viewed as an interactive mentoring opportunity that can be employed in online courses".

This viewpoint allows students to increase their knowledge in the subject matter. As a whole

process, these assessments provide instructors with insights to students' mastery of the learning

content (Sewell, Frith & Colvin, 2012). Students' scores on assessments can be increased by

using technology to provide prompt feedback. This allows learners a chance to focus their attention on the content they have not yet mastered.

Technology Tools and Assessment

Assessments in online courses have not kept up with available technology (Clarke-Midura & Dede, 2010). Students are growing up in a world with an affluence of technology tools they are accustomed to using (Tucker, 2009). Instruction in many schools has begun to integrate technology to enhance students' conceptual understanding of the learning objectives (Tucker, 2009). Technology can be used to assess more than if a student answers a question correctly. The use of graphics and other visuals in assessments allow students to demonstrate their understanding of concepts. Tucker (2009) suggests,

> This information may allow educators to better comprehend how students arrive at their answers and learn what those pathways reveal about students' grasp of underlying concepts, as well as to discover how they can alter their instruction to help move students forward (p. 1).

Many software tools can be used to design, develop, and manage assessments in online courses.

Technology Nerd (2008) lists ten free sites to use or create online tests. Each of the free sites has a link to the actual site along with commentary by the blogger. One of the links is to "All the Tests". This site offers users an opportunity to use a pre-made assessment or create their own using a help wizard. The types of assessments that can be made using the wizard include multiple choice, selection quizzes, tube tests, purity tests, and true/false quizzes (AllTheTests.Com, 2010). After creating your original assessment, you can either post it onto their site or onto your own site (Technology Nerd, 2008).

Ablemetrics (2011) lists software programs that are available for online test and quiz generating. Articulate® Studio is one of the products listed within this list. Articulate® Studio allows users to easily generate quizzes that include animation using Flash based technology (Articulate Global, 2012). Feedback can be given to students during the assessment (Articulate Global, 2012). Assessments made using Articulate® Studio can be inserted into webpages, loaded into learning management systems, or integrated into a presentation (Articulate Global, 2012).

University of Wisconsin (2012) has a site that lists assessment resources including authentic assessments. Links to rubrics and electronic portfolios are provided. Information is also available about how to develop performance assessment tasks. The assessment strategies link provides more information about types including fishbowl, Venn diagrams and reflection logs. Some of the tools listed from this site include Zoomerang® and Quizstar. Rubrics are important to include with writing or performance measures. Complex performances are more easily measured using a rubric (Pickett & Dodge, 2007). Selecting a software tool to use depends upon the objective being measured.

<div align="center">**Selecting the Right Tool to Measure the Objective**</div>

"Modern technology provides powerful ways to deliver assessment but does not change the fundamentals that are essential to effective assessment" (Oosterhof, Conrad, & Ely, 2008, p. 12). Many software tools have the capability to measure more than one type of knowledge. Tools should be selected to match the type of knowledge being assessed. The mind map below depicts the relationship between software tools and the types of knowledge being assessed.
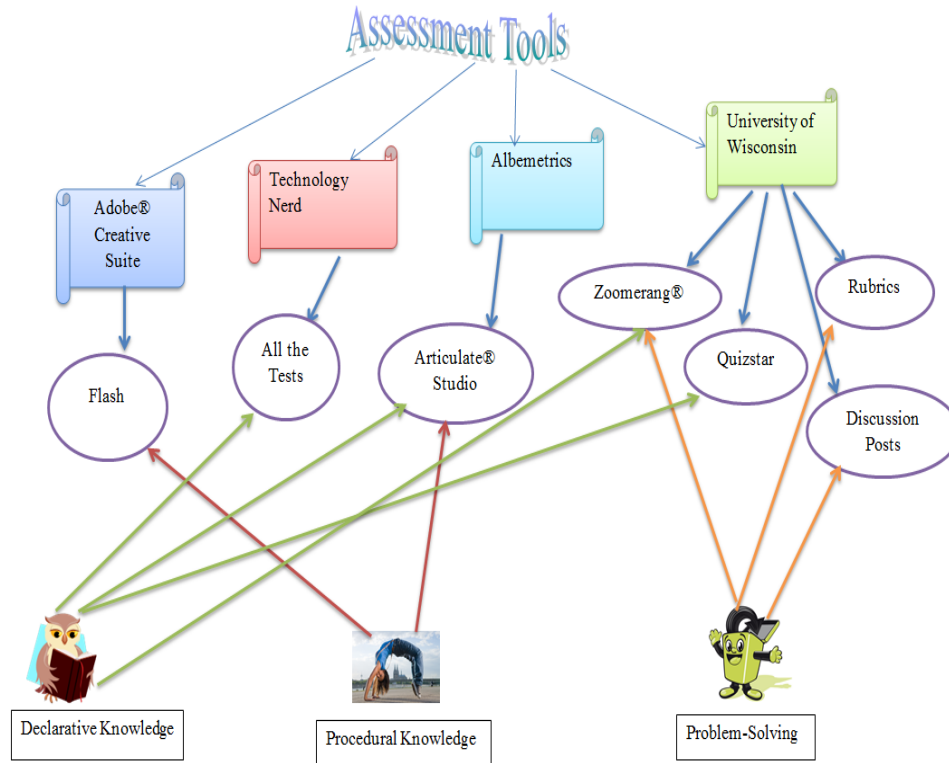
Oosterhof, Conrad, and Ely (2008) define declarative knowledge as "Any knowledge that can be expressed verbally, such as factual information and explanations of principles, procedures, and trends" (p. 16). Tools that assess declarative knowledge include software in which multiple-choice, matching, fill-in-the-blank, and short-answer responses can be created. Zoomerang, Quizstar, Articulate®, and All the Tests allow the course designer to create assessments with those options. These tools could be used to identify the components of an automobile dashboard, or identify common road signs. For the learning objectives that are used to identify, students could be asked to click on the correct picture or match the picture of a road sign with its meaning.

