



2018-2019 Higher Education Literature Review Summary

**Conducted and compiled by Wade Lee and Snejana Slantcheva-Durst
University of Toledo**

Introduction

This research literature review project involved a team of researchers from the University of Toledo's departments of Higher Education and Online Learning. The team's goal was to conduct monthly searches of the scholarly research databases for articles and dissertations on online and blended learning in higher education, to review each publication, and to upload appropriate references into the QM Research Library in APA style. Over the course of one year (July 2018 – June 2019), the team reviewed 2,408 publications of which 553 were uploaded into the QM Research Library. In addition, 14 publications were sorted under a new category titled "New Topics/Trends."

Methodology

An experienced academic research librarian, Wade Lee-Smith (Research Engagement Librarian, University of Toledo), designed a comprehensive search strategy based upon the strategy used to locate references used in updating the QM Library in preparation for the 6th QM Rubric (2017). This search strategy was used in the academic research databases Academic Search Complete, Education Full Text (H.W. Wilson), Education Research Complete, ERIC, Professional Development Collection, Psychology and Behavioral Sciences Collection, and PsycINFO (Strategy 1). The strategy was subsequently adapted to the Proquest Dissertations & Theses A&I database to locate pertinent graduate theses and dissertations (Strategy 2). The initial searches were run to cover the time period of January 1, 2018 forward, and weekly updates were performed from July 2018 through June 2019. All results were added to a shared EndNote library for screening and evaluation.

Strategy 1, EBSCOhost:

(("computer assisted instruction" OR "web-based instruction" OR "online courses" OR "online education" OR "online learning" OR "online teaching" OR "e-learning" OR "elearning" OR "electronic learning" OR "learning management systems" OR "course management systems" OR "courseware" OR "Blended learning" OR "distance learning" OR "distance education" OR "virtual classrooms" OR "internet in education" OR "mobile communication systems in education" OR "computers in education")) AND ((instruction*-design* OR course-design* OR "learning objectives" OR accessibil* OR usabilit* OR instructional-technolog* OR educational-technolog*) NOT TI Proceedings

Published Date: 20180101-;

Education Level: Higher Education, Postsecondary Education, Two Year Colleges

Strategy 2, Proquest:

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noft(("computer assisted instruction" OR "web-based instruction" OR "online courses" OR
"online education" OR "online learning" OR "online teaching" OR "e-learning" OR "elearning"
OR "electronic learning" OR "learning management systems" OR "course management systems"
OR "courseware" OR "Blended learning" OR "distance learning" OR "distance education" OR
"virtual classrooms" OR " internet in education" OR "mobile communication systems in
education" OR " computers in education")) AND noft((instruction* design* OR course design*
OR "learning objectives" OR accessib* OR usabilit* OR instructional-technolog* OR educational-
technolog*))
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Initial processing involved removing duplicated entries generated by indexing in multiple databases. A total of 2,408 items remained after removing duplicate entries. Further screening based on internal keyword searches were used to identify K-12 content for removal. Items were randomly assigned to a team of nine content-area researchers from the University of Toledo departments of Higher Education and Online Learning. The researchers included:

- Chelsea Chandler
- Michael Douglas
- Mingli Xiao
- Rachel Barnes
- Ron Opp
- Shujuan Xiao
- Snejana Slantcheva-Durst
- Song Lei
- Sylvia Suh

The researchers were assisted by the academic research librarian, Wade Lee, and a graduate assistant in the department of Higher Education: Brittany Kim.

