IMPACTS OF A QUALITY MATTERS™ WORKSHOP ON FACULTY WHO DESIGN, DEVELOP, AND DELIVER ONLINE COURSES: A MIXED METHODS STUDY

A Dissertation

by

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ABSTRACT

Quality Matters™ is recognized world wide as a highly reputable method for quality assurance in online learning. While much research is available regarding Quality Matters as a tool for quality assurance, very little research exists on Quality Matters professional development and effective methods for instructional designers who support faculty as they design courses to meet QM standards.

The present mixed-methods study was conducted using two phases. Phase 1 explored cognitive and affective outcomes of the *Applying the Quality Matters Rubric* (APPQMR) workshop with faculty in one large university who design, develop, and deliver online courses. Cognitive outcomes included knowledge of best practice in online course design and were measured using a criterion-based assessment. Affective outcomes were measured using self-report and included faculty perception of online course quality and willingness to use the QM Rubric to redesign an online course. Phase 2 explored the extent to which faculty improved the quality of their online course after workshop participation and lived experiences of redesigning an online course to meet QM standards. Courses were peer-reviewed and faculty members were interviewed before and after redesign. Faculty members had the option of collaborating with an instructional designer and Quality Matters expert during course redesign.

Results for participants, N=25, indicated that APPQMR statistically significantly improved knowledge of best practices in online course design but did not improve perception of online course quality or increase willingness to use the QM rubric to redesign an existing online course. Three out of five case studies completed the course

revision process and dramatically improved the quality of their online courses by over 70%. The largest improvements occurred in Course Overview and Introduction, Learning Objectives, and Learner Support. The smallest improvements occurred in Assessment and Measurement and Accessibility suggesting that faculty need further opportunities to learn how to apply the concept of alignment within an authentic setting. Faculty were initially overwhelmed by the amount of work implied by the initial course review, but overall reported a positive professional growth experience. Based on these findings a model for additional professional development is proposed and guidelines for effective collaboration are proposed.

DEDICATION

This dissertation is dedicated to my husband Stephen, children, Sarah Beth and Ian, my parents Doug and Vicki, and my brother Erik. My family has made me who I am today and without their love, support, and value to me, this work would not have been accomplished. To each of you I hope that you feel inspired to follow a dream, regardless of where you are in life and what you think you should be doing. Follow Him when he calls. The journey is not easy but is more rewarding than you can imagine. He called me and I followed, even though I did not think it was the right time. And I have achieved more than I ever thought possible and can see that more is still to come. He is not finished with me yet. And the same is true for you. This research was essential to my journey and I am so glad that each of you was part of that journey making it exactly as God designed. I love you all for who you are and who you are to me. Thank you for being my family.

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CHAPTER I

INTRODUCTION

Distance education has received much criticism since its early beginnings in higher education (Speck, 2001). Therefore, it stands to reason that much of distance education literature has thus far focused on barriers to adoption of online teaching (Berge, 1998; Chen, 2009; Dooley & Murphrey, 2000; Jones, Lindner, Murphy, & Dooley, 2002; Rovai, Pnton, & Baker, 2008; Wolcott & Betts, 2007). Although legitimate concerns remain regarding barriers to adoption, distance learning has evolved into a viable means of instruction. In many cases the increase in distance learning opportunities has been an administrative solution to higher enrollment and budget cuts. Thus, the conversation in the literature has shifted from *can* we provide quality instruction online to *how will* we provide quality instruction online. With the acceptance of distance learning as a permanent fixture in mainstream higher education, researchers have turned their attention to ensuring quality in online learning through a variety of methods (Zawacki-Richter, 2009).

Faculty and student satisfaction, student retention, and the changing roles of faculty who teach online have been important topics of interest (Aman, 2009; Aydin, 2005; Bolliger & Wasilik, 2009; Shea, Pickett, & Li, 2005). Nuances of teaching face-to-face versus teaching online and the professional development necessary for faculty making this transition have also been dooly noted (Schifter, 2006). However, research is contradictory as to whether faculty members are in fact provided professional

development opportunities prior to online teaching (Allen & Seaman, 2011; Marek, 2009).

Given that a majority of faculty design and develop the courses they deliver (Powell, 2010), coupled with the recent push to design online courses according to standards of quality (Pollacia, Russell, & Russell, 2009), the provision of instructional support to online faculty as a means of quality assurance should be of great concern. Yet, there is little to no empirical data on the effectiveness of specific professional development opportunities for faculty in online learning, a key component to quality assurance in distance education. Current research focuses on the perceived needs of online faculty using methodologies incorporating self-report measures and anecdotal evidence (Kinnie, 2012; Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012; Weaver, Robbie, & Borland, 2008; Wright, 2011). In addition, there is little research on how best to collaborate with faculty to support the design and development of courses that meet quality standards.

Distance education researchers call for further studies to answer the question: what is the best way to prepare and support faculty who teach online (Graham & Thomas, 2011; Marek, 2009; Ray, 2009; Schifter, 2006; Wilson, 2012)? The answer to this question cannot rely solely on faculty perceptions of training needs and instructional format (Taylor & McQuiggan, 2008). The answer is more than providing overviews of new roles and competencies necessary for online teaching (Aydin, 2005; Baran, Correia, & Thompson, 2011; Goodyear, Salmon, Spector, Steeples, & Tickner, 2001). Nor can the answer be expected to be prescriptive in nature as faculty backgrounds and expertise

vary across institutions (Schifter, 2006). However, many higher education institutions choose the same program, Quality Matters™, to be an integral component of facilitating quality assurance in online learning through professional development.

Quality Matters™ (QM) is recognized world wide as an inter-institutional peer-review process that utilizes a research based set of standards known as the QM Rubric to assess the quality of the online course design. Currently, QM has over 800 subscribers in the United States alone. By 2013, 22,000 faculty and staff had completed various professional development workshops. However, almost no research exists exploring the effectiveness of these workshops and/or describing the experiences of faculty who subsequently redesigned online courses to meet QM standards.

The *Applying the Quality Matters Rubric* (APPQMR) workshop is considered the "flagship course" of professional development offered by Quality Matters™ (qmprogram.org). This workshop is designed for faculty, instructional designers, and other distance education professionals. Participants learn about the QM peer review process and the QM Rubric used to certify the quality of online courses. Some QM subscribers require online faculty to complete APPQMR prior to teaching online at the institution.

While much research is available regarding Quality Matters™ as a tool for quality assurance (Bento & White, 2010; Ralston-Berg & Nath, 2008; Swan & Matthews, 2012), only one empirical study has tested effects of QM professional development on faculty who design, develop, and deliver online courses (Wright, 2011). Given QM is endorsed by such reputable consortiums and cooperatives as Sloan-C and

WCET, more empirical data are needed regarding the effectiveness of QM professional development to validate investing in such opportunities to facilitate quality assurance in distance education. In addition, institutions that adopt Quality Matters standards not only have to consider how to facilitate standards driven design of *new* online courses, but how to address issues of quality in *existing* courses as well. Consequently, more research is needed regarding how best to provide additional instructional support to faculty who redesign courses to meet QM standards.

This dissertation is composed of three articles. Article 1 was the product of a systematic literature review on quality assurance in online learning. Results indicated a paucity of research on the effects of professional development for online faculty despite the critical role faculty play in providing quality online courses. Findings supported the wide adoption of the Quality Matters program with little to no research on the effects of QM professional development. In addition, few studies exist that provide guidance for collaborating with faculty to design online courses according standards of quality. Therefore this study investigated the effectiveness of providing QM professional development and additional instructional support for faculty as a means for quality assurance in online learning. Consequently, the present mixed-methods study was conducted using two phases.

Article 2 reports results from phase 1 that explored cognitive and affective outcomes of the APPQMR workshop with faculty in one large university who design, develop, and deliver online courses. Cognitive outcomes included knowledge of best practice in online course design and were measured using a criterion-based assessment.

Affective outcomes were measured using self-report and included faculty perception of online course quality and willingness to use the QM Rubric to redesign an online course.

Article 3 describes findings from phase 2 that investigated journeys of five faculty members who completed the APPQMR workshop and redesigned online courses to meet QM standards. Courses were peer reviewed and faculty members were interviewed before and after redesign. During the redesign process, faculty members collaborated with the researcher, an expert in QM and instructional design, to redesign courses according to QM standards. Findings are reported in terms of: a) faculty experiences based on interviews and, b) course improvement according based on rubric scores and before and after comparisons of meeting Specific Review Standards.

In summary, when a quality assurance tool as widely adopted as Quality Matters continues to expand in use across institutions, rigorous research is necessary to ensure that components offered by the program (peer-review, standards of quality, and professional development) are in fact effective. Outcomes of the present study inform distance education administrators, instructional designers, and other instructional support staff in distance education regarding effectiveness of QM professional development and collaborating with faculty to redesign courses to meet QM standards. A model for additional professional development is proposed and guidelines for effective collaboration are also discussed.

CHAPTER II

QUALITY ASSURANCE IN ONLINE LEARNING: A SYSTEMATIC LITERATURE REVIEW ON INSTRUCTIONAL SUPPORT FOR ONLINE FACULTY IN HIGHER EDUCATION

The growing use of distance education gave birth to a long debate on differences in quality when compared to traditional face-to-face instruction (Mandernach, 2005). This debate of "no statistical significance" has quieted down as academics in higher education accept that online learning has evolved into a permanent fixture in mainstream higher education (Marek, 2009). No longer are researchers focused on *if* we can provide quality online education, but how *will* we provide quality online education. In many cases providing online options has become a necessity for meeting higher enrollment demands while addressing budgetary concerns (Orr, Williams, & Pennington, 2009). However, institutions of higher education delivering more courses online must still meet accreditation requirements (Lezberg, 2007). Thus, there is a need to ensure these courses meet nationally recognized standards of quality that take into account the change in learning environment from physical to virtual.

Researchers take various approaches to investigating quality in online learning at post secondary institutions. Some researchers have taken a systems approach (Ricci, 2002) or more tertiary approaches such as studies focusing on factors related to student or faculty concerns (Aman, 2009; McLean, 2005; Ralston-Berg & Nath, 2008). Others have looked at administrative influence (Dooley & Murphrey, 2000; Bolliger & Wasilik,

2009) and instructional support such as professional development as key to providing quality in online education (Lee, 2001; Ray, 2009; Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012; Taylor & McQuiggan, 2008).

Recently many institutions are using the Quality Matters™ (QM) program either in part or comprehensively to implement methods of quality control. Quality Matters is recognized world wide as a highly reputable method for quality assurance in online learning (Ralston-Berg & Nath, 2008). The program uses a rigorous peer-review process and rubric based on standards of best practice, research, and instructional design principles to assess the design of an online course (Legon & Runyon, 2007). However, very little research exists on Quality Matters professional development and effective methods for supporting faculty as they design courses to meet QM standards. In fact, a large portion of online faculty must design and develop the courses they deliver (Powell, 2010). Therefore, regardless of institutional approaches to quality assurance in online learning, no institutional initiative can succeed without faculty commitment (Koehler, Mishra, Hershey, & Peruski, 2004). Furthermore, to sustain initiatives, institutions must provide online faculty with effective professional development (Ellis & Phelps, 2000) as well as follow-up instructional support (Wright, 2011).

Given the growing recognition that online teaching vastly differs from the traditional face-to-face classroom (Schifter, 2006; Shapiro, 2007; Fish & Wickersham, 2009), more research is needed to identify what to include in professional development that positively affects the quality of online course design (Ellis & Phelps, 2000; Kucsera & Svinicki, 2010; Zawacki-Richter, 2009). In addition, more research is needed to

provide guidelines for instructional support persons who assist faculty in designing online courses to meet recognized standards of quality (Chao, Saj, & Hamilton, 2010; Xu & Morris, 2007). Moreover, the wide acceptance of Quality Matters as a quality assurance tool necessitates a review of research regarding effects of QM professional development and supporting faculty who seek to design courses that meet QM standards.

Purpose

The purpose of this systematic literature review is twofold. The *general* purpose is to examine institutional and faculty roles in ensuring quality online learning in institutions of higher education. An *instrumental* purpose is to identify empirical evidence regarding effects of providing instructional support for faculty who design, develop, and deliver online courses. For example, how does professional development affect online faculty's knowledge of best practice in online course design, critical thinking skills as to course quality, and willingness to adopt institutional adopted standards for quality? How can instructional support staff best collaborate with faculty to facilitate successful application of standards for the purpose of ensuring quality in online courses? This review contributes to the current body of literature by providing a synthesis of known outcomes resulting from providing various methods of instructional support to online faculty. Furthermore, a specific focus on research related to instructional support specifically embedded within the context of Quality Matters is provided.