Procedural knowledge is the term used to describe how to do something (Oosterhof, Conrad, & Ely, 2008). Software programs that support this type of assessment include Articulate® Studio and Adobe® Flash. Both software, can allow learners to manipulate an

object to perform actions within a simulation. Students could illustrate the proper use of turn

signals that meet the legal limits by manipulating a car going down a road then activating a turn

signal. Students could also manipulate a car in a simulated road to demonstrate how to perform a

three point turn.

   Problem-solving questions can be assessed within a learning management system.

Instructure Canvas® is a learning management system that allows students to upload an essay.

Students could also respond to problem-solving questions in a discussion post. This allows them

to interact with one another. Rubrics should be used with problem-solving questions to clarify

the standards needed to be achieved for each level of mastery. Students could write a discussion

post describing at least four actions responsible drivers take following a minor car accident.

Zoomerang® also allows students to written responses.

   "Successful assessment is an ongoing cycle that involves the identification of outcomes,

the gathering and analyzing of data, discussion, suggesting improvements, implementing

changes, and reflection" (Buzzetto-More & Alade, 2006, p. 255). A variety of software tools are

available for instructors and course designers to use. The type of knowledge being assessed

should dictate the type of tool to select when developing the assessment. Most importantly,

assessing learners in any setting needs to have learning objectives that are clearly aligned to the

assessment itself.

References

Albemetrics (2011). Software for online testing and quizzes. Retrieved from

http://www.assessmentfocus.com/online-testing.php

AllTheTests.Com (2010). The rules. Retrieved from

http://www.allthetests.com/quiz30/quizbedingung.php

Articulate Global, Inc.(2012). Articulate studio '09. Retrieved from

http://www.articulate.com/products/quizmaker.php

Buzetto-More, N., & Alade, A. J. (2006). Best practices in e-assessment. *Journal of Information
Technology Education*, 5, 251-269. Education Research Complete database.

Clarke-Midura, J., & Dede, C. (2010). Assessment, technology, and change. *Journal of
Research on Technology in Education*, 42(3), 309-328. Education Research Complete
database.

Oosterhof, A., Conrad, R.-M., & Ely, D. P. (2008). Assessing learners online. Upper Saddle
River, NJ: Pearson.

Pickett, N. & Dodge, B. (2007, March 17). Rubrics for web lessons. Retrieved from

http://webquest.sdsu.edu/rubrics/weblessons.htm

Runyon, D. & Von Holzen, R. (2005). Assessment in online courses: Practical examples. In The
Annual Conference on Distance Teaching and Learning. University of Wisconsin, WI.

Sewell, J. P., Frith, K. H., & Colvin, M. M. (2010). Online assessment strategies: A primer.
MERLOT Journal of Online Learning and Teaching, 6(1), 1-9. Retrieved from
http://jolt.merlot.org/vol6no1/sewell_0310.pdf

Technology Nerd (2008). Online tests: 10 sites for creating free online tests, quiz, IQ tests, etc.,

Retrieved from http://tnerd.com/2008/07/28/free-online-iq-test-create-free-online-test-

exams-online-quiz-questions/

Tucker, B. (2009, February). Beyond the bubble: Technology and the future of student

assessment. Education Sector Reports. Retrieved from

http://www.educationsector.org/sites/default/files/publications/Beyond_the_Bubble.pdf