Items were screened initially on the basis of their title and abstract, and then, if necessary, by their full text. Items were excluded for any of the following reasons:

- Not Higher Education content (343 items)
- Not related to Course Design or Interaction (784 items)
- Not Online delivery (221 items)
- Not a research paper (172 items)
- Teaching focused (55 items)
- Low Quality Reference (94 items)
- Other (186)

Items that met the inclusion criteria were categorized into one or more of the eight QM Rubric categories. There were a total of 553 scholarly items remaining after screening, distributed across the Standards as follows (note: an item may appear in multiple standards):

- Standard 1: Course Overview / Introduction (27 items)
- Standard 2: Learning Objectives (21 items)
- Standard 3: Assessment (64 items)
- Standard 4: Instructional Materials (87 items)
- Standard 5: Course Activities / Learner Interactions (252 items)
- Standard 6: Course Technology (197 items)
- Standard 7: Learner Support (48 items)
- Standard 8: Accessibility / Usability (38 items)

Full text was obtained and the reviewer had the option of adding their own annotation if the author-supplied abstract was insufficient. A graduate assistant from the Higher Education department then transferred the final entries to the QM Reference Library using the online submission form.

Themes

The team created a new category with the title “New Topics/Trends” as a place holder for sound publications that focused on issues of online/blended course design but did not fit into any of the standards. Fourteen articles were sorted into this category and remain accessible on the EndNote shared library. Although the articles differ in focus, a shared theme relates to overall course design models and approaches, including guiding concepts/frameworks of design, forms of delivery, and best practices. A bibliography of the 14 articles is included in Appendix. In addition, a QM Survey of Literature 2018/2019 Bibliography accompanies this summary as an additional file.

Appendix

Bibliography of 14 publications sorted under the category "New Items/Trends"

Bigatel, P. M. and S. Edel-Malizia (2018). "Using the 'Indicators of Engaged Learning Online' framework to evaluate online course quality." *TechTrends: Linking Research & Practice to Improve Learning* 62(1): 58-70.

This article is a case study of the use of the Indicators of Engaged Learning Online (IELO) framework (See Appendix 1) as a guide to evaluate the quality of online courses. The framework lends itself well to measures of engagement, particularly, in terms of online course design because of its comprehensiveness. Six online courses were evaluated for quality in terms of engaged learning based on thirty indicators contained within the framework. Results ranged from a score of 21 to 71 out of a potential total score of 90. This 0-90 scale represented a continuum of passive to engaged learning. The purpose of the pilot study was to explore how the Indicators of Engaged Learning Online (IELO) framework could be used as a tool for evaluating the quality of online courses by instructional designers (IDs) and instructors. Insights into the practical use of the IELO framework and the need for improved guidelines for IDs and instructors as they assess the amount of student engagement designed in a course are provided. Recommendations for practice have implications for both aspects of engagement: how a course is designed and how it is delivered. [ABSTRACT FROM AUTHOR]

Buch, B., et al. (2018). "Using the 7Cs Framework for Designing MOOCs in Blended Contexts--New Perspectives and Ideas." *Universal Journal of Educational Research* 6(3): 421-429.

Designing teaching in an era of educational technology calls for new models for designing learning opportunities. The 7Cs framework developed by Professor Gráinne Conole and her colleagues provides a tool for discussing learning designs for online learning environments. In this paper, we introduce the 7Cs framework put forward by Conole and colleagues and discuss it in relation to the concept of personalized learning paths and 'schooling' as a discourse. The article is mainly theoretical, but as empirical support for our theoretical arguments, we discuss examples from a MOOC developed for the teacher education program at University College Absalon, Denmark. On this background, we propose a number of revisions for the 7Cs framework in order to adapt it for designing MOOCs that are used in blended contexts.

Debattista, M. (2018). "A Comprehensive Rubric for Instructional Design in E-Learning." *International Journal of Information and Learning Technology* 35(2): 93-104.

Purpose: The recognition of practice in online instruction is still subject to interpretation and different approaches as a result of the rapid changes in technology and its effect on society. The purpose of this paper is to address these differences through a synthesis that can be easily accessed and consulted by educators in the field of e-learning.

