

Results of Review of the 2011-2013 Research Literature

Report prepared by Kay Shattuck and Research Colleagues, November 25, 2013

This report is submitted to members of the 2014 Rubric Review Committee to inform their upcoming work in reviewing the 2011 QM Rubric™ in an effort of continuous improvement. The report summarizes the recently completed review of the 2011-2013 instructional/course design research literature focused on higher education and is meant to be one of several sources of data that will inform the committee's work. Identified major themes in the research are noted and recommendations are made for the members of the Rubric Review Committee to consider as they apply the established rigorous review process.

Rationale: Independent scholarly research related to online course design has been identified, review, documented, and summarized as a data point for the work of those online distance educators who comprise the Quality Matters Rubric Committee. Formal reports have been issued to that committee in 2005 (under the FIPSE grant), 2008, and 2010. The review of the research literature is one set of data that informs the committee's work.

Methodology: The review of the literature was led by Kay Shattuck, QM's Director of Research, and conducted with the assistance of five QM Research Colleagues (RC): Julie Frese (University of the Rockies), Sharon Lalla (New Mexico State University), Joan Mikalson (Excelsior College), Bethany Simunich (Kent State University), and Li Wang (Ashford University). Each RC has an earned doctorate, has expertise in online distance education, and is a seasoned QM Peer Reviewer.

Identified scholarly peer-reviewed journal were reviewed for articles that might inform online course design. Twenty-one peer-reviewed journals were reviewed:

1. The American Journal of Distance Education (AJDE)
2. Distance Education (DE)
3. Open Learning: The Journal of Open, Distance and e-Learning (OL)
4. The Internet and Higher Education
5. Research in Learning Technology
6. Educational Technology Research and Development
7. Journal of Interactive Learning Research and Development
8. Journal of Educational Technology & Society
9. Educause Review
10. Journal of Distance Education
11. Journal of Asynchronous Learning Networks

12. The International Review of Research in Open and Distance Learning (IRRODL)
13. Online Journal of Distance Learning Administration (OJDLA)
14. Journal of Online Learning and Teaching (JOLT)
15. The Journal of Educators Online
16. Quarterly Review of Distance Education
17. British Journal of Educational Technology
18. Journal of Learning Sciences
19. Journal of Computing in Higher Education
20. The European Journal of Open, Distance and E-learning (EURODL)
21. Australasian Journal of Educational Technology

Additionally, the following academic databases were searched using course and instructional design keywords in attempts to identify any missed resources.

1. Academic Search Complete
2. ERIC
3. ProQuest
4. Dissertation Abstracts
5. Google Scholar

Each research piece was reviewed with an eye to instructional/course design topics for quality online courses. While theoretical pieces were reviewed, the focus was on published articles that documented a research methodology and findings. There was no attempt to document every article in the journals that might inform course design, however, a total of more than pieces were recorded that can inform the committee's work. These latest citation now raise the total since 2005 of documented citation in the QM Research Library to more than 500.

The charge to the research reviewers was (1) to record citations that might be related to the established QM eight general standards, (2) to identify instructional/course design themes that emerge from a careful reading of the research, and (3) to recommend to the 2014 Rubric Review Committee attention be paid to what and how emergent themes be approached as members of the committee attempt to keep the QM Rubric™ current and applicable for the QM community.

Themes from the 2011-2013 review of the research literature:

Theme	Discussion
<p>Constructivism is the dominant theoretical perspective used in online distance education and educational technology research. It has been the dominant perspective since online learning has been under study. What is evident now is that this perspective is found specifically expressed in use of the Community of Inquiry framework (Col). Col (http://communitiesofinquiry.com/model) is frequently used as guiding the methodology and for interpretation of a quality online learning experience.</p>	<p>Col focuses on the interaction of individual learners for whom a sense of being “real” in an online environment (presence) is facilitated so that they engage in actively purposeful discourse which results in deeper levels of learning.</p> <p>The interdependent dimensions of Col are social, teaching, and cognitive presence. Teaching presence (note: not teacher) includes the design elements of an online course that allows improved instructor facilitation and pedagogical direction to learners in the social and cognitive processes to promote “personally meaningful and educationally worthwhile learning outcomes” (Anderson, Rourke, Garrison, & Archer, 2001, para. 4).</p> <p>The concept of presence has a strong history of consideration in computer-mediated and online education and is essentially “when media users are oblivious of the mediated nature of their experience with media” (Shin, 2001, p. 16). Gunawardena and Zittle (1997) began using the term social presence to refer to the psychological sense that the learner has of being a part of the virtual group as result of interactions. A well-designed course allows for more facilitative engagement between the instructor and students (Hall, 2010). Burkle and Cleveland-Innes (2013) tied social presence to motivation and use of learner support.</p> <p>It can be argued that a number of existing QM standards already promote the development of the three presences. For example, standards 1.7, 1.8 (instructor and student introductions) can be understood as design strategies for developing students’ social presence and for establishing teaching/facilitator presence.</p> <p>Matthews, Bogle, Boles, Day, and Swan (2014, 2011, 2010) consistently point out that that the QM and Col frameworks are orthogonal in</p>

	<p>nature, and that the “linking of online course design to implementation and learning processes to course outcomes is long overdue in online learning” (2011, p. 13). The Col (constructivist) framework can assist in understanding why and how specific QM standards (based on objectivist ID and ADDIE models) can influence the learning process.</p>
<p>The importance an online learning community.</p>	<p>This theme has been evolving in the research literature over the last decade and is directly related to constructivism as a dominant online design/teaching/learning perspective. It is now impossible to miss as a theme in the research literature.</p> <p>Course design that facilitates a sense of online learning community especially related to structure, feedback, and discourse factors. For example, Rubin and Fernandes (2013) established the relationship of course design to online community-building by citing research findings “that online classes are more successful in supporting deep learning when they are characterized by a community of inquiry” (p. 125). Their study provided evidence that a learning community often exists “when built into the design of courses and expectations of teachers” (p. 126).</p>
<p>Collaborative learning is often a theoretical underpinning of studies and is thus highlighted as essential.</p>	<p>Collaborative learning has been a theme in the online learning literature for some years, and is now often highlighted as essential.</p> <p>Caveat: The experts who participated in the 2010 QM Interaction Summit outlined how complex it is to use the blanket collaborative learning perspective. Nonetheless, the research literature that we reviewed indicated that collaborative learning continues to be a major thrust of many online course authors/designers.</p>
<p>The clear theme in the literature is that pedagogy must drive the choice of technology and furthermore it is essential that students understand the pedagogy over-and-above the use of a particular tool or technology.</p>	<p>While the need for pedagogy to drive the choice of technology is not a new theme in the research literature, what does now seem heightened is that students should be assisted in understanding the purpose/learning goal of an assignment is the most important piece and that use of a particular tool/technology used to complete the assignment (e.g., wiki, mind map, blog, game, etc.) is only the tool for which the learning is set to happen.</p>

<p>Learner-centered online course design should solicit and respond to formative (during course delivery, such as mid-term), as well as summative (end-of-course) evaluations.</p>	<p>A learner-centered online course should include some type of mechanism for students to provide formative feedback to the instructor. This formative feedback will provide valuable information about areas of the course that are confusing to the students and need further explanation or redesign.</p> <p>While it is the institutional responsibility to analyze student feedback data on their online course experiences, there is no assurance that students will be given that opportunity to provide their voices without inclusion for the student evaluation tool/s in the design of an online course. Such evaluations should be specific to online course delivery.</p>
<p>Gaming and other immersion activities contribute to cognitive engagement.</p>	<p>Immersion activities, those high interest activities typically found in gaming, contribute to “flow” of an online course and help build student satisfaction and engagement.</p> <p>Meyer and Jones (2013) link pedagogy to online course design by describing the impact of flow “which happens when a self-contained activity is done for no reward ‘because the doing itself is the reward’ (cited from Csikszentmihalyi). [This concept poses] “an optimal combination of challenges and skills which balance in such a way that the participant avoids experiencing too much anxiety or boredom” (p. 138). Specific use of social media and of gaming activities can help students realize, acknowledge and understand the integration of materials taught in a module and how these may be embodied in ‘real world’ scenarios.</p>
<p>Studies referring to mobile learning are found in the research, but those studies are often descriptive without providing specific design strategies.</p>	<p>Expectations for mobile delivery of courses are growing rapidly. An online course designed and formatted for desktop or laptop web delivery needs to consider mobile applications for today’s and tomorrow’s learners.</p> <p>In reality, the field of educational enhancing mobile apps is still evolving, but for now some awareness is necessary for course designers. A review of the Mobile Learning Handbook (Advanced Distributed Learning (ADL) Co-Laboratories, 2011) highlights some development considerations including, design, graphics, and coding for the mobile web. A review of</p>

