Measuring the Effectiveness of Do-It-Yourself Online Course Quality Assurance Training

Robert Shields[1]
California Baptist University

Dirk Davis[2]
California Baptist University

Jeff Keneaster[3]
California Baptist University

Higher education institutions have worked to ensure that their online courses are of high quality. Previous research indicated that existing frameworks for online course quality assurance focused on common areas. A one-way ANOVA was used to compare quality assurance score data between faculty that were trained via an internally created in-person modality, an internally created online modality, and an online workshop created by a third party. A paired sample t-test was used to compare the student course evaluation scores for courses developed by untrained faculty course developers with those earned by trained developers. Findings from the study indicated that quality assurance training resulted in a statistically significant increase in quality scores; however, a statistically significant difference did not exist between the scores earned based on training modality. Findings also suggest that a statistically significant difference did not exist between student course evaluation scores for courses developed by trained and untrained faculty course designers.

Keywords: online course development, quality assurance, faculty training

INTRODUCTION

Can quality assurance training really improve online college courses? In order to ensure the relevance and quality of online courses, continuous review and improvement of courses is needed. Situational factors, such as current events and technological advancements, can impact the development of courses in certain disciplines, such as political science and information technology, at a faster rate (Lieberman, 2018).

In addition to the need to review and refresh courses on a regular basis, developers of online college courses must work to ensure that students have opportunities to collaborate with other learners. Recent research conducted at 541 U. S. institutions suggests that first-year college students and seniors that take more online courses experience less collaborative learning. However, the study also revealed that the first-year students that took more online classes spend more time participating in activities that were related to quantitative reasoning-skills (Dumford 2018), which are in high demand among U. S. employers.

Institutions of higher learning have been working to meet market demands while providing quality online learning experiences. In recent years, quality assurance frameworks and evaluation instruments for online courses have come into existence, including the Blackboard Exemplary Course Program Rubric, the Quality Matters (QM) Higher Education Rubric, and others. While each of the evaluation instruments has different specialties and foci, they tend to have essential elements in common. For example, in the evaluation of six popular assessment instruments for course design, it was discovered that most of the assessment instruments promoted the "chunking" of course materials and assignments into manageable segments (Baldwin 2018).

The study was conducted at a private, comprehensive "Regional University" located in the Western part of the United States (U. S. News, 2019). The institution implemented a course design process that integrated elements of the aforementioned quality assurance frameworks. The institution's dedicated online course division, on average, used the process to manage 75-100 course development and/or re-development initiatives annually. As part of the process, faculty members at the institution were selected to design specific courses within their respective areas of expertise. In response to a demand from faculty for more support and documentation for online course design, the institution implemented Quality Matters (QM) as its quality assurance system for course development beginning in 2017.

Quality Matters (QM) is a well-established quality assurance framework for online course development; the framework is supported by more than 1,000 research studies and is utilized by approximately 60,000 participants at more than 1,000 institutions. Quality Matters was founded by the MarylandOnline consortium in 2003 as a grant-funded initiative dedicated to measuring and ensuring the quality of online courses. Today, Quality Matters is a self-sustaining, non-profit organization (Quality Matters, 2019).

The Quality Matters framework is based on an objective, evidence-based course review. Courses are evaluated via a 42-standard rubric. Out of the 42 standards, 23 standards are considered to be "Essential," 12 are considered to be "Very Important," and seven are deemed "Important." After being evaluated by the rubric, courses can earn a maximum score of 100 points. In order for a course to be deemed Quality Matters compliant, the course must earn 85 points or higher, and must meet all of the rubric's "Essential" standards (MarylandOnline, 2018).

As part of the implementation of Quality Matters, it was determined that all full-time faculty members in the online course division would need to become familiar with the QM rubric for course design purposes. Soon after the university became a QM "member institution," two university employees completed QM-hosted training modules, including the Applying the Quality Matters Rubric (APPQMR) workshop. From September to December 2017, a group of academic leaders in the online course division completed a face-to-face QM training program that was developed in-house. The program followed a "train-the trainer" model; the trainee group was equipped to train faculty in their respective areas on the QM system and its use. At the end of the face-to-face training program, it was decided that an online version of the training would be delivered to all full-time faculty members and course designers in the online course division. The online training modules were developed by the institution's in-house instructional designer. Some members of the original trainee group also contributed to the development of the training by providing audio narration for the online training.