Design/methodology/approach: This paper reviews different examples of rubrics and instruments in higher education to propose a more comprehensive rubric that constitutes a synthesis of how some institutions in HE approach best practice in this field. Findings: The proposed comprehensive rubric emanating from the synthesis of different approaches supports

the development, remixing, sharing and integration of online modules and courses by providing a single reference point with as wide a range as possible of potential pedagogical tools, facilities and approaches to e-learning. Research limitations/implications: It is not within the scope of this paper to review quality assurance processes and administrative components, but to propose a rubric for course design and self-review of faculty and higher education institutions for a better alignment with what is regarded as current standard best practice. Practical implications: Instructional designers in e-learning have a new comprehensive rubric that can consult at design stage. Originality/value: Different approaches towards what is called "good practice" are brought together and analysed to provide a synthesis and a single source that can be consulted by practitioners in the field of e-learning.

Hinck, G., et al. (2018). "Visions of Quality Assurance in Online MBA Programs." *Online Learning* 12(4): 243-261.

Online MBA programs have undergone significant growth in recent years. However, quality assurance measures have not kept pace with this growth. The purpose of this study was to identify and prioritize aspects of quality assurance specific to Association to Advance College Schools of Business (AACSB)-accredited online MBA programs. The Delphi methodology was used to facilitate a group conversation among administrators, faculty members, and instructional designers around the topic of quality assurance for online Master of Business Administration (MBA) programs over the next 3-5 years. This paper reports the results of this study and how the results will help to direct the efforts of those involved in the delivery of a quality online MBA program. [ABSTRACT FROM AUTHOR]

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Jeffery, M. and A. Ahmad (2018). "A conceptual framework for efficient design of an online operations management course." *Journal of Educators Online* 15(3): 112-125.

This paper presents a framework for an efficient design of an undergraduate Operations Management online course based on Gagné's Nine Events of Instruction. It demonstrates how to design an undergraduate Operations Management course effectively so that each of the nine events occurs. It also evaluates the resulting course using Quality Matters standards. The paper concludes by providing tips and lessons learned based on feedback from students and course designers over multiple iterations of course offerings. [ABSTRACT FROM AUTHOR]

Kanekar, A. (2018). "Designing an E-Learning Health Promotion Course: Meeting the National Benchmarks." *Pedagogy in Health Promotion* 4(3): 184-189.

The purpose of this coaching article is to assist health education academicians and specialist practitioners to understand the design of a fully distance learning health program and planning course applying the Quality Matters and Blackboard Exemplary Course rubric frameworks. Quality Matters is a nationally recognized, faculty-centered, peer-review process

designed to certify the quality of online and blended courses and online components. The Blackboard Exemplary course framework uses best practices in designing engaging online courses with detailed feedback and course improvement. This article is a peer to peer teaching effort of step by step application of various rubric features, used nationally, providing examples of its applications toward a distance learning course. Additionally, the course designer discusses literature related to the evidence base of Quality Matters and some of the limitations of using course design tools. [ABSTRACT FROM AUTHOR]

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MacLeod, K. R., et al. (2019). "Continual Improvement of Online and Blended Teaching Using Relative Proximity Theory." *Decision Sciences Journal of Innovative Education* 17(1): 53-75.

This article applies Deming's Plan-Do-Study-Act (PDSA) cycle of continual improvement to a course taught with both blended and online sections. It uses Relative Proximity Theory, an extension of the Theory of Transactional Distance, to measure the quality of online/blended learning as a function of the obstacles to a student's full engagement with a course. These obstacles can arise because of the student's transactions with fellow students, with the instructor, with the course content, or from the instructional technology used in the course. Using stepwise multiple regression, the most significant obstacles can be identified. Once the obstacles are known, strategies to reduce them are planned and implemented. Logistic regression is used to determine if the realized reductions are statistically significant and for setting the stage for further improvements. [ABSTRACT FROM AUTHOR]

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Parker, M. A., et al. (2018). "The I3 Model: Rethinking How Faculty Teach Quality Online and Blended Courses." *Proceedings of the International Conference on e-Learning*: 323-330.