Method

To identify studies for inclusion in this review I began by examining existing reviews of distance education research (e.g., Appana, 2008; Simonson & Schlosser, 2011; Zawacki-Richter, Bäcker, & Vogt, 2009). Next I conducted four broad searches via Google Scholar using a distinct set of keywords: *professional development in online learning*, *Quality Assurance in Online Learning*, *instructional support for online faculty* and *Quality Matters*. These broad searches produced few empirical studies in the identified areas of interest. However, relevant non-empirical literature was retained to provide a larger context within which empirical research was embedded. Additional searches were conducted using three additional databases: Eric (EBSCO), Academic Search Complete, and ProQuest Dissertations and Theses, using the same keywords.

After reviewing results, searches were refined using Boolean search operators: online teaching AND ("faculty" AND "professional development" OR "instructional support"). Then I reviewed all literature included in Shattuck's (2012) synthesis of QM focused research with specific attention given to studies focused on faculty and institutional outcomes. Finally, the "snowball" method was used on both empirical and non-empirical literature retained. Given the purposes of this review was focused on instructional support for online faculty and a specific innovation (e.g., Quality Matters), additional literature was retained for theoretical references based on technology adoption and changing teacher practices via professional development.

Based on a lack of rigorous empirical research on the topics of focus, a wide time frame was included beginning with the year 2000. In addition, some non-empirical

articles were included because of the lack of empirical articles on the topics of interest and the topic of discussion was closely aligned with the variables of interest in this review. Articles were excluded based on the following criteria: measurement of outcomes were not described, outcomes described were in the form of guidelines not based on qualitative or quantitative methodologies such as "lessons learned," sample characteristics included a narrow focus on types of faculty (e.g., community college, adjunct, etc.), a primary emphasis on students as opposed to faculty, description of processes for developing programs as opposed to program outcomes. This process resulted in 33 studies that reported results related to institutional and faculty roles in online learning, instructional support for online faculty including professional development, and QM focused research aligned with these topics.

In order to synthesize the literature, a content analysis of each article was conducted. Findings from each article were summarized included findings, methodology, sample size, recommendations, and QM or non-QM related. As patterns were recognized, both predetermined and non-predetermined categories were created. These categories included but were not limited to: administrative leadership, instructional support, faculty critical thinking skills, professional growth, professional development outcomes, collaboration, diffusion of technology, and assessment of quality. Finally, categories were analyzed for themes related to the purposes of this review.

Results

First, a definition of quality assurance in online learning is provided based on the literature. Second, relevant literature is discussed regarding the institutional and faculty roles and responsibilities for ensuring quality in online learning based on this definition. Third, findings related to instructional support in the form of professional development and collaboration in online course design are discussed. Next a brief introduction to the Quality Matters program is provided in the context of assessing quality in online courses followed by a synthesis of QM focused research as it relates to professional development for online faculty and designing courses to meet QM standards. Finally, based on the gaps found in the literature recommendations for future research are provided based on a synthesis of two theoretical models including Rogers (1985) Diffusion of Innovations and Guskey's (1986) Teacher Change Process. Conclusions are drawn from the review highlighting the salient literature regarding quality assurance in online learning, instructional support for online faculty, and a solution to an identified problem is proposed based on the theoretical model described.

Quality Assurance In Online Learning

Greenberg (2011) defines quality assurance as "the practice of preventing faults from occurring within a process or system" (p. 2). Allen and Seaman (2004) defined quality in terms of the achievement of learning outcomes. Drawing from these two definitions quality assurance in online learning is the prevention of delivering online courses that do not maximize learning outcomes. Moreover, a primary focus of quality assurance in online learning should be the development of courses that meet quality

standards (Bento & White, 2010). Thus, for the purpose of this review quality assurance is defined as actions taken by the institution, instructional support staff, and online faculty to provide quality online courses with specific emphasis on courses meeting a specified set of quality design standards.

In 2000, the Council of Regional Accrediting Commissions (CRAC) group drafted values and principles to be reflected in distance education programs offered by degree-granting institutions. One such value stated was "an essential element in all evaluative processes will be institutional self-evaluation for the purpose of enhancing quality" (Lezberg, 2007, p. 410). Thus the CRAC has placed the responsibility of determining quality for online learning at the doorstep of the institution.

Sherry (2003) described the urgency with which quality assurance in online learning should be approached. She emphasized the interrelationships between the institution, faculty, and students in a successful distance education program. And while many stakeholders play critical roles in the quality and success of online education as a whole (Rovai, Ponton, & Baker, 2008; Thompson & Irele, 2007) an educational program can only be as good as the quality of its courses.

Many researchers focus on assessing quality at the online program level because of the growing number of degrees offered completely online (Phipps & Merisotis, 2000; Lezberg, 2007; Thompson & Irele, 2007). However, online courses are often provided within the context of a face-to-face degree program. Taking a program level view of quality without consideration of stand-alone online courses offered provides an inaccurate view of the quality of an institution's online courses as a whole. In fact, for

faculty to know how to build quality online courses is an important component of building quality in online learning at an institution (Pollacia, Russell, & Russell, 2009; Swan & Matthews, 2012). In addition, knowing how to build quality online courses often improves the quality of face-to-face, blended, as well as fully online courses at an institution. Faculty typically design the courses they deliver (Powell, 2010). Arguably the first step to providing quality assurance measures in online learning is providing faculty with the knowledge and skills necessary to design quality online instruction (Wright, 2011).

Both the institution and its faculty are key components to quality assurance. Each plays a variety of roles. The institution must lead and provide instructional support while faculty must carry out front line initiatives by building quality courses, evaluating outcomes, and continually learning new technologies (see Figure 1). The following sections will discuss these roles in more detail and the impact each role has on quality assurance efforts.

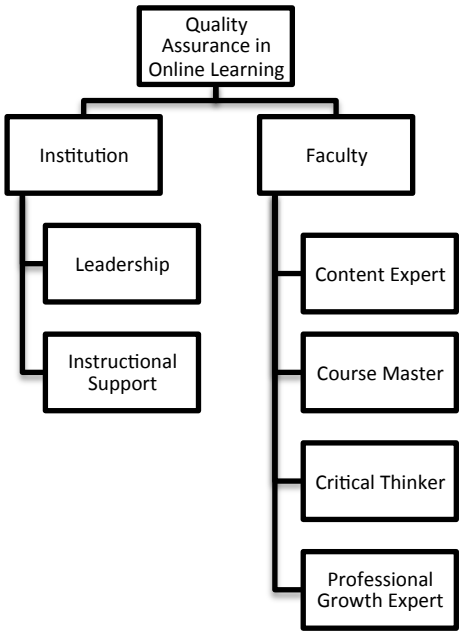

Figure 1. Institutional and faculty roles in quality assurance.

Institutional role. Clearly degree-granting institutions are responsible for the quality of degrees awarded (Lezberg, 2007). Whether the degree is earned fully or partially through online courses, the institution must lead efforts to ensure the quality of the education it provides (Shieh, Gummer, & Niess, 2008). Over time the necessity for providing faculty responsible for designing and delivering online courses with appropriate skills, resources, and support to be successful online instructors has remained at the forefront of the distance education literature (Appana, 2008; Lee, 2001; Shapiro, 2007; Sherry, 2003). According to Thompson and Irele (2007) having explicit and appropriate quality assurance procedures in place helps to justify investment of resources, maximize learning outcomes, facilitate the continuing growth of quality control, and aid in the decision process regarding current online programs.

As much as faculty adoption of distance education is key (Dooley & Murphrey, 2000; Rovai, Ponton, & Baker, 2008; Wolcott & Shattuck, 2007), more is needed. Faculty who have adopted distance learning as a viable method of instruction need to know how best to ensure that instruction is effective (Baran, Correia, & Thompson, 2011). Quality assurance requires a commitment to a process from both the institution and the faculty. If faculty members are not willing to adopt institutional initiatives for ensuring quality in online course design, the goal of ensuring quality in distance education programs will not be achieved (Koehler, Mishra, Hershey, & Peruski, 2004). If the institution does not fulfill its commitment to providing leadership and instructional support, faculty are less likely to collaborate towards quality assurance initiatives.

Leadership. Institutional leadership can facilitate a shared vision for advancing quality assurance initiatives (Beaudoin, 2007). Clarity in an institution's mission for online learning has a positive impact on faculty (Orr, Williams, & Pennington, 2009). In as much as the institution is ultimately responsible for the quality of its online programs and courses, the job of ensuring quality typically falls on the shoulders of instructional support staff and online faculty.

One of the greatest deterrents to teaching online is the perceived lack of institutional support (Wolcott & Shattuck, 2007). Sherry (2003) noted that, "The policies and procedures that institutions choose to implement directly impact faculty responses, as do faculty initiatives within the institution" (p. 435). When faculty believe the institution is formally strategizing to address critical issues related to online learning (e.g. training, support, and quality control) through explicit policies and procedures, they

are more likely to increase their rate of adoption of new distance education technologies (Dooley & Murphrey, 2000; Wolcott & Shattuck, 2007). Faculty need to see the institution's support for online learning through incentives, facilitation of organizational change, effective professional development, and instructional support (Orr, Williams, & Pennington, 2009; Shieh, Gummer, & Niess, 2008).

Instructional support. Lee (2001) defines instructional support as efforts to aid faculty in improving instruction. Faculty are looking for leaders of the institution to provide support for online instruction (Marek, 2009). This can include professional development and technical support. Weaver, Robbie, and Borland (2008) point out that many online faculty are self-taught and may not need to attend mandatory professional development trainings; however, providing professional development lead by expert staff can impact the adoption of new distance technologies by veteran online faculty. Ray (2009) also found that current online instructors have done most training "on the job." However, 50% of faculty described converting a course online as very hard and 65% wanted additional pedagogical training. In fact, 85% of faculty agreed that formal training prior to teaching online should be a requirement. This finding supports Schifter (2006) who suggested that online faculty typically have not been online learners and therefore have no preconceived model for effective online teaching.

Designing and developing an online course takes significant time and expertise. Faculty typically lack the knowledge and skills emphasized in best practices for online learning and desire more professional development in this area (Lewis, Baker, & Britigan, 2011; Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012; Taylor

& McQuiggan, 2008). Unfortunately, in many cases formal training in online course design and development is not a part of the institutional infrastructure.

In addition to professional development, institutions have a responsibility to provide technical, design, and production support for online faculty (Lezberg, 2007; Sherry, 2003). One of the benefits of online learning viewed by faculty, staff, and administrators is the enhancement of learning through technology (Dooley & Murphrey, 2000). However, the more that interactive and engaging activities are integrated within an online course, the higher the likelihood that technical issues will arise. Understandably one of the most reported fears of teaching online is technical difficulty (Shea, Pickett, & Li, 2005). Faculty are less likely to utilize all of the strengths of the online platform learned via professional development if they are concerned about a lack of technical support (Wolcott & Betts, 2007). Technical support needs to continue beyond any professional development provided (Powell, 2010).

However, technical support should not be equated with instructional support and thus is not a comprehensive approach to assisting online faculty. Technology integration with effective pedagogy in the classroom is important and relevant to online learning (McLean, 2005). Technical support for faculty adopting new technologies is imperative, specifically online. In addition, within the context of online courses the technology *is* the classroom. More instruction in how to design courses that incorporate what is known about how people learn is needed.

Instructional technology support is a common term used to describe the overlap of technical and instructional support essential to helping faculty successfully integrate

technology into instruction (Xu & Morris, 2007). Online faculty need instructional technology support. Learning management systems (LMS) can seem complex and overwhelming, especially to new online faculty (Shea, Pickett, & Li, 2005). Tools are chosen for integration based on ease of use, but also on their ability to meet learning goals. Faculty members currently seek help from support personnel in making decisions regarding the LMS and learning about best options for course development (Powell, 2010). Consequently, support staff guide faculty's pedagogical choices based on the affordances of the technology within the learning management system. In this way, support for online faculty goes beyond technical and becomes instructional.

Faculty role. Lewis, Baker, and Britagin (2011) emphasized that, "online education places new demands on faculty" (p. 49). When faculty transition from face-to-face to online teaching, they now have to understand content and technology (Ray, 2009). Goodyear, Salmon, Spector, Steeples, and Tickner (2001) delineate this new role into categories: course developer, online facilitator, collaborator, and technology expert. Baran, Correia, and Thompson (2012) discuss the importance of defining the new roles faculty assume when teaching online.

Outside of design, development, and delivery of an online course, faculty have additional responsibilities. In order to be successful in a holistic sense, online faculty must be able to evaluate course outcomes to inform future revisions of instruction and stay abreast of new technologies. Therefore, faculty play a critical role in quality assurance in online education (Rovai, Ponton, & Baker, 2008). The following sections

will discuss these roles in more detail and their impact with respect to quality assurance in online learning.