Throughout the 2017-2018 academic year, all full-time faculty members and course designers in the online course division completed either the APPQMR workshop or the in-house QM training program. Beginning with the Summer 2018 trimester, all course development projects were required to be QM-compliant, as determined via an internal, QM-based review process.

Feedback from faculty indicated that the APPQMR training was both useful and rigorous. The faculty response was consistent with research that was conducted at two community colleges. The research suggested that faculty who complete the APPQMR training gain increased confidence in using the rubric to evaluate online courses (Gregory 2018).

Before course developers in the online course division received Quality Matters training, existing course development projects were evaluated based on the QM Higher Education Rubric by an in-house instructional designer. The course development projects earned an average score of 82 based on the rubric.

The purpose of this study was to compare and contrast the quality of online courses developed before and after the course developers received online course quality assurance training. It was hypothesized that the implementation of quality assurance training would have a positive impact on student course evaluations, indicating an increase in overall student satisfaction.

Our research questions are as follows:

- To what extent does quality assurance training impact the measured quality of online course templates?
- What is the impact of quality assurance training on student course evaluations?

LITERATURE REVIEW

Higher education has entered a significant movement from traditional classrooms to online and distance learning. In 2015, 29.8% of students at post-secondary institutions were enrolled in some distance education courses and 14.4% were enrolled exclusively in distance education courses (U. S. Department of Education, 2018). Therefore, because of the emerging need for online courses, it is important for online active learning to begin with designing and creating powerful learning environments that are different from a traditional classroom (Hong, 2008).

The demand for quality online education is growing; institutions and organizations are working to systemize the process for ensuring quality. Online course quality assurance frameworks have been in existence since the 2000s. During the late 2000s, leading frameworks were student-focused, faculty-centered, and/or written from an institutional perspective. However, common themes among the frameworks included "active learning, personal interactions, timely feedback, and appropriate instructional materials (Hong, 2008)."

Several quality assurance frameworks have been developed by higher education institutions as well as organizations that support teaching and learning. For example, a regional university in the Midwest U. S. developed an electronic quality assurance review system for online courses. The development of the system helped to promote the "scalable development of online courses," and mitigate issues that had negatively impacted their course development process in the past (Ozdemir, 2014, para. 18). The system also helped the institution's instructional design team communicate alignment of course components to instructors and promote overall course efficiency. Instructors and instructional designers were able to focus on design and delivery as the quality assurance review system allowed them to offload administrative tasks related to course development (Ozdemir, 2014).

Quality assurance has not always kept pace with the growth of online academic programs, however. In an effort to analyze the impact of quality assurance for online MBA programs accredited by the Association to Advance College Schools of Business (AACSB), data was collected from "administrators, faculty, and instructional designers" around perceptions of a vision for quality assurance (Hinck, 2018, p. 243). The findings of the study support the "implementation of a continuous quality improvement program with ongoing evaluation of online courses and programs (p. 258)."

The Quality Matters (QM) Program is an example of a framework that can be used to evaluate the quality of online courses on a regular, ongoing basis. QM was designed to provide a platform for institutions to measure courses and guarantee the quality of those courses. Through an extensive research base, it is nationally recognized for faculty training in certified QM course reviews (Loafman & Altman, 2014).

The QM Rubric was developed by the Department of Education for course developers to reference when assessing the quality of a course (Loafman & Altman, 2014). The goal with the development of the rubric was to create a replicable comprehensive set of standards that all higher education institutions could reference when assessing for quality in online courses (Quality Matters, About, n.d.). The QM Rubric utilizes eight comprehensive standards: 1) Course Overview and Introductions, 2) Learning Objectives (Competencies), 3) Assessment and Measurement, 4) Instructional Materials, 5) Learning Activities and Learner Interaction, 6) Course Technology, 7) Learner Support, 8) and Accessibility and Usability (Quality Matters, 2018). These standards are categorized three ways: Essential (3 points), Very Important (2 points), or Important (1 point), where the essential category holds twenty-one specific standards that are required

to be met in order to meet the QM standards (Loafman & Altman, 2014; Kreie & Bussmann, 2015). The key principle to the QM Rubric is alignment. Alignment ensures the learning objectives of the course correspond with essential standards 2 through 6 to guarantee students acquire desired learning objectives for the online course (Quality Matters, Higher Ed Course Design Rubric, 2018).