Extensive research shows that building high quality online and blended courses are tantamount to student success and engagement; but faculty motivation to move to new modalities lags behind demand. To assist faculty with making the successful transition, we developed the Instructional Innovation Incubator (i3) model, first implemented in North Carolina, U.S.A from 2014-16. The i3 model combines elements of research online course development, faculty motivation (innovation), engaged teaching and learning (instructional), and entrepreneurship (incubator). The model is based on six design principles: transferability, innovation, intensive format; human-centred design and sustainability. During the week long-event itself, a robust support structure is coupled with a range of flexible components (e.g.,

innovation talks; group activities; video sessions; problem-based learning; vendor demonstrations, and instructional design consultation). In this multi-year, cross-sectional study, we investigate the effectiveness of the i3 model across five iterations in the southern region of the United States. The researchers asked, is i3 an effective model for addressing faculty motivation, encompassing an increase in faculty (a) knowledge (b) confidence and (c) experience with online teaching? Eighty-four faculty across nineteen academic institutions and numerous disciplines participated in the study. For each cohort of i3 fellows, a pre and post electronic survey was used based on the Participant Perception Indicator (PPI). Across the i3 sites, there were statistically significant differences in fellows' knowledge, confidence and experience with online courses. We discuss the findings in regards to the extant literature and implications for practice, including the potential for extending the model to other sites.

[ABSTRACT FROM AUTHOR]

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Perišić, J., et al. (2018). "A semantic approach to enhance moodle with personalization." *Computer Applications in Engineering Education* 26(4): 884-901.

Abstract: The purpose of this paper is to present a framework for an adaptive mechanism implemented in Moodle in order to improve learning outcomes and students' satisfaction with the learning process. The proposed mechanism adapts the learning content within the course according to students' characteristics expressed by their learning style. In our study, student's learning style is dynamically determined by monitoring students' actions and activities during the learning process, and detecting patterns of behavior that correspond to specific learning style. Semantic web technologies are in the background of the entire adaptive system. In order to examine the effectiveness of the proposed model and students' feedback, an evaluation study was conducted on two groups of students. Students from the control group had access to standard Moodle course, while students from experimental group had access to personalized learning content. The results indicated that students' performance was improved by using the proposed framework, while the student's feedback from regarding its usefulness was positive. [ABSTRACT FROM AUTHOR]

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Reeves, J., et al. (2018). "Developing and Implementing an Online Course Framework." *Distance Learning* 15(1): 41-50.

The article reports on the development and implementation of online course framework. Topics mentioned include the importance of technological innovations in curriculum development, the learning management, and the measurement of course-learning outcomes. Also mentioned are the learning strategies and the student participation.

Sarrab, M., et al. (2018). "Toward Educational Requirements Model for Mobile Learning Development and Adoption in Higher Education." *TechTrends: Linking Research & Practice to Improve Learning* 62(6): 635-646.

Mobile learning (M-learning) is a learning paradigm that utilizes the advantages of mobility and wireless technologies in the learning and education process. It can be characterized by the ability to support and provide strong interaction between learners and instructors, offering high levels of learning motivation, collaboration, and flexibility to the learning activities. Despite the increased popularity of M-learning, there is no complete and well-defined set of educational requirements for M-learning in higher education which considers both instructional design and M-learning design. Therefore, this paper proposes a new educational requirements model for M-learning development and adoption in higher education. This set of requirements has been built from a literature study with focus on standards for learning and mobile application software quality and guidelines. This work presents the results of applying the proposed set of educational requirements on three different M-learning systems. Instructional designers and educational software developers may find the requirements useful in the development of M-learning systems. The effort described is part of an Omani-funded research project investigating the development, adoption and dissemination of M-learning in Oman. [ABSTRACT FROM AUTHOR]

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Vlachopoulos, P., et al. (2019). "A comparative study on the traditional and intensive delivery of an online course: design and facilitation recommendations." *Research in Learning Technology* 27: 1-13.