Content expert. As is the case in the traditional face-to-face classroom, online faculty must be experts within the field they teach (Baran, Correia, & Thompson, 2012). Aydin (2005) pointed out that the role of content expert facilitates the selection of appropriate instructional materials and reflection on appropriate instructional strategies that align with available technologies. Moreover, faculty must also have a deep understanding of the relationships between content, pedagogy, and technology to deliver quality online instruction (Koehler, Mishra, Hershey, & Peruski, 2004).

Course master. Effective online faculty must be masters of the courses they teach. As previously mentioned, faculty are typically responsible for the three components of an online course: design, development, and delivery (Powell, 2010). The role of content expert is essential to designing a quality online course. Bawane and Spector (2009) rank content and pedagogy as the most important skills for applying information and communication technologies to teaching and learning. However, faculty must acquire knowledge and skills beyond that of content expert to be effective online instructors (Crawford-Ferre & Wiest, 2012)

Traditional best practices reported in the literature typically center on course delivery. Some of these best practices include: frequent contact with students, providing prompt feedback, summarizing content of discussions, monitoring progress, and helping students trouble shoot technical problems (Chickering & Gamson, 2010; Goodyear, Salmon, Spector, Steeples, & Tickner, 2001; Taylor & McQuiggan, 2008).

Mastery of these activities increases faculty confidence (Wright, 2011), satisfaction, and sense of course ownership (Ellis & Phelps, 2000; Orr, Williams, & Pennington, 2009). Although these practices are essential to student success, it is the course design that drives how the course unfolds during the process of delivery.

Recently, best practices also encourage a systematic approach to course design to maximize learning outcomes (Pollacia, Russell, & Russell, 2009). In the face-to-face classroom, poor design can easily be remedied via "on the fly" adjustments and quick self-checks. However, faculty do not have these same affordances online. Designing and developing an online course takes significant front-end time (Savenye, Olina, & Niemczyk, 2001), and making adjustments during live delivery can be problematic (Frydenberg, 2002). Therefore, faculty should know best practices for designing courses in addition to delivery to facilitate a quality online learning experience (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012).

Faculty recognize their lack of skill set when first transitioning to online teaching and, as mentioned earlier, typically receive no formal training (Marek, 2009). Many of these skills are learned through trial and error. In fact, some online faculty consider themselves self-taught masters of online learning (Ray, 2009). Understandably, opportunities for professional development in online learning is preferred prior to transitioning online and some suggest it should be required (Orr, Williams, & Pennington, 2009)

Faculty need opportunities to learn best practices in online learning, specifically course design (Koehler, Mishra, Hershey & Peruski, 2004) to initiate quality assurance

processes at the most tertiary level. Quality course design is essential to student success. In summary, providing faculty with knowledge of best practice in online course design provides a ground-up approach to quality assurance (Lewis, Baker, & Britigan, 2011) and provides the first key component for faculty to become masters of the courses they teach.

Critical thinker. Faculty must be critical thinkers to effective online instructors. We know faculty recognize the need for quality control in distance education (Dooley & Murphrey, 2000). However, little research answers the question, how do faculty perceive quality in online learning (Reif, 2009)? If courses are going to be subject to periodic reviews, as recommended by The Institute for Higher Education Policy, then faculty need to understand what is meant by quality in online learning. Thus not only do faculty require expertise in design, development and delivery of online courses according to standards of best practice (Goodyear, Salmon, Spector, Steeples, & Tickner, 2001), but faculty must also be able to critically reflect on the quality of these components (Baran, Correia, & Thompson, 2011; Reif, 2009; Shieh, Gummer, & Niess, 2008).

Online faculty tend to equate best practices in online learning with course *delivery* (Powell, 2010) and are not well versed in what constitutes quality online course *design* (Reif, 2009). The assumption oftentimes made by faculty is that poor student performance is a result of malfunctioning tools and student behavior instead of what is really at the heart of the matter, design. Typically only instructional design experts understand that a quality online course will employ systematic design as a precursor to

development (Monroe, 2011). Employing systematic processes for course design creates alignment among learning objectives, activities, and assessment, thereby facilitating student mastery.

As described earlier, quality assurance centers on faculty and their many roles in online learning. Faculty need to be able to assess the quality of courses to determine necessary changes for future delivery. Ensuring that online faculty have learned this skill begins by asking the question: by what criteria do faculty currently assess quality of the online courses they teach?

Reif (2009) found that some faculty evaluate course quality according to student feedback at the end of course delivery, assuming quality is reflected in instructor evaluations. However, this assumes that quality is solely dependent on the instructor's adequate participation and facilitation of course activities. Other faculty members feel that course quality depends on innate student characteristics represented by quality of discussion postings and assignment submissions, and drop out rates etc.

In a single case study approach, Shieh, Gummer, and Niess (2008) described one faculty member's interpretation of quality as a comparison of time spent online with time spent in the traditional course. Again, this puts all indicators of quality into the category of "how did the course go?" or course delivery. If in fact student and instructor participation are the key to course quality, then evaluating the quality of a course solely on delivery makes sense. However, the potential of great delivery lies in the quality of great design.

Quality is centered on faculty understanding best practice in online course design. Even a well-designed course can be ineffectively delivered. However, a poorly designed course cannot be effectively delivered by even the greatest of online instructors. Thus, first faculty must acquire knowledge of best practices in both online course design and delivery (Dykman & Davis, 2008). As faculty acquire and apply skills to design quality courses they are likely to feel more ownership of the courses they design (Reif, 2009).

Professional growth expert. Online faculty must be committed to professional growth (Fish & Wickersham, 2009). Clarke and Hollingsworth (2002) defined professional growth as "an inevitable and continuing process of learning" (p. 947). Researchers agree change is a process as opposed to a single event (Clarke & Hollingsworth, 2002). Professional growth is a product of that change.

Technology is rapidly changing. Online faculty must continually adapt to new technologies with the understanding that "quality is a continuous learning process and requires frequent adapting of best practices" (Lewis, Baker, & Britigan, p. 60). Therefore, faculty must be flexible, willing to pursue learning opportunities, and committed to having an attitude open to change.

Approaching quality assurance from the standpoint of professional growth begins with change led by the institution as it works towards a common vision for online learning (Beaudoin, 2007). However, it must be a "ground up" approach starting with professional development in best practices online course design (Lewis, Baker, & Britigan, 2011) providing faculty skills necessary for initiating a quality online learning

environment. Moreover, providing follow-up support desired by faculty (Lee, 2001) integrates the leadership and instructional support component of the institution's role in quality assurance thereby furthering faculty commitment to institutionally led initiatives (Wolcott & Betts, 2007).

Systematically designing courses using standards of best practice is a new approach to course development for faculty who typically are unfamiliar with principles of instructional design (Thompson & Irele, 2007). Faculty members tend to focus on content when designing online courses and tools for content delivery (Xu & Morris, 2007). Asking faculty to change the way they design online courses to a systematic process including standards for best practices is ultimately asking them to change their attitudes toward building courses in general (Wright, 2011). Faculty willingness to make such a change is a primary example of the type of professional growth necessary to implement quality assurance measures (Clarke & Hollingsworth, 2002; Koehler, Mishra, Hershey, & Peruski, 2004).

Professional Development For Online Faculty

Reilly, Vandenhouten, Gallagher-Lepak, and Ralston-Berg (2012) defined professional development as planned activities designed to improve the knowledge, attitudes, and skills essential to the performance of the instructor role" (p. 100). Developing an online course is time consuming and difficult (Ray, 2009) requiring a different set of skills and expertise beyond just selecting appropriate content (Wolcott & Shattuck, 2007). Professional development can help faculty in developing content

according to quality standards (Powell, 2010) and being able to design engaging online activities (Lewis, Baker, & Britigan, 2011).

The need for specific training in online course design was not immediately obvious. Shapiro (2007) said, "While distance education is not new to higher education, the design of pedagogically appropriate online courses in course management systems by faculty trained in online best practices and basic instructional design principles is a relatively new phenomenon" (p. 3). After all, faculty are not typically trained to teach face-to-face. However, despite the importance of training online faculty becoming more evident (Bower, 2001), faculty continue to report a lack of knowledge and skills required to design, develop, and deliver quality online courses (Lewis, Baker, & Britigan, 2011; Marek, 2009; Powell, 2010; Ray, 2009).

Although administrators recognize the more specified support required to transition online (Shapiro, 2007), faculty typically receive no training in online course design and are forced to learn skills and best practices on the job that can cause unnecessary struggles in course delivery (Powell, 2010; Ray, 2009). Understandably, faculty would prefer professional development opportunities prior to the transition (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). Providing these opportunities has demonstrated an increase in online self-efficacy (Wright, 2011), critical thinking skills relative to the instructional design process (Taylor & McQuiggan, 2008), and professional growth (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012).

Research on professional development in online learning. There is limited research on the effects of specific professional development programs. Current research is primarily descriptive with quantitative measures emphasizing self-report as opposed to objective measures of learning gains. The following sections synthesize empirical findings regarding professional development in online learning. First, the extent to which faculty receive opportunities for professional development in online learning is discussed. Next, five studies for which professional development was implemented and effects measured are analyzed. Cognitive and affective outcomes and possible implications for quality assurance are explained. Finally, various formats for professional development offered are discussed.

Preparing faculty to teach online. Current research findings have not provided a clear picture as to whether faculty receive training prior to teaching online. Allen and Seaman (2011) reported that a majority of institutions that offer online courses provide faculty some form of training. However, Lewis, Baker, and Britigan (2011) found that in a sample of 10 faculty, 80% percent read material to teach themselves best practices and 10% consulted with elearning experts available at the institution. No formal training was provided. Marek (2009) also reported 63% of 267 faculty indicated no support was available. To the contrary, Ray (2009) reported 62% of 111 faculty did receive preparation for online teaching through the institution.

Furthermore, some institutions provide professional development but participation is problematic (Covington, Petherbridge, & Warren, 2005). Time is one of the most often cited barriers to professional development participation (Koehler, Mishra,

Hershey, & Peruski, 2004; Shea, Picket, & Li, 2005; Taylor & McQuiggan, 2008). Out of 100 faculty, Weaver, Robbie, and Borland (2008) found that 82% reported time as the most critical factor in attending professional development opportunities. Fish and Wickersham (2009) recommend providing incentives for faculty in the form of course release time in order to attend professional development and design and develop quality online courses.

Although barriers exist to faculty receiving necessary professional development, the literature suggests both cognitive and affective outcomes result when professional development is provided. Cognitive outcomes include an improved knowledge base for selecting materials (Powell, 2010), a deeper understanding of elearning, and development of critical thinking skills related to design and delivery methods (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). Affective outcomes include increased confidence in online teaching (Powell, 2010; Wright, 2011), gaining appreciation for the student perspective in online learning (Koehler, Mishra, Hershey, & Peruski, 2004) and a willingness to design courses according to standards of best practice (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012).

The following section describes studies for which professional development was implemented and effects investigated. Although each study illustrates a distinct method for providing online faculty professional development, outcomes reflect benefits to faculty that favorably impact quality assurance in the context of online learning as it has been defined and described thus far.

Cognitive and affective outcomes. Faculty new to online learning can feel inadequate based on limited technology expertise (Berge & Muilenburg, 2000; Covington, Petherbridge, & Warren, 2005). Faculty are also generally concerned that converting a course to online format will inevitably reduce the quality of learning (Bower, 2001). As mentioned earlier, putting a course online takes a distinctly different set of skills (Wolcott & Shattuck, 2007). Therefore, increasing online self-efficacy could be considered an important goal of professional development for online faculty and an important contributor to quality assurance.

Wright (2011) investigated faculty perceptions regarding their ability to design, develop, and deliver an online course. He found a statistically significant difference for online self-efficacy after faculty completed a Quality Matters™ workshop. The six-hour workshop teaches standards of best practice for online course design as outlined in the Quality Matters™ Rubric. If faculty feel confident in using standards to design an online course, then an "important first step to creating change" (Wright, 2011, p. 4) has occurred. Embracing the use of a rubric to design an online course requires a major change in practice for faculty but ensures course quality at a primary level.

Powell (2010) reported that faculty who completed a total of 11 modules including seven 2-hour face-to-face sessions also felt more confident. In addition, faculty described the professional development as useful for design and delivery (31%), and effective for selecting appropriate software (30%). However, only 27% of faculty felt *prepared* to teach online suggesting that increasing confidence is not enough, and perhaps effectiveness of professional development should be measured in multiple ways.

Reilly, Vandenhouten, Gallagher-Lepak, and Ralston-Berg (2012) integrated Khan's Flexible Framework for Elearning and Communities of Practice (COP) to investigate various faculty attributes relative to elearning and technology. This multi-institutional approach to COP included video conferencing, campus leadership, annual face-to-face conferences, and online courses over a period of five years. Using self-report surveys, faculty described: a) an increase in overall knowledge and understanding of elearning, b) an increase in ability to evaluate design and delivery methods for online learning, and c) intent to redesign current courses based on knowledge gained.