According to a study by Loafman and Altman (2014), the QM Standards helped instructors from Texas A&M University-Central Texas (A&M-Central Texas) feel more confident when designing an online business law course. In 2009, A&M-Central Texas was approved to offer online courses for the first time after several years. After careful consideration, the QM Rubric was selected as the device that would be utilized to create quality online courses. In applying the QM Rubric to the online business law course, general standards 1 through 6 were the core focus of discussion. The design of the course concentrated on involvement of instructors, student engagement through active learning, well written learning objectives, and alignment.

Two essential principles necessary in online education are active learning and student-faculty interaction (Loafman & Altman, 2014). General Standards 2 and 5 focus on these two essential principles. All Specific Review Standards for General Standard 2 are considered essential because they create the groundwork for the rest of the course (Kreie & Bussmann, 2015). According to Loafman and Altman (2014), the main focus of Specific Review Standards 2.1 through 2.3 are to write good learning objectives so the student knows exactly what they will be learning by the end of the course. Bloom's Taxonomy is utilized as a tool to choose appropriate measurable verbs suitable for the academic level of the course. It is important to ensure that the measurable verbs are aligned with the course level and module level objectives, so the students complete work seemingly applicable to the development of the course.

Specific Review Standard 5.2 states "Learning activities provide opportunities for interaction that support active learning" (Quality Matters, 2018, p. 26), Specific Review Standard 5.3 states "The instructor's plan for interacting with learners during the course is clearly stated" (Quality Matters, 2018, p. 28), and Specific Review Standard 5.4 states "The requirements for learner interaction are clearly stated" (Quality Matters, 2018, p. 29). These three Specific Review Standards support engagement of the student through content, instructor, and learner interaction. It is with this engagement that active learning is promoted. Instructors communicating with students about their availability, and adopting a structured response time policy, will provide students with assurance to know their instructors are actively involved in their learning experience.

Due to the differences in learning environments of a traditional course, it is essential for online and distance learning to have well-organized course maps (Kreie & Bussmann, 2015). With guidance from the QM Program, instructors will be trained to design quality online courses that are conducive to the student's academic level. Creating quality online courses that align with course and module learning objectives will provide an impression of support from the instructors to the students. This in turn, will create an encouraging environment where students will increase their self-efficacy and feel motivated to learn (Kreie & Bussmann, 2015).

METHOD

Participants

The participants in the study included 29 faculty course designers and five (5) course evaluators. The course designers were selected from a pool of full-time and part-time faculty members at a "Regional University" located in the Western part of the United States (U. S. News, 2019). The participants represented a wide range of academic disciplines including Health Science, Behavioral Science, Business, Education, History / Government, and more. Participants were selected based on their subject matter expertise, as well as their ability to effectively deliver online courses. A majority of the participants had experience teaching online for the institution.

The participants included faculty course designers that completed face-to-face Quality Matters training that was developed "in-house" by the institution, designers that completed the same "in-house" training via

an online format, and designers that completed a two-week, online "Applying the Quality Matters Rubric" (APPQMR) Workshop that was hosted by the Quality Matters (QM) organization.

The five course evaluators included an instructional designer, an academic support coordinator, and three (3) graduate assistants. All five (5) of the individuals completed the APPQMR Workshop mentioned above. The instructional designer and academic support coordinator also completed a Peer Reviewer Certification (PRC) online course that was also hosted by the QM organization.

Materials

The Quality Matters Higher Education Rubric was used to evaluate course templates. Both the fifth and sixth editions of the Rubric were used to calculate scores for the templates. Although subtle differences existed between the fifth and sixth editions of the QM Rubric, both editions of the QM Rubric were organized around eight General Standards: 1 - Course Overview and Introduction, 2 - Learning Objectives (Competencies), 3 – Assessment and Measurement, 4 – Instructional Materials, 5 – Learning Activities and Learner Interaction, 6 – Course Technology, 7 – Learner Support, and 8 – Accessibility and Usability. Each General Standard consisted of several Specific Review Standards; the fifth edition of the QM Rubric consisted of a total of 43 Specific Review Standards, while the sixth edition of the QM Rubric, which was released in 2018, consisted of 42 Specific Review Standards. Using the QM Rubric, scores were calculated on either a 99-point scale (5th Edition) or 100-point scale (6th Edition).

An integrated Course Design Process was used by the selected course designers to enable them to plan, build and deliver online courses. Course designers started the process by creating a course map, which was referred to as the *Course Design Worksheet* (CDW). The CDW, which served as a planning document for the courses, gave course designers a means to articulate connections between course-level objectives and learning activities within a course. Once the CDW documents were finalized, course designers developed a student-centered outline for the courses (i.e., the course syllabus). The course syllabi contained information intended to help students prepare for and manage their course experience. Once the syllabi were finalized, course designers used the institution's learning management system, Blackboard 9.1, to design the Course Templates for their assigned courses. The course templates contained the online content, assessments, and interactive tools needed to allow students to complete learning activities and assessments in an online format, and to receive feedback from their instructors. Dell and Macintosh-branded computer workstations were used to access the Blackboard system.