In this paper, we present findings from a comparative study on a fully online postgraduate course offered in traditional (i.e. 13-week academic session) and intensive (i.e. 6-week academic session) delivery formats. Keeping the course curriculum, structure and quality consistent in both delivery modes, the study investigated student participation and academic performance given different facilitation techniques applied to the discussion forums. Using data from the learning management system and students' final marks, we conducted quantitative and qualitative analysis and found no difference in the academic performance of students in both courses; however, there was a statistically significant relationship between student participation and academic performance in the intensive delivery format but not in the traditional delivery format. We also found differences in the type of interactions in the different delivery formats. Two key takeaways emerge from our study. Firstly, intensive online courses

can be as effective as traditional courses in terms of achievement of learning outcomes with variations in learning design, in this case, the facilitation approach used. Secondly, considering the level and nature of interactions, student-centred discussion forums that allow students to assume different roles work well in the intensive delivery format especially in open discussions. These are important findings for academics and practitioners who wish to offer intensive courses without compromising on course quality and student success. [ABSTRACT FROM AUTHOR]

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Warren, S. J. and H. A. Robinson (2018). "The product life-cycle of online courses and student engagement." *American Journal of Distance Education* 32(3): 161-176.

With increased online course offerings at most higher education institutions, it is important to have a way to determine whether the courses continue to have value to students or outlived their usefulness. Courses are the central means of knowledge delivery for each institution and may be viewed through the lens of the product life-cycle, which is a common way for for-profit corporations to ensure they are aware of when it is time to make adjustments or completely overhaul what they provide to consumers. We leverage this concept to develop a conceptual mode of the life-span and cycle of curricular products; especially, those delivered online, which may have a shorter shelf life than in-classroom courses. To that end, we map a single course that has spanned nearly 20 years and shifted from face-to-face delivery, to a blended mode with learning technologies support, and then into a fully online format. This piece depicts the course life-cycle, which emerged from multi-strategy research analysis of that course. Understanding that online courses have a life-cycle can help department and university managers plan for the investment in the improvement of each as it comes to the end of its useful lifespan. This can ensure high-quality learning and a sustainable portfolio of programs and courses with which students are engaged. [ABSTRACT FROM AUTHOR]

Wu, X. V., et al. (2018). "A systematic review of online learning programs for nurse preceptors." *Nurse Education Today* 60: 11-22.

Background Nurse preceptors guide students to integrate theory into practice, teach clinical skills, assess clinical competency, and enhance problem solving skills. Managing the dual roles of a registered nurse and preceptor poses tremendous challenges to many preceptors. Online learning is recognized as an effective learning approach for enhancing nursing knowledge and skills. Objective The systematic review aims to review and synthesise the online learning programs for preceptors. Design A systematic review was designed based on the Cochrane Handbook for Systematic Reviews of Programs. Data Sources Articles published between January 2000 and June 2016 were sought from six electronic databases: CINAHL, Medline OVID, PubMed, Science Direct, Scopus, and Web of Science. Methods All papers were reviewed and quality assessment was performed. Nine studies were finally selected. Data were

extracted, organized and analysed using a narrative synthesis. Results The review identified five overarching themes: development of the online learning programs for nurse preceptors, major contents of the programs, uniqueness of each program, modes of delivery, and outcomes of the programs. Conclusion The systematic review provides insightful information on educational programs for preceptors. At this information age, online learning offers accessibility, convenience, flexibility, which could of great advantage for the working adults. In addition, the online platform provides an alternative for preceptors who face challenges of workload, time, and support system. Therefore, it is paramount that continuing education courses need to be integrated with technology, increase the flexibility and responsiveness of the nursing workforce, and offer alternative means to take up courses. [ABSTRACT FROM AUTHOR]