Koehler, Mishra, Hershey, and Peruski (2004) took a unique approach to professional development by enrolling tenured faculty and graduate students into a semester long class focused on designing and developing an online course. The approach referred to as *learning by design* was intended to give faculty an opportunity to reflect on their courses prior to teaching them. Each faculty member was paired with a small group of graduate students to design an online course scheduled for delivery the following year. Class sessions included discussing issues relevant to all groups and project work. Faculty experienced first-hand the interrelationships between content, pedagogy, and technology and how the technology impacts content design and by extension online pedagogical practices. This study exemplified the professional growth necessary to build a quality online course because faculty previously viewed their role as content expert only. Participating in both design and development provided a new understanding of technology in ways that allowed increased quality control of the end

product. In addition, faculty were surprised to find that what seemed like effective design choices were in fact overlooked by students.

Covington, Petherbridge and Warren (2005) used what they refer to as a *triangular support approach* for faculty making the transition to online teaching. The study was not solely focused on professional development. However, findings had important implications for potential outcomes of professional development for online faculty. The three support units in the triangular approach included: administrative, peer, and professional development supports. One of the barriers to adopting online learning or new technologies for online learning is a perceived lack of administrative support and a clearly defined mission for distance education. Administrative support in this study addressed these concerns through formalized procedures for copyright ownership, stipends, and a defined mission of the distance learning project. Peer support included sharing experiences, conducting hands-on workshops, providing one-on-one mentoring, and technical support. Professional development was offered initially on a volunteer basis during the semester to prepare for the required one week of intense training provided during the summer. Voluntary workshops included instruction on LMS tools, effective instruction, and media production. Only 60% of the faculty attended the voluntary professional development. All faculty participated in the required one-week technology institute. Evaluations for this professional development opportunity were highly positive. Findings include increased technology comfort level, an improvement in skills, and most importantly a positive shift in attitudes toward online teaching. The results of the summer institute inspired a similar training the following

spring providing evidence of professional growth for the faculty participating in the study.

As illustrated in this last study, one of the most compelling reasons for providing professional development is that effective training incites the desire for further training (Lewis, Baker, & Britigan, 2011; Powell, 2010; Ray, 2009; Taylor & McQuiggan, 2008). In addition, after participating in professional development, faculty report an increase in satisfaction in online teaching, and students in classes taught by trained faculty also report increased satisfaction (Shea, Pickett, & Pelz, 2004). The studies described provide further evidence that professional development can increase faculty confidence and expertise that can improve the overall quality of the online learning experience.

The question of "how"? Providing professional development for online faculty takes significant time and resources (Taylor & McQuiggan, 2008). Many institutions develop their own programs (Covington, Petherbridge, & Warren, 2005; Koehler, Mishra, Hershey, & Peruski, 2004; Powell, 2010); while others use pre-established resources such as Quality Matters™ (Wright, 2011). Institutions providing intensive programs spanning long time frames find them to be time consuming, a drain on resources, and poorly attended (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012).

The question continually asked throughout the literature is *how* best to prepare faculty to teach online (Bower, 2001; Covington, Petherbridge, & Warren, 2005; Powell, 2010; Taylor & McQuiggan, 2008). One answer is quite simple: if faculty need to

design, develop, and deliver quality online courses, then professional development should focus on activities that are conducive to such outcomes. However, based on how professional development outcomes are measured in current research, the focus tends to be less about *what* to teach online faculty (best practices in online course design, increasing social presence, engaging students) and more about formats and time frames that generate desired objectives (face-to-face, web-based, long term, short term, etc.)

A variety of formats were used within the studies described. Face-to-face was a commonly used format and desired by faculty when localized to the college (Taylor & McQuiggan, 2008). Some programs supplemented instruction with online components that provided flexibility and anytime anywhere opportunities for growth (Powell, 2010). Still others incorporated multiple components across institutions within a learning community integrating hands-on activities with new technologies increasing the probability for future use in practice (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). Clearly, more rigorous research is needed to investigate the effects of different professional development models for best practice in online learning.

Reilly, Vandenhouten, Gallagher-Lepak, and Ralston-Berg (2012) suggested faculty development effectiveness can be demonstrated in increased online enrollment, student and faculty satisfaction, and faculty desire to continue participation in online teaching. However, if we are going to suggest that learning effectiveness should be the "first criteria by which online education must be measured" (Swan, 2003), we should apply this same concept to the courses we offer our faculty for professional development. In other words, we need to measure the effectiveness of professional

development based on established criteria providing a more objective view of specific outcomes online faculty achieve as a result of participation (Wilson, 2012).

Professional development for online faculty is essential in order to maintain quality control while efficiently reaching a broader audience through distance education. Ray (2009) noted that we are still in need of the "exact prescription for quality instruction in the online environment" (p. 266). Although more research is needed to determine best practices in professional development for online learning, expecting one model to meet the needs of all institutions is misguided. Likely, many variations of models are appropriate for varying needs across institutions. However, the effects of course designs produced using different models on faculty knowledge, skills, and attitudes should be rigorously tested. More research is also needed regarding instructional support needed based on outcomes of professional development.

Instructional support via collaboration with designers. Online course design is not merely the transference of classroom instruction to online modality (Ali, 2003). With the advent of the Internet becoming a primary method for distance learning, instructional designers have found themselves working primarily in the realm of online learning (Monroe, 2011). Therefore, it is no surprise that collaborating with instructional designers has become a popular means for designing and developing online courses.

When designing online courses, instructional designers employ systematic processes. Using standards of quality to guide course design is also recommended by best practices (Estabrook & Arashiro, 2003). The expertise of the instructional designer

in systematic design in addition to a set of quality guidelines to work with can provide a valuable approach to designing and developing a quality online course. However, collaboration with others has been found to be both beneficial and a hindrance to the development process.

Xu and Morris (2007) implemented a collaborative team approach grouping faculty subject matter experts with an instructional designer to develop an online course. The purpose of this study was to investigate benefits and drawbacks of collaborative course development. The instructional designer played a key role in the success of the project by creating timelines, setting up meetings, providing expertise in the area of online instructional strategies that are student focused, and maintaining a necessary momentum for all team players. Faculty focused on the selection of content, appropriate resources, developing assessments and determining course sequence. As described by Campbell, Schwier, and Kenny (2009), the instructional designers acted as instructional advisors and student advocates teaching about objectives and aligning assessments with objectives. At the end of the project faculty reported concerns regarding standards based design that seemingly imposed a standardized look and feel to courses hindering creativity in the course development process. Faculty also reported a significant increase in workload given that all parties had to agree before moving on to the next step. Time is consistently reported as drawback to collaborative course development taking sometimes up to two semesters to complete (Luck, 2001). Faculty members tend to desire autonomy in decision-making and find it more simple and efficient when developing online courses in isolation. However, working *without* the

expertise of the instructional designer may over simplify the course development process thereby decreasing the quality of the end product. Overall, faculty reported the experience as a positive professional development opportunity.

Chao, Saj, and Hamilton (2010) investigated four case studies where faculty were paired with an instructional designer to either build a new course or improve an existing course using an established set of quality standards. Each pair of faculty member and instructional designer approached the process according to the needs of the course according to guidelines based on the standards provided. Some partnerships were more collaborative than others. For example, two courses needed only minimal improvements. Work was task-oriented and less relationship building was required. For the new course and course that required major revisions for improvement, the relationship between the faculty member and the instructional designer was pivotal to a successful outcome. Regardless of collaboration level, all faculty members reported that working with the instructional designer provided a feeling of shared responsibility for the quality of the course. Faculty members also reported that the guidelines were helpful and provided an objective point of view regarding quality but also stressed the importance of flexibility of standards such that they can be adapted to the unique nature of the course. In addition, findings indicated that standards need explanation and are ineffective when applied in isolation. Explanation of standards and whether the course meets the standard or needs improvement flowed from the rich dialogue that occurred during the development process. However, faculty preferred to discuss whether the course met standards in small increments as opposed to receiving feedback

comprehensively because too much feedback was overwhelming. These finding were similar to those of Xu and Morris (2007). Collaboration was viewed as a positive experience and necessary to producing a quality course yet time intensive. However, it was also noted that the upfront time commitment would alleviate possible issues down the road that could affect the quality of the course.

Assessing Quality In Online Courses

Best practices in online course design are also considered a vital piece of knowledge for which faculty must be made aware. However, if we are going to provide faculty with knowledge of best practices in online course design as front line measures for quality assurance, the criteria by which quality will be measured must be determined and then shared with faculty for implementation.

Nationally recognized organizations have formulated criteria by which an online program can be assessed for quality. Sloan-C, a consortium of individuals, institutions, and organizations committed to quality online education is known for its five pillars: 1) learning effectiveness, 2) student satisfaction, 3) faculty satisfaction, 4) cost effectiveness, and 5) access (Lorenzo & Moore, 2002). The Council for Higher Education Accreditation (CHEA) reviews seven key areas of a distance learning program: institutional mission, institutional organizational structure, institutional resources, curriculum and instruction, faculty support, student support, and student learning outcomes (Rovai, Ponton, & Baker, 2008).

Lezburg (2007) provided a list of standards for best practice in distance education that have been derived over just a period of 6 years: Distance Learning

Evaluation Guide (American Council of Education – 1996); An Emerging Set of Guiding Principles and Practice for the Design and Development of Distance Education (The Pennsylvania State University – 1998); Principles of Good Practice for Electronically Offered Accredited Degree and Certification Programs (WCET – 1999); ADEC Guiding Principles for Distance Teaching & Learning (American Distance Education Consortium – 2000); Elements of Quality: The Sloan-C Framework (J. Moore, 2002).

Since 2002, other standards for quality assurance in online learning have been established. These include the Quality Matters™ Rubric, the Blackboard™ Exemplary Course Program Rubric, and the University of Texas Telecampus Course Evaluation Rubric based on SACS principles of good practice and California State University's Rubric for Online Instruction. Each institution must decide with which standards it must comply for accreditation purposes and which standards it will adopt for more tertiary quality assurance initiatives in online learning.

Greenberg (2011) argued that questions of quality should not only be discussed at the program level but at the course level as well. As mentioned earlier, online courses oftentimes exist within the greater context of a site-based degree. Therefore to focus solely on online degree programs would be to create a distorted view of online course quality for the institution.

Online courses and face-to-face courses work toward the same goal – achievement of learning objectives. However, how those objectives are mastered in face-to-face courses differs from how they are mastered in the online environment.

Thus, processes for assessing quality should also differ (Rovai, Ponton, & Baker, 2008). Methods used to assess the quality of online courses include checklists, rubrics, informal review by experts in online course design, and a formal in depth peer-review process. The Quality Matters™ (QM) program is one method for assessing quality in online courses employed by many institutions of higher education.

Quality matters™. In 1997 a small group of distance educators needed to solve an accreditation problem for course sharing. The solution was to pioneer a peer review process and checklist of best practices in online learning to assess the quality of online courses. From this small seed a new technology was born that would eventually come to be known as Quality Matters (Shattuck, 2007). Now Quality Matters (QM) is recognized world wide as a highly reputable method for quality assurance in online learning. The program uses a rigorous peer-review process and rubric based on standards of best practice, research, and instructional design principles to assess the design of an online course.

Quality matters research. Research indicates that Quality Matters has proven beneficial in a variety of areas for institutions using the program to improve the quality of online learning. These areas include benefits to both students and faculty. It is important to note that the research described here is primarily QM funded and little non-funded QM research was found in the review of the literature.

Shattuck (2012) synthesized QM focused research to provide a summary of the positive effects of using the program. Courses that have undergone the QM peer-review process or have used the QM rubric as a design tool have statistically significantly

impacted student satisfaction (Aman, 2009) and learning outcomes (Swan & Matthews, 2012). Applying QM standards to online courses has not yet resulted in statistically significant results regarding student retention. However, student self-regulation and student engagement have improved when courses apply QM standards suggesting students are more likely to complete a course that has undergone a QM review (Hall, 2010; Runyon, 2006).

Faculty benefit from using the QM rubric as a tool and participating in the QM course review process. Use of the rubric as a design tool is easy when developing an online course (Bento & White, 2010; Pollacia & McAllister, 2009) for a variety of persons (Monroe, 2011) making course quality a more probabilistic outcome (Greenberg, 2010; Reif, 2009). In addition, participation in the course review process is reported as a tremendous opportunity for professional growth (Sener, 2011).

Legon and Runyon (2007) summarized impacts of the rubric standards and course revision process on both students and faculty. Overall findings from two studies discussed were improved student learning outcomes, increased student-content interaction, ease of course navigation, decrease in student questions regarding course expectations, and higher student satisfaction. In addition, faculty members who participate in this process either as a reviewer of courses, or the owner of the course under review reported those professional growth experiences to be valuable.