Design

A 2x2 between-groups design was used to determine whether calculated scores on course templates would increase or decrease based on whether the course designer had received QM training of any type. The two groups of data included scores on course templates that were calculated before the designers received QM training (i.e., the "before" group), and scores on course templates that were calculated after the designers received training (i.e., the "after" group).

The independent variables in this study included *training completion* (i.e., whether the course builders received training before completing their assigned course templates; yes or no), and *training type* (i.e., face-to-face in-house, online in-house, and APPQMR). The dependent variable was the *score* that was calculated for each course template based on the QM Rubric. It is important to note here some course designers received QM training during an active course design project; these templates have been included in the "after" group.

Procedure

Course templates were evaluated and scored by the five course evaluators described above. Baseline data was collected by both the instructional designer and the academic support coordinator.

Calibration exercises were conducted among the five course evaluators to achieve consistency in scoring. The instructional designer completed the APPQMR Workshop and served as the lead on the internal QM reviews. The academic support coordinator completed the APPQMR Workshop as well and participated in scoring calibration exercises with the instructional designer. During the calibration exercises,

the academic support coordinator reviewed five (5) courses without seeing the instructional designer's original scores for the same courses. The instructional designer and academic support coordinator reviewed each score together after they were completed. Calibration was conducted on one course template at a time. The instructional designer and academic support coordinator only had differing results on 1-4 areas of the rubric on the first few course templates. They discussed the areas where scoring variances existed; in each case, the academic support coordinator yielded to the decisions of the instructional designer. By the fourth calibration exercise, the instructional designer and academic support coordinator were scoring courses in the same manner.

The following year, the three graduate assistants also completed the APPQMR Workshop (albeit at different times). The academic support coordinator led the graduate assistants through the same scoring calibration process that the instructional designer led the previous year, using 3-5 course templates. Although variances in scores were discussed, the graduate assistants always yielded to the academic support coordinator's decisions. The academic support coordinator reviewed and considered the scoring of the graduate assistants in situations where they did not award points for specific review standards.

For a period of approximately two (2) years, completed Course Templates were unofficially scored using the QM Rubric. These templates were completed by course designers that had not been introduced to the QM paradigm by the institution. As mentioned above, the QM Rubric consisted of 42-43 Specific Review Standards based on the edition of the Rubric that was used. Each Standard, if "Met," would count for 1-3 points toward the final score. "Essential" (required) Specific Review Standards were worth 3 points, "Very Important" standards were worth 2 points and "Important" standards were worth 1 point. Score data was stored and organized by the instructional designer in an online Google Spreadsheet. The instructional designer also used the spreadsheet to calculate a "Sum Total" and "Percent Met" for each of the 26 Specific Review Standards that were evaluated (it was determined that the remaining 14-15 Specific Review Standards were "Met" by default).

RESULTS

Beginning May 7, 2018, all course development projects were required to be Quality Matters (QM) compliant. By this date, all faculty course designers (n=29) were required to complete the in-house QM training in a face-to-face format (INTF2F), the in-house training in an online format (INTONL), or the "Applying the Quality Matters Rubric Workshop" training course hosted by the QM organization (APPQMR).

In order to normalize the scores that were calculated using the 5th edition and the 6th edition of the rubric, scores calculated using the 5th edition of the rubric were divided by the number of total possible points for that rubric (i.e., 99). This was done to determine a "Point Percentage" for each course. Therefore, the average "Point Percentage" for all 42 courses in the sample equaled 94.51%. When weighting the point percentages based on the number of course units that each designer was responsible for, the average point percentage equaled 94.69%.

Completed course templates were evaluated from 9/11/18 to 2/18/19. The average score earned based on the QM Rubric was 93.9. It is important to note here that two different versions of the rubric were used to score the course templates. Courses reviewed between 9/11/18 and 11/9/18 (n=23) were scored using the 5th edition of the QM rubric, while courses reviewed between 11/15/18 and 2/18/19 (n=18) were scored using the 6th edition of the rubric (the subtle differences that existed between the two rubric versions are mentioned in the Method section). 17 faculty course designers constructed courses using the fifth edition of the rubric, while 14 designers constructed courses using the sixth edition. It is also important to note here that some of the designers (n=3) built courses using both versions of the rubric. Courses scored using the 5th edition of the rubric earned an average point percentage of 93.70%, while courses scored using the 6th edition earned an average score of 96.04%.