	<p>the “Best Practices for Mobile-Friendly Courses” (Blackboard Mobile, n.d.) provides some basic design decision points.</p> <p>Additionally, a recent study by Alden (2013) confirms that students view mobile devices to promote student learning. For example,</p> <ul style="list-style-type: none"> • To receive alerts and reminders about assignments. • To communicate with faculty, an advisor, and students, using voice, email, or text messaging. • To post or reply to a poll, discussion board. • To download and review lesson materials. (p. 109)
<p>Learning sciences related to online learning can be seen as an emerging theme in the educational technology literature.</p>	<p>Influence of learning sciences, especially in designing to minimize the potential for cognitive overload. Cognitive load is not a new concept in educational technology. For example, clear, “clean” screen layout that reduces the overwhelming, extraneous, “busy” presence of text, links, and graphics that a learner is likely to face when navigating the course. To reduce the changes of cognitive load chunking of materials, as well as shortening the length of video are noted strategies.</p>
<p>Research revolving around accessibility and inclusivity has grown significantly.</p>	<p>Several standards already make reference to accessibility and inclusivity. In attempts not to be prescriptive, we might be missing the importance of assuring that the necessary analysis phase (the “A” in the ADDIE model) has been done in order to design a specific online course. Awareness of such analysis would be helpful to peer reviewers.</p> <p>Note: What is now standard 8 should be part of the design plan and not an accommodation later. As a separate standard (and the last one) it looks like an add-on or an accommodation.</p>

Cited Works

- Advanced Distributed Learning (ADL) Co-Laboratories. (2011, August 9). *Mobile learning handbook*. Retrieved from http://www.adlnet.gov/wp-content/uploads/2013/01/ml_not_just_another.pdf; <http://www.adlnet.org/wp-content/uploads/2011/08/MLHandbook20110809.pdf>
- Alden, J. (2013). Accommodating mobile learning in college programs. *Journal of Asynchronous Learning Networks*, 17(1), 109—122. Retrieved from http://sloanconsortium.org/publicatons/jaln_main
- Burkle, M. & Cleveland-Innes, M. (2013). Defining the role adjustment profile of learners and instructors online. *Journal of Asynchronous Learning Networks*, (17)1, 73—87. Retrieved from http://sloanconsortium.org/publicatons/jaln_main
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of optimal experience*. New York: Harper and Row.
- Gunawardena, C. & Zittle, F. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *American Journal of Distance Education*, 11(3), 8-26.
- Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist*, 38(1). Retrieved from http://www.uky.edu/~gmswan3/544/9_ways_to_reduce_CL.pdf
- Meyer, K. & Jones, S. (2013). Do students experience flow conditions online? *Journal of Asynchronous Learning Networks*, 17(3), 137—148. Retrieved from http://sloanconsortium.org/publicatons/jaln_main
- Rubin, B., & Fernandes, R. (2013). Measuring the community in online classes. *Journal of Asynchronous Learning Networks*, 17(3), 115—136. Retrieved from http://sloanconsortium.org/publicatons/jaln_main
- Shin, N. (2001). Beyond interaction: transactional presence and distance learning Unpublished doctoral dissertation, Pennsylvania State University.
- Wilson, E., Kelleher, J., Day, D., Lilleker, R., & Hives, L. (n.d.) Best practices for mobile-friendly courses. Retrieved from <http://www.blackboard.com/CMSPages/GetFile.aspx?guid=c5e2f75a-39ef-4fe2-8301-564ec59dfa25>
- Swan, K. P., Matthews, D. B., Bogle, L. R., Boles, E., & Day, S. L. (2011, April). *Linking course design, implementation, and learning outcomes: The Quality Matters and Community of Inquiry frameworks*. Poster session presented at the American Educational Research Association, New Orleans, LA. Retrieved from <http://www.aera.net/repository>