Although researchers have reported many benefits (Legon & Runyon, 2007; Shattuck 2012), a further look into these studies brought to light three points of concern. First, practitioners using the QM rubric to develop quality online courses and report

findings may not always be trained on the QM process and rubric. Second, researchers using the QM rubric to review courses may not always employ trained reviewers. Third, researchers seeking to validate the QM process and rubric are not always trained on Quality Matters. In order grasp the potential for programs like QM to impact quality in online learning, we must start with a solid research foundation upon which to build. Therefore, research focused on QM must employ appropriate application of the program. The three points of concern mentioned raises the question: Do findings reported paint an accurate picture of the true impacts of QM? The next sections will first briefly discuss QM professional development and second provide examples of how the lack of training implied by processes described in the literature brought this question to mind.

QM professional development. From the beginning, Quality Matters was intended to serve as a framework to facilitate cooperation among institutions with a shared vision for quality assurance in online learning. To carry out this vision as well as certify peer-reviewers, training on the QM process and rubric were necessary (Shattuck, 2012). This review does not cover a thorough explanation of the QM peer-review process and rubric. The reader is encouraged to read other literature where the rubric and process are thoroughly explained (Pollacia & McAllister, 2009; Pollacia, Russell, & Russell, 2009).

The QM program currently offers multiple professional development opportunities. However, two courses are specifically designed to teach the QM process and application of the QM rubric. These courses are the *Applying the Quality Matters Rubric Workshop (APPQMR)*, and the *Peer-Reviewer Certification Course (PRC)*.

Participants of the professional development opportunities include but are not limited to faculty, instructional designers, and administrators.

Completing the APPQMR workshop and the PRC is essential to using Quality Matters effectively for quality assurance in addition to research purposes. These QM courses effectively prepare faculty to participate in the peer-review process and apply the rubric (Legon & Runyon, 2007). Without proper QM training, the rubric can be used in ways for which it was not intended resulting in confounded data and inaccurate claims of "meeting QM standards" thereby negatively impacting students. The following studies provide examples of where proper QM training could have aided in the collection of richer data and substantiated findings having a positive effect on students.

For example, Reif (2009) investigated faculty beliefs on best practices in online education. Each course was assessed according to the description of the general standard within the rubric. Reif summarized how well the faculty participants met the standard. For example, "All syllabi provided by the research participants clearly spell out the learning objectives. These objectives did not vary between the online course syllabus and the traditional course syllabus. All participants meet this Quality Matters standard" (Reif, 2009, p. 109).

The QM rubric is comprised of eight General Standards representing categories. Each category is comprised of a distinct number of Specific Review Standards. For example, within General Standard 1, there are 8 Specific Review Standards (1.1, 1.2, etc.) used to assess the quality of an online course for areas related to introductions, schedules, navigation and so forth. The QM course review process encompasses making

a decision as to whether each specific review standard is met, not whether the course has met the General Standard that is only a category. Any assertion that a course has met a General Standard has no procedural definition within the context of a QM course review. According to the researcher's assessment of General Standard 2 in the previous study, participating faculty would not have been encouraged to improve learning objectives even though a problem may have existed.

A second study also raised training concerns. Bento and White (2010) used the QM rubric to redesign graduate accounting courses to meet QM standards. In preparing the course for a Quality Matters review, the researcher performed a "self-evaluation" to assess the current status of course quality. However, during this self-evaluation, the all-or-nothing rule defined in the QM peer review process was not adhered to. For example, the course was given 2 points for Specific Review Standard 1.1 normally valued at 3 points. When a standard is not met, 0 points should be awarded.

Although the defined process for applying rubric standards in a QM course review was not followed, the faculty member participating in the self-assessment benefited from the reflection involved in reviewing the course. This finding supports those of Shattuck (2007) and Legon and Runyon (2007) who reported faculty experience professional growth by participating in the QM process. The review also facilitated a planning process typically neglected by many faculty not trained in principles of instructional design. Student satisfaction was reflected in student course evaluations (Bento & White, 2010). Had the faculty member been formally trained in QM, the

course may have been further improved to have a more positive effect on students (Aman, 2009).

The Bento and White (2010) study also raised the concern of inaccurately assigning point values in the course review process and using the results to provide empirical data as evidence to support correlation or causation. If researchers inaccurately assign point values before and after a course revision has taken place and test for statistical significance, results will be questionable.

This section described concerns raised based on research conducted that used the QM process and rubric in ways for which they were not designed. The purpose raising these concerns was to express the need for professional development training for any set of standards used to ensure quality of online learning. In sum, not following the defined processes for the application of quality standards in both practice and research limits our ability to add robust evidence to the literature as to the effects and impacts of quality assurance tools such as Quality Matters.

As mentioned previously, very little research is available regarding positive effects of the QM process. In addition, few studies have tested QM components for validation purposes. Zimmerman (2011) investigated inter-rater reliability of the peer-review process and found no significant differences in review teams. Wright (2011) tested the effects of the *Applying the Quality Matters Rubric* workshop on faculty self-efficacy. More research is needed on outcomes of course reviews for the same course using different peer-review teams, effects of QM professional development, as well as the instructional support faculty need in designing courses to meet QM standards.

Diffusion And The Faculty Change Process

Although quality assurance is of great concern to distance education practitioners, administrators and researchers, no one method for ensuring quality in online learning has become the definitive approach. Institutions adopting Quality Matters™ for online quality assurance need theoretically based research to increase its adoption rate among faculty to facilitate change in the ways faculty approach online course design (Wright, 2011).

Implementation of any program for quality assurance cannot succeed without faculty acceptance (Koehler, Mishra, Hershey, & Peruski, 2004). Quality Matters employs a systematic process for course design through the use of a standards based rubric. This systematic process is contrary to the typical "piece-meal and unplanned fashion" (Moore & Kearsley, 1996, p. 6) to which faculty are accustomed. The QM rubric is thus an innovative approach and requires a change in attitude towards course design.

Rogers' theory of *Diffusion of Innovations* is one of the most widely used theories in educational technology research (Dooley & Murphrey, 2000; Mclean, 2005; Shea, Pickett, & Li, 2005; Smith, 2012). The adoption of new technologies such as the QM rubric for designing standards based courses college-wide also requires a diffusion process. Applying the five essential components of Rogers' diffusion process requires that the institution first provide knowledge of QM, the rubric, and the process and present its relative advantage to encourage a decision to adopt. Next, institutions need to provide additional instructional support for implementation. Confirmation that a good

decision was made to adopt QM will manifest itself in learning outcomes, and student and faculty satisfaction. In this process, Rogers has implicitly made professional development the most pivotal point in diffusion of technology.

Professional development is the primary method by which educational institutions approach teacher change (Wilson, 2012). Effective professional development incites the desire for additional professional development (Lewis, Baker, & Britigan, 2011; Powell, 2010; Ray, 2009; Taylor & McQuiggan, 2008), a clear sign of personal growth. Wright (2011) said if we want to change faculty practice, we must first change faculty attitudes. Guskey (1986) suggested that changing attitudes begins with professional development describing professional development as a, "systematic attempt to bring about change—change in the classroom practices of teachers, change in their beliefs and attitudes, and change in the learning outcomes of students" (p. 5). Change in practice can be represented by a change in instructional strategy such as using a rubric to guide design. Guskey described a linear model consisting of four components relative to teacher change: professional development, change in practice, change in outcomes, and change in attitude. Figure 2 applies this original model to online course design.

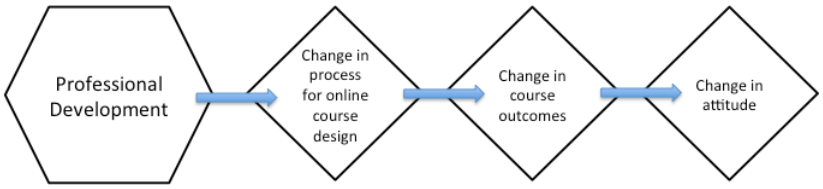

Figure 2. Guskey's (1986) original teacher change process model applied to online course design.

Guskey also posited that, “significant change in teachers' beliefs and attitudes is likely to take place only *after* changes in student learning outcomes are evidenced” (Guskey, 1986, p. 7). While it is true that a significant change in attitude will take place once the faculty sees evidence of improvement in course outcomes, it can also be suggested that, prior to making any changes in practice, faculty must be willing to make that change. Deciding to adopt a new innovation involves a change in attitude based on the relative advantage presented (Rogers, 1995). This new willingness implies a change in attitude. This teacher change process is synonymous to professional growth, one of the primary roles of online faculty.

The desire for further training incited by effective professional development is a reaffirmation that the change in practice will continue and new knowledge regarding the innovation is desired. Therefore, professional growth should be viewed as a cyclical process. This stage of reaffirmation parallels the significant change in attitude to which Guskey refers. The new model integrating both theories is depicted in Figure 3.

The theoretical framework presented combines a modification of both Roger’s theory and Guskey’s model in such a way that each stage of the respective models work together to facilitate professional growth and encouraging adoption of new technologies in online learning such as Quality Matters. Institutions need faculty to commit to these kinds of quality assurance programs.

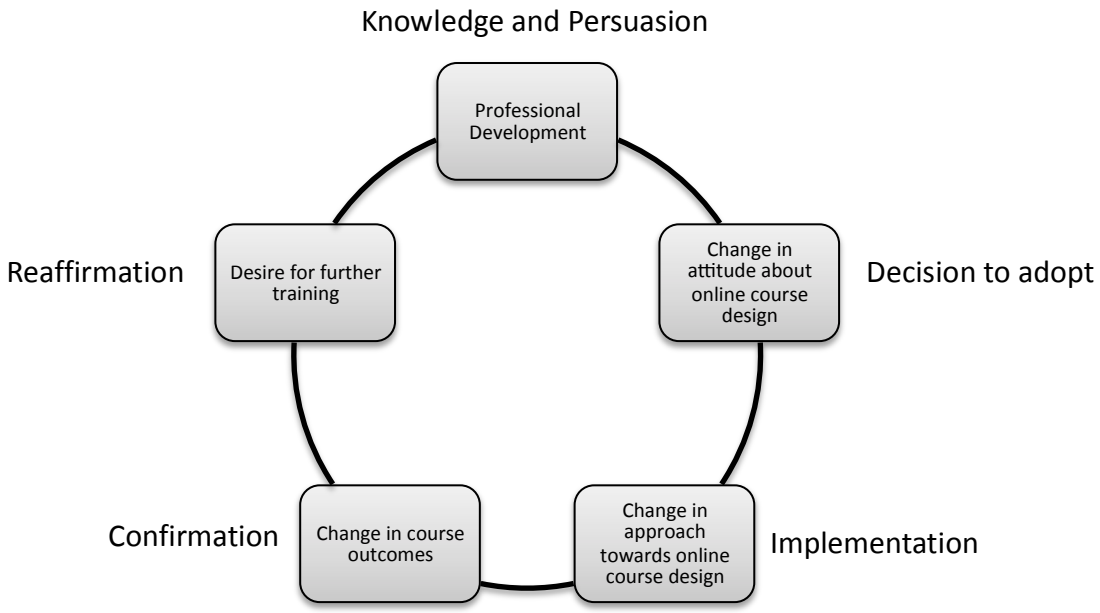

Figure 3. Theoretical framework integrating Roger's Diffusion of Innovations and Guskey's Teacher Change Process models.

This theoretical framework is also indicative of the continuous professional growth necessary for faculty to be effective in online learning. The desire for more training develops as indicated by the circular nature always leading back towards professional development. Applying this model to quality assurance for online learning, we can change faculty attitudes towards current design practices (Wright, 2011) through professional development (Guskey, 1986) and a diffusion process (Rogers, 1995). However, the professional development provided must be effective (Ellis & Phelps 2000; Guskey, 1986) such that it increases willingness to adopt the institution's plan for quality assurance. In summary, the institution can employ quality control measures for

online learning by focusing on professional growth. Furthermore, this model can be used to evaluate effectiveness of professional development and follow-up instructional support by assessing whether faculty are moving through the stages at an acceptable pace or are sitting stagnant and in need of further help.

Discussion

Quality assurance in online learning is essential as traditional face-to-face courses are daily converted online by faculty with instructional design background and who likely receive no training in best practices (Thompson & Irele, 2007). Professional development is a first step to providing a quality online learning experience for students (Bower, 2001) and has proven to have numerous beneficial cognitive and affective outcomes for online faculty (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). However, distance education researchers call for further studies to investigate effective means for preparing faculty to teach online (Ray, 2009; Taylor & McQuiggan, 2008) specifically online course design (Zawacki-Richter, 2009).