A paired-samples t-test was conducted to compare rubric scores in pre-training and post-training conditions. There was a significant difference in the rubric scores for pre-training (M=80.1, SD=7.82) and post training (M=91.4, SD=8.51) conditions; t(31)=-5.19, p=0.000." These results suggest that online

course quality assurance training has an effect on rubric scores. Specifically, our results suggest that when courses are developed by faculty designers that have completed online quality assurance training, the rubric scores increase for the courses that they design.

FIGURE 1
WEIGHTED AVERAGE "POINT PERCENTAGE" BY TRAINING TYPE
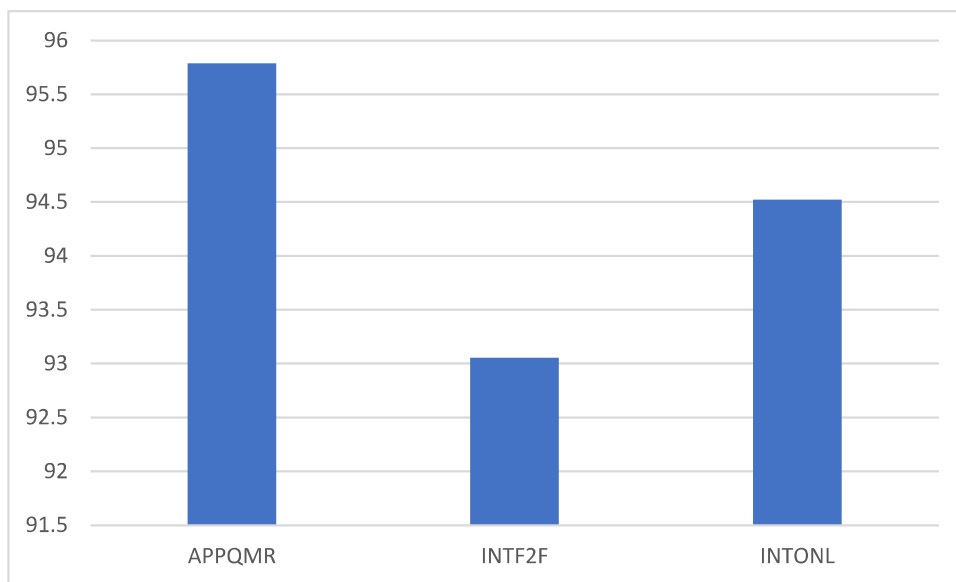
Among those faculty course designers that completed the APPQMR training (n=5), the average weighted "Point Percentage" was 95.79%. Among those that completed the Internal Face-to-Face training (n=4), the weighted average "Point Percentage" was 93.06%. Among those that completed the Internal Online version of the training (n=20), the average weighted "Point Percentage" was 94.52%.

A one-way between subjects ANOVA was conducted to compare the effect of online course quality assurance training type on QM scores in internal face-to-face, internal online, and hosted (APPQMR) conditions. There was not a significant effect of training on QM scores at the $p<.05$ level for the three conditions [$F(2, 41) = 0.82, p = 0.450$]. These results suggest that the different training modalities really do not have a significant effect on QM scores. Although the QM scores for templates designed by faculty that completed the hosted, APPQMR workshop were slightly higher, all three training modalities resulted in higher scores when the templates were scored based on the QM rubric.

The Impact of QM on Student Satisfaction

The institution used a service called SmartEvals to collect course evaluation survey data from students. Data from SmartEvals was queried for all 42 of the courses monitored in this study. However, only 30 of the 42 courses had before and after data that could be compared. Some of the courses did not have "before" data because they were developed as brand-new courses. Two of the courses did not contain SmartEvals data because they were orientation courses and were exempt from the course evaluation process.

The SmartEvals survey contained 20 questions answered on a Likert scale, along with an open-ended "Comments" field. A Likert scale score of five equaled "Strongly Agree," while a score of one equaled "Strongly Disagree." The average overall score for the 30 courses involved in the study (i.e., 4.5509) showed a decrease of 0.84%.

Eight of the 20 questions in the course evaluation survey (i.e., questions 7, 8, 9, 10, 11, 12, 17, and 18) were directly related to QM standards. Out of the eight questions, two questions showed score increases, while the remaining six questions showed score decreases. Question 7 from the survey, "Course Student Objectives were stated clearly in the syllabus," showed the highest score increase (3.36%). Question 12

from the survey, "The course was managed in a manner that was conductive to learning," showed the highest percentage decrease (4.05%). Question 20 from the survey, "Overall instruction in this course was excellent," showed a decrease of 0.67%.

A paired-sample t-test was conducted to compare student course evaluation survey scores for courses that were designed by faculty course designers in untrained and trained conditions. There was not a significant difference in the scores for untrained (M=4.6, SD=0.23) and trained (M=4.6, SD=0.35) conditions; t(29)=0.51, p = 0.614. These results suggest that online course quality assurance training does not have an effect on student course evaluation scores. Specifically, our results suggest that student course evaluation scores tend to remain the same regardless of whether the faculty course designer received online course quality assurance training or not.

DISCUSSION

The central purpose of this study was to compare and evaluate the effectiveness of three different types of online course quality assurance training. The effectiveness of the training was measured using Quality Matters Rubric scores that were calculated for course designs completed by individuals that completed QM training in comparison to the scores earned by course designs completed by individuals that had not been QM-trained. The research questions are restated below:
- To what extent does quality assurance training impact the measured quality of online course templates?
- What is the impact of quality assurance training on student course evaluations?

The results described in the previous section *did not support* the hypothesis that student course evaluation scores would *increase* for course designs completed by quality assurance-trained individuals. This outcome suggests that additional quality assurance training may be needed for faculty course developers in the areas that showed decreases. The outcome may also suggest that lower scores in overall instruction can negatively impact the student's perception of the course's design.

Overall, the results of this study support the use of online course quality assurance training for individuals that are involved in the course design process. It was evident that courses designed by trained faculty course designers earned higher rubric scores than course designs that were completed by designers that had not been trained.

One of the three pillars of the QM system is "comprehensive professional development" (Why QM, 2019, para. 5). Our findings relate to the previous research as they show that official QM training supports the national recognition that QM has received (Loafman & Altman, 2014). The findings also suggest that, based on the results of the self-evaluations completed by faculty course designers, the designers have a high level of confidence in their ability to develop online courses that are QM-compliant. This finding is also supported by the Loafman & Altman study (2014).

The study gave the researchers an opportunity to evaluate the types of online course quality assurance training and get an overall sense of how the training impacts the student learning experience. Student course evaluation data was collected for a set of courses that were delivered both before the courses were refreshed for QM and after the courses were refreshed. Questions from the course evaluations were selected based on their relevance to the Quality Matters rubric. For example, questions 17 and 18 in the Course Evaluation were specifically tied to QM Specific Review Standards 3.1 and 3.2. These Specific Review Standards are directly related to the effectiveness of assessments that are used in the course. Course evaluation data suggested that QM training resulted in a slight decrease in overall student satisfaction. These results may be considered inconclusive, as lower scores in overall instruction may affect students' overall perception of the course's design.

Comparison of Training Modalities
Across the organization, role perspective plays a factor in interpreting the results of this study. For example, the perspective of curriculum workers that focus on the effectiveness and quality of training may differ from that of administrators that have more of a big-picture, high-altitude view.

Perceived Advantages and Disadvantages of Internal Training

After reviewing the results of the study, the question arises: should course designers seek to complete the APPQMR training, or would in-house QM training suffice? Should administrators recommend the use of one modality over the other? The institution in the study required that course designers completed some form of Quality Matters (QM) training before engaging in a course design project. However, there has been some debate as to whether the training should be offered as a 90-minute online module versus a more intensive, 16-hour training. Based on the results of the data, course designs earned passing QM scores regardless of the type of training completed by the course designer.

From the perspective of a curriculum worker, one may think that the online, in-house training would suffice. The in-house training takes less time for the course builder to complete (i.e., 90-minutes versus the 16 hours required for the APPQMR workshop). Additionally, the internal training can be customized based on the needs of the institution. As part of the Course Design Process, all course designers start with a pre-built template. The template is already configured with Quality Matters standards in mind – many of the QM Rubric's Specific Review Standards are automatically addressed by the template. Perhaps standards already met in the template do not need to be emphasized in the training. Also, based on results from the QM rubric, many of the course builders tend to miss the same standards upon their first score. For example, many of the builders tend to create templates where Specific Review Standards 2.2, 2.4, and 3.3 are not met. A customized approach to the training would allow the institution to place more of a focus on standards that are frequently not met.