As demonstrated in this review of literature, there is a not only a paucity of research on effects of professional development for online faculty, but no studies employ objective criterion-based measures to test gains in a defined knowledge base. Nor do we have findings from research based on follow-up instructional support based on professional development provided. Researchers agree that professional development for online faculty is essential (Crawford-Ferre & Wiest, 2012; King, 2010; Kinnie, 2012; Wilson, 2012). And while it is not possible to find a one-size-fits-all approach to online faculty preparation, if we hope to answer the question of "how", we should at best be

testing the effects of established programs widely accepted as integral components to quality assurance. Zawacki-Richter (2009) also called for more rigorous research in online learning when he said, "In order to guide practice we should not rely on under-informed trial and error, but on sound research on the effectiveness of managerial interventions for education innovation" (p. 15).

Based on this review of research on instructional support for online faculty, three principal problems were identified. First, more research is needed to identify appropriate professional development opportunities to educate online faculty in best practices for online course design. Second, more research is also needed to inform administrators and instructional support staff on effective approaches to collaborating with faculty to design online courses that meet standards of quality. Third, although Quality Matters is a popular program used for quality assurance (Kinnie, 2012), we know very little about the effects of QM professional development. Wright (2011) demonstrated that completion of the *Applying the Quality Matters Rubric* workshop can increase faculty's online self-efficacy, but more is needed.

One solution is to test the effects of the *Applying the Quality Matters Rubric* workshop using criterion-based assessment and self-report measures to assess faculty understanding and application of QM standards and willingness to adopt the rubric to redesign courses. These effects can be further explored through collaborating with faculty who choose to redesign online courses to meet QM standards using professional development outcomes and the QM rubric as a design tool. Furthermore, grounding this mixed-methods approach in the theoretical model proposed could demonstrate the extent

to which Quality Matters professional development coupled with individualized instructional support to meet QM standards changes online faculty's course design practices, improves online course quality, and incites a desire for further QM training.

Conclusions and Future Research

Few studies investigate effects of professional development models or individualized instructional support for online faculty using rigorous research methods. Existing research tends to focus on self-report, is primarily descriptive, or provides lessons learned. Future research should include more rigorous qualitative and quantitative methods grounded in theory. Quantitative methods should investigate professional development models employing objective measurements in addition to self-report using pre/post experimental designs. Qualitative methods should include in depth case studies describing faculty experiences redesigning courses to meet standards of quality. Finally, given the wide acceptance of Quality Matters as a tool for quality assurance in online learning, future studies should investigate professional development models and additional instructional support for online faculty specifically in the context of the Quality Matters program.

CHAPTER III

COGNITIVE AND AFFECTIVE OUTCOMES OF FACULTY WHO COMPLETE THE APPLYING THE QUALITY MATTERS RUBRIC WORKSHOP

Quality assurance in online learning is critical, as distance education becomes a popular answer to issues in higher education. Much research has been conducted in a variety of areas in distance education. Yet, little research exists on quality assurance in online learning, professional development in online learning, or professional development *as a means of* quality assurance in online learning.

In an effort to ensure students are receiving quality online instruction, many institutions have adopted Quality Matters™ (QM). The QM program is comprised of four components: A set of standards (rubric) for the design of online and blended courses; a peer review process for reviewing and improving online and hybrid courses; a faculty support tool used by instructional development staff; and a professional development opportunity. In order to introduce the Quality Matters rubric and peer review process, the program offers what it refers to as its flagship workshop called *Applying the Quality Matters Rubric* (APPQMR). This workshop is required in order to become a certified QM peer reviewer and is frequently used to prepare faculty for online teaching by institutions that adopt the Quality Matters program as a tool for quality assurance in online learning.

Such wide adoption suggests the need to ascertain the effectiveness of these workshops as well as to answer the question: can the widely accepted QM program

provide an effective component to quality assurance through professional development? The present study sought to identify cognitive and affective outcomes of a pivotal workshop in the QM program. This study explored effects of the *Applying the Quality Matters Rubric* workshop on faculty's knowledge of best practice in online course design, perception of online course quality, and willingness to use the QM Rubric to redesign an existing course.

Introduction

The growing use of distance education brought about tremendous concern for researchers who felt that the academy was trading quality education for economic gain (Mandernach, 2005; Speck, 2001). However, these concerns decreased as research has demonstrated that distance learning is a viable and sometimes necessary means of instruction (Marek, 2009). Consequently, degree-granting institutions are choosing to deliver more courses online (Zimmerman, 2011). These institutions must continue to meet accreditation standards (Lezberg, 2007). Therefore, there is an urgent need to ensure online courses meet nationally recognized standards of quality and take into account the change in learning environment from physical to virtual (Sherry, 2003).

Although research in quality assurance for online learning is small in quantity, available research represents a variety of approaches. Current research includes systemic change, student factors, and faculty related concerns in distance education (Aman, 2009; Bolliger & Wasilik, 2009; Britto, Ford, & Wise, 2014). Some researchers have recognized the importance of investigating professional development for online faculty and what institutions are providing in preparation for online teaching (Koehler,

Mishra, Hershey, & Peruski, 2004; Ray, 2009; Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012; Taylor & McQuiggan, 2008). Yet, thus far, we have very little research focused on measuring effects of professional development specifically focused on best practices in online course design.

What we do know is that quality in online learning begins with a quality course, and quality courses begin with appropriate design (Lewis, Baker & Britagin, 2011). In addition, a large portion of online faculty must design and develop the courses they deliver (Powell, 2010). Therefore, any quality assurance initiative cannot succeed without the commitment of faculty (Koehler, Mishra, Hershey, & Peruski, 2004). Furthermore, to sustain initiatives, institutions must provide online faculty who are expected to teach online with resources, support, and most importantly, effective professional development in designing a quality online course (Wright, 2011). In summary, appropriate professional development in best practices for online course design is the first step to ensuring quality for online learning.

Quality Matters™ (QM) is a subscription-based program focused on quality online course design. The program is recognized worldwide as an established means for promoting quality in online learning. QM also provides numerous professional development opportunities including a course specifically designed to introduce the peer-review process and set of standards used to assess the quality of an online course known as the QM Rubric. This course is called the *Applying the Quality Matters Rubric* (APPQMR) workshop. Other courses include: Designing Your Online Course; Designing Your Blended Course; Improving Your Online Course; Teaching Online-A

Introduction to Online Delivery; Design That Welcomes Your Students; Creating a Foundation with Learning Objectives; Connecting Learning Objectives and Assessments; Linking Instructional Materials and Learner Engagement; Choosing and Using Media Effectively; and Addressing Accessibility (qmprogram.org). The emphasis placed on the APPQMR course by both the QM program and institutions adopting QM influenced the decision to investigate the effects of the professional development opportunity.

Many QM subscribers implement APPQMR as part of quality assurance processes, while other institutions choose to develop in house faculty professional development programs, or some combination of both (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). However, the effectiveness of professional development models employed is unclear due to the large emphasis on self-report measures and lessons-learned approaches (Zawacki-Richter, 2009). Answers to research questions such as the following evolve over time and remain inconclusive: What do faculty members generally know about designing quality online courses (Reif, 2009)? Does completion of professional development improve this knowledge (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012)? Or can professional development in online learning change current practices, specifically online course design (Kucsera & Svinicki, 2010)? In order to answer these questions, we must: a) operationally define quality as related to online learning, b) identify the roles faculty might play in implementing measures for quality assurance, c) demonstrate that we value professional development for faculty by investing in it, and d) identify the known barriers and benefits.

Quality in Online Learning

Greenberg (2011) defined quality assurance as "the practice of preventing faults from occurring within a process or system" (p. 2). Allen and Seaman (2004) defined quality as the achievement of learning outcomes. Arguably quality assurance in online learning could be defined as preventing the delivery of online courses that do not maximize learning outcomes. Researchers agree that courses should be designed and developed to meet standards of best practice (Bento & White, 2010; Pollacia, Russell, & Russell, 2009; Ralston-Berg & Nath, 2008; Rief, 2009) and courses that meet standards of best practice improve learning outcomes (Swan & Matthews, 2012). Thus, for the purposes of this study, quality design for online learning will be defined by the standards within the Quality Matters rubric.

Faculty Roles in Quality Assurance

Many stakeholders play critical roles in the quality and success of online education as a whole (Rovai, Ponton, & Baker, 2008; Thompson & Irele, 2007). Although an institution is ultimately responsible for quality in online learning, typically frontline measures primarily are facilitated by the person responsible for the course. An educational program can only be as good as the quality of its courses. Faculty typically design and develop the online courses they teach (Powell, 2010). Therefore, faculty are critical players in quality assurance for online learning (Rovai, Ponton, & Baker, 2008).

The quality of online learning experiences is dependent on faculty willingness to transition from disseminator of knowledge to facilitator of knowledge construction (King, 2010). When faculty transition from face-to-face to online teaching, they have to

understand how to present content online, how to use a course management system to deliver that content, and how to support students as they learn online technology (Ray, 2009) requiring new expectations for online faculty (Lewis, Baker & Britagin, 2011). Faculty must adopt new roles and acquire new competencies specific to promoting online learning (Williams, 2003). Researchers have summarized various roles and competencies necessary for transitioning online including but not limited to: knowledge of the online environment; technologist, content expertise to support knowledge construction; researcher; designer; adaptability; and confidence (Baran, Correia, & Thompson, 2011; Bennett & Lockyer, 2004; Goodyear, Salmon, Steeples, & Tickner, 2001; Salmon, 2000). Consequently, faculty who design, develop, and deliver online courses must adopt four primary roles to provide students with a quality learning experience: 1) content expert, 2) course master, 3) critical thinker, and 4) professional growth expert.

Context expert. As is the case in the traditional face-to-face classroom, online faculty must be experts within the field they teach (Baran, Correia, & Thompson, 2012). Aydin (2005) pointed out that the role of content expert facilitates the selection of appropriate instructional materials and reflection on appropriate instructional strategies that align with available technologies. Moreover, faculty must also have a deep understanding of the relationships between content, pedagogy, and technology to deliver quality online instruction (Koehler, Mishra, Hershey, & Peruski, 2004).

Course master. The term course master is used to represent the many ways online faculty are responsible for the courses they teach. According to Powell (2010)

faculty are responsible for course design and development (e.g., aligned instruction, activities, assessments, schedules), as well as course delivery (e.g., presence, interaction, continuous feedback, troubleshooting technology). In addition, faculty must have a deep understanding of the relationships between content, pedagogy, and technology (Koehler, Mishra, Hershey, & Peruski, 2004), which inevitably provides a sense of significant ownership of the course (Dockstader, 1999). Finally, faculty are being asked to employ systematic design processes to ensure courses meet standards of quality Pollacia, Russell & Russell, 2009). Mastery of design, development, and delivery of an online course is critical to providing a quality learning experience.

Critical thinker. Whether faculty teach face-to-face or online, critical thinking skills are essential. However, online teaching requires a distinct set of skills that include evaluation of the quality of the course using criteria other than traditional student evaluations. Thus not only do faculty require expertise in design, development and delivery of online courses according to standards of best practice (Goodyear, Salmon, Spector, Steeples, & Tickner, 2001), they also must be able to critically reflect on the quality of these components (Reif, 2009).

Professional growth expert. Teaching online requires the use of various technologies and new pedagogical approaches (Ellis & Phelps, 2000). Faculty who teach online must continually adapt to new technologies with the understanding that, "quality is a continuous learning process and requires frequent adapting of best practices" (Lewis, Baker, & Britigan, 2011, p. 60). In other words, online faculty will continually experience professional growth as they embrace the inevitable changes that

come with online teaching (Clarke & Hollingsworth, 2002; Guskey, 1985). Therefore, faculty must be flexible, willing to pursue professional development opportunities, and commit to being open to change.

The Value of Professional Development for Faculty who Teach Online

Reilly, Vandenhouten, Gallagher-Lepak, and Ralston-Berg (2012) defined professional development as "planned activities designed to improve the knowledge, attitudes, and skills essential to the performance of the instructor role" (p. 100). Researchers agree that providing professional development for faculty who teach online is critical to quality in online learning (Baran, Correia, & Thompson, 2011; Crawford-Ferre & Wiest, 2012; King, 2010; Kinnie, 2012). Converting a face-to-face course to an online format is time consuming and difficult (Ray, 2009). Designing an online course requires a different set of skills and expertise beyond just selecting appropriate content (Wolcott & Shattuck, 2007). Professional development can help faculty design engaging online activities according to quality standards (Lewis, Baker, & Britigan, 2011; Reilly et al., 2012).

Typically, administrators recognize that faculty need help transitioning from teaching face-to-face to teaching in the online environments (Shapiro, 2007). Lack of systematic provisions for professional development forces online faculty to learn skills and best practices on the job causing unnecessary struggles (Powell, 2010; Ray, 2009). Yet, surprisingly, faculty may not receive professional development prior to, during, or after making the transition (Lewis, Baker, & Britigan, 2011; Marek, 2009).