Disadvantages of internal training may include the toll on the human resource – institutional training specialists would need to devote time to keeping the training functional and up to date as QM expectations and standards evolve. Additionally, internal QM training may not be recognized by other institutions of higher learning.

Perceived Advantages and Disadvantages of APPQMR Training

As stated in the results section, the QM scores earned by course builders that completed the APPQMR training are nominally better that the scores earned by those that completed the internal training. From the perspective of an administrator, requiring the course builders to complete the APPQMR training results in a training experience that the institution does not need to constantly manage or update. The cost of the training ($200 per session, as of the completion of this study) may also be reasonable since QM maintains the training and ensures that the training modules are current and functional. Plus, the training puts the course designer on a level playing field with individuals from other institutions that have completed the training, allowing them to speak the same language and share best practices with greater ease. The training may be more ideal for faculty that seek to gain a nationally recognized QM credential for career advancement.

Possible disadvantages of the APPQMR training include the time requirement (i.e., 16 hours) and restriction (i.e., the training must be completed within 14 days, and cannot be retaken without the payment of an additional fee). The 16-hour requirement may be difficult to fulfill by course designers that may be inundated with other professional duties, such as teaching, administration or research, and could prove to be a deterrent for some.

This study focused on data collected from QM rubric scores based on individuals that were committed to building courses. Perhaps the findings could be generalized to benefit online course designers from other institutions as well. The QM process is static and universal in nature, regardless of an institution's adopted course design process.

Perhaps the findings could also be generalized towards individuals that are teaching the courses but not building the courses.

Limitations

The institution featured in the study became a QM member institution in early 2017. Perhaps the increase in QM rubric scores could be a result of increased understanding of QM among faculty and staff (the study was completed approximately 2.5 years after the institution became a QM member). For example,

increased understanding of QM could have resulted as well could have resulted from QM-related conversations in faculty/department meetings, ongoing training initiatives, etc.

The QM process is also designed to evaluate online courses that have been taught at least once. In the case of this study, however, the courses had never been taught. In a future research study, perhaps courses could be evaluated after the courses had been taught for the first time.

The present study focused on the use of internal face-to-face training, internal online training, and the APPQMR training. It may be possible, however, that some of the course designers in the study completed QM training beyond the APPQMR training (e.g., the QM Peer Reviewer Certification), or had received QM-related training from a previous institution.

Future Research Opportunities

As the use of online course quality assurance frameworks increases among and within institutions, opportunities for further research may be needed. Perhaps a qualitative approach could be taken to examine the course designer's assessment of the different types of online course quality assurance training (e.g., how *valuable* was each type of training to the course designer); it may be possible to achieve this through the use of course designer focus groups or semi-structured interviews. A study could also be conducted that surveys students that complete courses before and after a refresh of an online course (e.g., how did the online course quality assurance process affect clarity of course expectations, course content, etc.).

CONCLUSION

The purpose of this research study was to compare the quality of online courses developed both before and after the course developers received online course quality assurance training. The hypothesis of the study was that the implementation of online course quality assurance training would have a positive impact on student satisfaction. The study was conducted at a higher education institution in the Western U. S. that develops templates in-house for their online courses. Using the course design standards presented in the QM Rubric for Higher Education, existing course templates were scored to gather baseline data for the study. After the baseline data was gathered, a select group of course developers received QM training via one of three possible modalities. After the trained developers completed a set of refreshed course templates, the templates were re-evaluated using the QM Rubric. Overall, QM scores for the selected course templates increased by more than 10 percentage points, regardless of the training modality.

Student course evaluation scores decreased slightly after courses were offered following quality assurance training. However, the results of the data are inconclusive due to the potential effect of lower scores in overall instruction. The survey data suggested that course objectives were more clearly stated in the courses that were developed after the faculty designers received quality assurance training, which has positive implications for institutional assessment and accreditation.

The use of evaluation instruments does not improve online course quality and student satisfaction in and of itself. However, as this study suggests, effective training on the use of the instruments, along with effective instruction, may improve the quality of online courses. In the case of this study, in-house training proved to be nearly as effective as training from the host organization (i.e., QM), as the scores derived from the evaluation instrument (i.e., the QM rubric) were similar for the refreshed templates that were completed by all of the trained course developers.

This research encourages institutions to use data to evaluate the effectiveness of any training venture, whether it is home-grown (i.e., developed in-house) or outsourced. Institutions should invest time in designing training options that work best for their institution and should evaluate the effectiveness of the training options on a regular basis.