Benefits of professional development for online faculty. Although faculty members may not receive necessary professional development, prior research tells us that professional development opportunities can provide a number of both cognitive and affective benefits for online faculty. Affective outcomes can include, increased confidence in online teaching (Powell, 2010; Wright, 2011), appreciation for student perspectives (Koehler, Mishra, Hershey, & Peruski, 2004) and willingness to design courses according to standards of best practice (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). Cognitive outcomes include an improved knowledge base for selecting materials (Powell, 2010), a deeper understanding of elearning and development of critical thinking skills related to design and delivery methods (Reilly et al., 2012), and professional growth (Koehler, Mishra, Hershey, & Peruski, 2004).

Barriers to professional development participation. Institutions may provide professional development but participation is sometimes problematic (Covington, Petherbridge, & Warren, 2005). Time is one of the most often cited barriers to professional development participation (Koehler, Mishra, Hershey, & Peruski, 2004; Shea, Picket, & Li, 2005; Taylor & McQuiggan, 2008). Fish and Wickersham (2009) recommended providing incentives for faculty in the form of course release time in order to attend professional development. Another barrier to attending professional development is a perceived lack of technical support for implementation of new technologies presented. Technical support needs to continue beyond any professional development provided (Powell, 2010). Finally, the perception that participation in activities purposed for instructional improvement do not count towards promotion and

tenure inhibits faculty from pursuing these opportunities (Orr, Williams, & Pennington, 2009).

Institutions are well advised to invest in faculty professional development (Wilson, 2012). Faculty who are prepared to teach online can positively affect student attrition. Factors that influence student's decisions to drop online courses include: faculty responsiveness to student needs, quality of instruction, and timely feedback on student progress (Hebert, 2006). Institutions demonstrate unrealistic expectations when they assume faculty can effectively provide quality instruction using new methods of delivery without appropriate professional development (King, 2010).

Professional Development and Quality Assurance

Dooley and Murphrey (2000) claimed that professional development for online faculty is essential in order to maintain quality control while efficiently reaching a broader audience through online learning (Dooley & Murphrey, 2000). Courses are daily put online by faculty with little to no instructional design background and who likely receive no training in best practices (Thompson & Irele, 2007). Given that faculty typically design their courses and the recent push to design courses according to quality standards, many institutions of higher education are investing in faculty professional development in online course design in the hope that professional development will improve critical thinking skills relative to the instructional design process (Lewis, Baker, & Britigan, 2011; Taylor & McQuiggan, 2008). Moreover, evidence is needed to show that professional development effectively improves knowledge of best practice in online course design, perception of course quality, and

willingness to use a rubric to systematically design courses to meet quality standards (Baran, Correia, & Thompson, 2011; Ellis & Phelps, 2000; Reif, 2009).

As previously discussed, Quality Matters™ (QM) is recognized world wide as an effective means for implementing quality assurance measures for online learning. Research indicates that the QM peer-review process and rubric are effective in facilitating production of quality online courses (Shattuck, 2007). In addition, professional development is one of the four components of the QM program, yet thus far we know very little about the effects of the professional development provided.

Institutions adopting QM generally begin by training online faculty through the program's flagship course called *Applying the Quality Matters Rubric* (APPQMR) workshop. Wright (2011) demonstrated that completion of APPQMR can increase faculty's online self-efficacy. However, more research is needed to determine what outcomes should be expected from participation. Current research methods used in professional development studies include self-report measures, are primarily descriptive or provide lessons learned. For example, participation in professional development has resulted in a desire by faculty to redesign courses to meet standards of quality and an increased ability to evaluate the design of online courses (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). Although professional development may increase confidence, faculty may still feel unprepared to teach online indicating more support is needed (Powell, 2010). Faculty members learn to value guidelines and standards of quality for online courses (Lewis, Baker, & Britigan, 2011). Direct collaboration with faculty during course design can result in new courses that initially

meet quality standards alleviating the need to redesign courses later (Covington, Petherbridge, & Warren, 2005; Pollacia, Russell, & Russell, 2009).

In the present study the researcher investigated the APPQMR workshop from a broader perspective by measuring effects of participation on multiple dependent variables that represented possible cognitive and affective outcomes. The researcher constructed a criterion-based assessment to measure knowledge of best practice in online course design defined by: a) the Quality Matters' eight General Standards and b) alignment, a fundamental instructional design concept supported by QM standards. Faculty self-perception of the current quality of their existing online course and willingness to use the QM rubric to redesign their existing courses were measured using self-report.

Theoretical Framework

Institutions implementing Quality Matters™ for quality assurance seek to increase its adoption rate among faculty to facilitate changes in approach to online course design. Using the QM Rubric requires a change in faculty's attitude toward and practice for online course design. Providing Quality Matters professional development can facilitate this attitudinal change (Guskey, 1986), increase knowledge of the QM Rubric and relative advantage to using the rubric, thereby increasing the rate of its adoption among online faculty (Rogers, 1995). Therefore, Rogers' Diffusion of Innovations and Guskey's Teacher Change Process Model provide the foundation for this investigation.

Rogers (1995) defined diffusion as, “the process by which an innovation is communicated through certain channels over time among the members of a social system” (p. 5). The diffusion process begins with providing knowledge and persuading the potential adopter that the innovation is a favorable change. The individual commits to adopt and implement the new technology and anticipates positive outcomes to confirm a good decision was made. A primary method for provision of knowledge and persuasion to the relative advantage of an innovation is through professional development.

Guskey (1986) suggested that changing attitudes begins with professional development describing professional development as a, “systematic attempt to bring about change—change in the classroom practices of teachers, change in their beliefs and attitudes, and change in the learning outcomes of students” (p. 5). Change in practice can be represented by a change in instructional strategy. He described a linear model consisting of four components relative to teacher change: professional development, change in practice, change in outcomes, and change in attitude. Guskey posited that, “significant change in teachers' beliefs and attitudes is likely to take place only *after* changes in student learning outcomes are evidenced” (Guskey, 1986, p. 7). Thus professional development must be effective to encourage a change in practice leading to improved course outcomes and ultimately a change in attitude.

The theoretical model presented here synthesizes and improves upon Guskey and Rogers’ models by addressing stages missing in each model when viewed in isolation. In the context of implementing Quality Matters, Guskey does not address the decision

faculty must make to adopt the QM rubric as a tool for online course design after professional development is provided. In addition, Rogers does not address the change in attitude that occurs after course outcomes improve resulting from QM standards driven design. This change in attitude represents a reaffirmation and desire for further professional development. The absence of this stage in Rogers' model implies that QM implementation for quality assurance ends with confirmation and faculty no longer need instructional support to apply QM standards. Acknowledging that faculty will continue to need instructional support improves the likelihood that quality assurance initiatives will become a part of online faculty culture. In addition, both models present a linear process, ignoring the continuous change with which faculty who teach online must become accustomed. Therefore, the model presented in Figure 4 is circular process representing a commitment to continuous professional growth needed to be an effective online instructor.

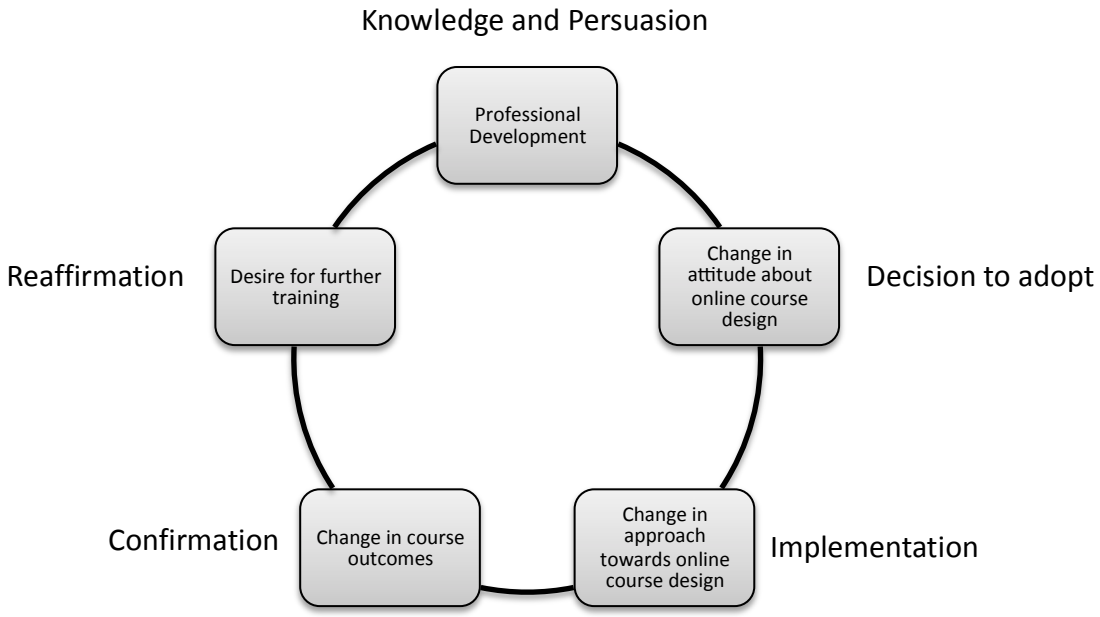

Figure 4. Theoretical framework integrating Roger's Diffusion of Innovations and Guskey's Teacher Change Process models.

In summary, the theoretical model combines Guskey and Rogers' models such that each stage of the respective models works together representing how knowledge and persuasion provided through professional development initiate a cycle of faculty change. Thus, institutions can employ quality control measures for online learning by focusing on professional growth for online faculty. The present study did not seek to validate this model but use it to explain outcomes of providing one professional development workshop intended to ultimately increase the rate of adoption of the QM rubric to design online courses.

Purpose

Because of its broad acceptance as an international standard for online course design and the lack of research that validates the workshop, the purpose of this study was to investigate cognitive and affective outcomes of the *Applying the Quality Matters Rubric* (APPQMR) workshop for faculty who teach fully online and blended courses. The following research question guided this study: What are the effects of the *Applying the Quality Matters Rubric (APPQMR)* professional development workshop on faculty's: a) knowledge of best practice in online course design, b) perceptions of the quality of their own online courses, and c) willingness to use the Quality Matters rubric to redesign an online course?

Methodology

The present study represents the first phase of a two-phase mix-methods study. Phase 1 focused on measuring outcomes of faculty participation in the *Applying the Quality Matters Rubric* (APPQMR) workshop at a large Research 1 university in the southern portion of the United States. Therefore, this study was conducted in the context of a campus wide dissemination of APPQMR that was offered in May of 2013. In May of 2012, the College of Education and Human Development, one of 11 colleges on campus, subscribed to Quality Matters for quality assurance purposes in online learning. Faculty members within the college and throughout the university, generally design, develop, and deliver the online courses they teach. Therefore, the researcher became a certified trainer of APPQMR to teach faculty about standards of best practice in online course design.

To assess benefits of participation in APPQMR, the researcher employed a one-group pre-post questionnaire design to determine effects on the three dependent variables: a) knowledge of best practice in online course design, b) faculty perception of online course quality, and c) willingness to use the QM rubric to redesign an existing online course. Sample participants completed the workshop over a period of two days in addition to completing an online pre and post-questionnaire developed by the researcher. The following sections provide details of participation, the APPQMR workshop, instrumentation, and data collection procedures.

Participation

The target population was faculty who design, develop, and deliver online courses at the university. The dean of the college within which the workshop was provided sent invitations to the other 10 deans on campus. The flyer advertising the workshop was then disseminated to faculty within each college. Faculty who registered for the workshop received an invitation to participate in the study (see Appendix B). Seventy-seven persons completed the workshop. Twenty-six faculty members were eligible for participation based on sample requirements and 25 consented to participate.

Study participation required the faculty member to have: a) designed at least one fully online or blended course for the purposes of teaching the course in the future or b) taught an online course and be primarily responsible for the design of the current version of the course he or she teaches, and c) completed the *Applying the Quality Matters Rubric* (APPQMR) workshop offered in May of 2013. For the purpose of this research, the term "faculty" was used to include persons who hold a doctoral degree but who may

have a job title such as lecturer or staff within their respective college. The rationale for using this term is based on its prolific use in the literature regardless of official titles carried by online instructors across post secondary institutions.

Of the 25 faculty participants, 21 (84%) were female and 4 (16%) were male. The age range for participants was between 35 and 68, with 68% between the ages of 35 and 49 and 32% between 50 and 68. Seventy-six percent reported having taught online at most 5 years while the remaining 24% reported between 6 and 13 years.

APPQMR Workshop

The QM website described the *Applying the Quality Matters Rubric* (APPQMR) workshop as the "flagship workshop on the QM Rubric and the process of using the QM Rubric to review online courses" (qmprogram.org). This course is designed for persons who want to learn about the QM peer review process and the rubric used to certify the quality of online and blended courses. Workshop participants typically include but are not limited to faculty, instructional designers, and administrators.