This research also suggests that, regarding online course development, the use of quality assurance frameworks and evaluation instruments *matters*. The use of such frameworks can work to establish a culture of quality and continuous improvement across an institution (Ozdemir, 2014).

Since its inception in 2004, The Quality Matters framework has been utilized by thousands of institutions in the United States and around the world. (MarylandOnline, 2019). Institutions understand that

a balance needs to be achieved between the producing of online courses at a speed that meets market demands, and providing a quality, welcoming student experience. Quality assurance frameworks help to ensure that students recognize, and benefit from, the alignment and transparency that is provided in a *well-designed* course (Ozdemir, 2014). QM and similar systems also help institutions to be clear and consistent in the *delivery* of their courses, facilitating the expression of diverse student abilities, experiences and perspectives. Frameworks help to promote a common, consistent language *between* institutions that work to serve online students.

ENDNOTES

1. Dr. Robert Shields serves as Director of Curriculum Development for California Baptist University's Online and Professional Studies Division. Prior to his current role, he served as Online Learning Systems Administrator, where he managed the university's learning management system. Dr. Shields has more than 16 years of experience in online teaching. He earned his doctorate in educational leadership from California State University at Fullerton.

2. Dr. Dirk Davis is the Academic Dean for the division of Online and Professional Studies at California Baptist University, who provides innovative, market-driven, entrepreneurial-based leadership in the conservation and development of all academic offerings that serve non-traditional students in onsite, offsite, and online venues. While he assists in the development and implementation of a multi-year strategic plan to drive enrollment growth, he directly oversees the development and implementation of standards for online courses and services, including course components, formats, and technical support. He earned his doctorate in educational technology from Pepperdine University.

3. Jeff Keneaster, M.Div., serves as Director of Academic Operations for California Baptist University's Online and Professional Studies Division, who oversees assessment, course evaluations, and program research. Prior to his current role, he served as the division's Academic Support Coordinator.

REFERENCES

Baldwin, S., Ching Y., & Hsu, Y. (2017). Online course design in higher education: A review of national and statewide evaluation instruments. *TechTrends*, (62), 46-57.

Gregory, R.L. (2018). *Influence of Quality Matters professional development on faculty members' perceptions of design standards and their course development abilities* (Doctoral Dissertation) Retrieved from Proquest.

Dumford, A.D., & Miller, A.L. (2018). Online learning in higher education: exploring advantages and disadvantages for engagement. *Journal of Computing in Higher Education*, (30), 452-465.

Hinck, G., Rice, K., Lowenthal, P.R., & Perkins, R. (2018). Visions of quality assurance in online MBA programs. *Online Learning*, *22*(4), 243-261.

Hong, W. (2008). Benchmarks and quality assurance for online course development in higher education. *US-China Education Review*, *5*(1), 31-34.

Kreie, J., & Bussmann, S. (2015). Course redesign based on the Quality Matters Program: Examples of before and after. *Information Systems Education Journal*, pp. 109-122.

Loafman, L., & Altman, B.W. (2014). Going online: Building your business law course using Quality Matters Rubric. *Journal of Legal Studies Education*, pp. 21-54.

Lieberman, M. (2018). *Keeping online courses fresh: Valuable, but costly*. Retrieved from https://www.insidehighered.com/digital-learning/article/2018/07/18/maintaining-online-courses-maturity-requires-substantial

MarylandOnline. (2018). *About*. Retrieved from https://www.qualitymatters.org/about

MarylandOnline. (2018). *Higher Ed Course Design Rubric*. Retrieved from https://www.qualitymatters.org/qa-resources/rubric-standards/higher-ed-rubric

Ozdemir, D., & Loose, R. (2014). *Implementation of a quality assurance review system for the scalable development of online courses.* Retrieved February 3, 2020, from https://www.westga.edu/~distance/ojdla/spring171/ozdemir_loose171.html

Quality Matters. (2018). *Higher Ed Course Design Rubric.* Retrieved from Quality Matters: https://www.qualitymatters.org/qa-resources/rubric-standards/higher-ed-rubric

Quality Matters. (2018). *The Quality Matters Higher Education Rubric* (Sixth Edition). Maryland Online, Inc.

Quality Matters. (n.d.). *About.* Retrieved from https://www.qualitymatters.org/about

U. S. Department of Education, National Center for Education Statistics. (2018). *Digest of Education Statistics, 2016.* Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=80