APPQMR was chosen as the experimental treatment for the present study based on four factors. First, the QM Rubric is widely accepted nationally and internationally as representing standards of best practice for online course design. Second, careful examination of the workshop's learning objectives and activities conducted therein align with the three dependent variables under investigation. Third, the university within which the study was conducted is a QM subscriber and is currently using APPQMR to provide training for online faculty. Fourth, the researcher is a certified QM face-to-face facilitator of APPQMR for the university thus allowing a no-cost attendance in turn

maximizing potential for participation. The following paragraphs will describe elements of APPQMR in terms of its appropriateness to the three variables under investigation.

APPQMR guides participants through an in depth exploration of the QM rubric used to assess the quality of online courses. The design of the workshop introduces participants to 20 of the 41 standards in the QM Rubric. A rubric used to assess a product aids the product designer in understanding necessary specifications to meet standards of product quality. Therefore, by increasing faculty's knowledge of a tool used to assess the quality of an online course, faculty will better understand how to design a course to meet standards of quality. Hence the APPQMR workshop was viewed as a viable instructional tool to increase faculty's knowledge of best practice in online course design.

APPQMR also affords participants multiple opportunities to critically reflect on the current quality of their own online courses as they explore an existing online course that successfully completed the QM formal review process. Participants complete hands-on activities applying Specific Review Standards to the online course provided. In some situations participants disagree with the review committee's decision. This disagreement allows for rich dialogue regarding the meaning of the standard according to the annotation providing further understanding of the standards and opportunity to consider one's own course in this area. In this way, APPQMR also facilitates critical thinking in terms of assessing the quality of one's online course design.

Finally, APPQMR introduces participants to the Quality Matters™ program from a holistic perspective. Participants learn the underlying principles of QM, the peer-

review process, and the methods for applying the rubric standards. According to Rogers (1995) increasing knowledge of the innovation can increase willingness to adopt. Despite the program's wide adoption, for a large portion of online faculty, the Quality Matters™ program is a new method for designing online courses because it requires systematic processes with which faculty are typically unfamiliar. Thus, faculty must be willing to make changes to current processes used for putting courses online.

In summary, given the researcher's affiliation with the subscribing institution housing the sample population and position as a certified facilitator of the APPQMR workshop, the popularity of QM amongst institutions of higher education, the rubric's wide acceptance as a standard of best practice in online course design, and the workshop's alignment with the three variables under investigation, inquiry regarding the impacts of APPQMR was deemed appropriate.

Instrumentation

A pre and post-treatment questionnaire was administered to participants via Qualtrics, a web-based survey application. Pre and post-treatment questionnaires were identical except for demographic information collected at the end of the post-questionnaire for descriptive analysis purposes (see Appendix A). Given no other prior instruments existed from prior research to measure KBP the instrument used in the present study was developed by the researcher based on topics covered in the APPQMR workshop. Three QM experts were used to verify evidence of content validity. These experts provided feedback regarding the topic of questions chosen, the wording of questions, as well as correct answers and distractors. All were certified QM peer

reviewers. Two were also certified facilitators of the APPQMR workshop and had facilitated APPQMR for at least 5 years or more. The three-part questionnaire measured three dependent variables: a) knowledge of best practice in online course design (KBP), b) faculty perception of online course quality (FPQ), and c) willingness to use the QM Rubric to redesign an online course (W). The following paragraphs discuss details of each part including item development and reliability and validity of scores.

Part 1: knowledge of best practice in online course design. Part 1 included 28 multiple-choice items used to measure the dependent variable KBP. This variable was defined as the participants' understanding of: a) the 8 QM General Standards and b) Alignment among learning objectives, assessment, instruction, activities, and technology.

Item development. Throughout the workshop best practice in online course design is presented in terms of the General Standards within the QM Rubric and alignment among a subset of those standards. All eight QM General Standards and 20 of the 41 Specific Review Standards were covered during APPQMR. The reader can refer to the QM Rubric attached to this document for a full listing of QM General and Specific Review Standards. A General Standard is a comprehensive category under which Specific Review Standards are housed based on their association to the category. Twenty-five items were developed based on Specific Review Standards taught during the workshop with representation of each General Standard included for comprehensive measurement (See Figure 5).

In addition, a unique and central tenet of the QM program is *Alignment*. Alignment refers to the extent to which all essential course components work together to support student mastery of the learning objectives. Three items were developed to assess understanding of alignment based on the definition presented and applied within the workshop.

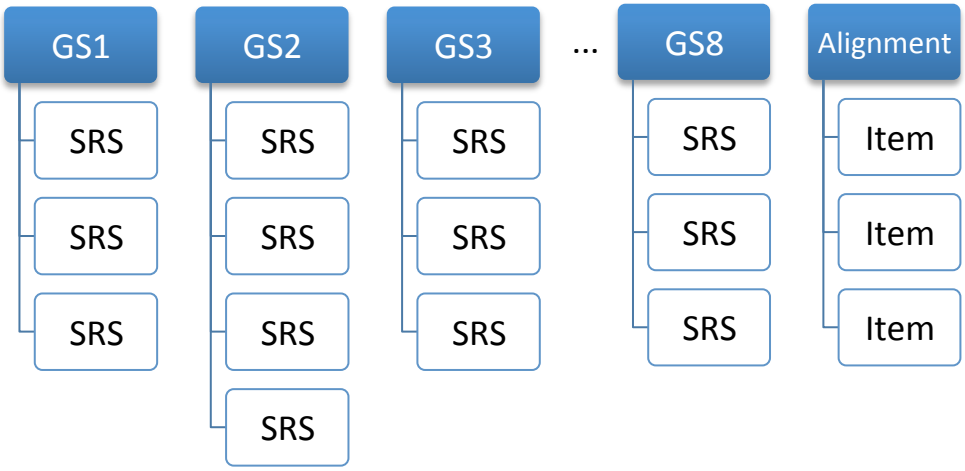

Figure 5. Part 1: Knowledge of best practice in online course design. GS = General Standard. SRS = Specific Review Standard. The top row represents constructs measured. Rectangles below represent items developed to measure the nine constructs. The researcher developed items labeled with SRS based on specific review standards of the QM Rubric.

In summary, Part 1 used 28 items to measure KBP defined by nine constructs comprised of the eight QM General Standards and Alignment. Participants' scores for KBP were computed as averages. All nine constructs were represented in the final score to ensure a comprehensive measurement of KBP.

Reliability and validity of scores. The data for KBP was recoded from categorical to dichotomous data as 1s or 0s when correct or incorrect, respectively. A systematic process was used to determine which items would be scored to maximize score reliability. First, Cronbach's alpha was computed including all 28 items resulting in an initial alpha of .49. Items were removed one at a time based on the value of the associated alpha-if-deleted index. Alpha-if-deleted provides the researcher with a projection of a new alpha based on the removal of the item from the total score. The item with the lowest alpha-if-deleted was removed from the next calculation of alpha. This process continued until removing an item implied that one of the nine constructs would not have any items included in the total score. Sixteen items were scored resulting in a Cronbach's alpha of .69.

Part 2: faculty perception of online course quality. Part 2 included eight items to measure faculty members' perceptions of quality of their online courses. If faculty are unaware of best practices for online course design, they may have an inaccurate sense of the quality of their online courses. Therefore, FPQ was designed to measure faculty's assessment of the quality of their online course before and after APPQMR participation.

Item development. Items took the form of statements developed from the General Standard annotations within the QM rubric. Each statement required participants to critically reflect on the description of the standard provided and how well the standard was reflected in their respective online courses. Therefore, participants were assigning a level of quality to their existing online courses.

One example was, "My course introduction is effective in explaining the overall design of the course, sets the tone for the course, lets students know what to expect, and provides guidance to ensure they get off to a good start." This item measured the faculty member's perception of his or her online course introduction. The statement was developed from the QM rubric's annotation explaining the purpose of General Standard 1. General Standard 1 encompasses Specific Review Standards focused on providing students necessary information to get started in the course maximizing potential for success.

Participants selected a level of agreement regarding the eight statements using a four-point Likert scale: strongly disagree, disagree, agree, and strongly agree. An additional option of "not sure" was also provided. See Appendix A for the definition participants were provided for each of the five answer options.

Reliability and validity of scores. The eight items included in Part 2 were developed using direct language from the annotations provided for the General Standards within the QM Rubric providing strong evidence of content validity. Cronbach's alpha for FPQ was .79 indicating good reliability of scores for this variable.

Part 3: willingness. Part 3 included items measuring faculty willingness to use the QM Rubric to redesign an online course. Willingness could be perceived as a yes or no question. For example, it might seem sufficient to ask participants "are you willing to use the QM rubric to redesign your online course?" However, participants may answer the question based on perceived circumstances within which they design and develop online courses. Therefore, additional statements were included that presented

hypothetical situations in order to determine if willingness was based on the QM program or other outside variables presenting possible barriers to adoption.

Item development. Six items in the form of statements were developed based on potential barriers to adopting new methods for designing courses described in the literature and the researcher's practical experience working with faculty designing online courses. One item was based on a perceived lack of resources, "If given adequate resources, I would be willing to use the Quality Matters Rubric to ensure my online course met standards of quality assurance." Inadequate resources frequently pose barriers to implementing change. Faculty may recognize change is needed to improve online course design quality, but may lack adequate resources to redesign a course or take the appropriate steps to design a course systematically (Insitute for Higher Education Policy, 2000).

Participants selected a level of agreement for the six statements using a six-point Likert scale. Answer options included: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. See Appendix A for the definition participants were provided for each of the six options.

Reliability and validity of scores. The six items included in Part 3 were developed using the research literature on potential barriers in online learning as well as the experience of the researcher in this area. Therefore, the evidence for content validity was considered grounded in the literature and acceptable for the purposes of this instrument. A Cronbach's alpha of .97 provided further evidence for the reliability and validity of scores for W.

Data Collection Procedures

Workshop participants registered online for one of four APPQMR sessions offered in May of 2013. Upon registration, the faculty member was sent an email invitation to participate in the research study. To join the study, faculty clicked on a link within the email. The link provided access to an online consent form in Qualtrics. The faculty member filled out the consent form and was asked to verify that he or he satisfied the requirements for participation. This information was then used to provide unique links to pre and post questionnaires for future data collection and analysis.

Four sessions of the APPQMR workshop were provided within a two-week period. Each session required full attendance for three and a half hours over the course of two consecutive days. One week prior to a scheduled session each faculty member received an email providing a link to access the online pre-questionnaire. The pre-questionnaire could be answered in multiple sittings but closed prior to day one of the faculty member's scheduled workshop session. The online post-questionnaire was completed immediately following the workshop on day two and participants received a gift card for participation. Participants entered a unique identification number to connect pre and post-questionnaire data.

All workshop participants were invited to take the online post-questionnaire regardless of their participation in the research study. However, data collected from those who chose not to participate in the study was excluded from data analysis. The next section will describe how the sample data were analyzed including unique measures taken into account for missing data to avoid eliminating cases from analysis.

Analysis and Results

Pre and post-questionnaire data for each workshop session was compiled for analysis. As described in the instrumentation section, KBP included 16 scored items for which an average was computed per participant on each questionnaire. All items were scored for FPQ and W for each participant and were also computed as averages. Therefore each participant was tied to three scores per questionnaire, one per dependent variable measured. Scores on pre and post questionnaires were then analyzed to determine any statistically significant differences.

As described earlier, responses to items measuring KBP were recoded from polytomous categorical data to dichotomous data. Entries were coded as 1 for a correct answer, and 0 for an incorrect answer. Responses to FPQ included an option of "not sure". These entries were treated as missing data because "not sure" had no numerical value with which it was associated. Scores on each dependent variable were computed as an average based on the total number of items answered by the participant as opposed the total number of items scored for each part of the questionnaire. Few of these instances occurred, therefore this method was considered acceptable in order to retain all cases in the analysis. This method was employed for all three dependent variables on both pre-and post-questionnaires.

Three paired samples *t*-tests were conducted at $p < .01$ to determine whether differences in pre and post-questionnaires for each dependent variable were statistically significant. Table 1 provides a summary of the descriptive analysis as well as the results

of the paired samples *t*-test. Results indicated a statistically significant outcome for participants' scores on KBP, $\eta^2 = .44$.

Table 1.

Paired Samples t-test for KBP, FPQ, and W Scores

Variable	$\overline{X}$	SD	$\overline{X}_d$	CI = 95%	*t*	*p*	η^2
KBP-Pre	0.36	0.12	0.19	[.10, .28]	4.23*	$p < .001$	.44
KBP-Post	0.55	0.20					
FPQ-Pre	3.13	0.37	0.01	[-.22, .22]	0.04	.970	$\eta^2 < .001$
FPQ-Post	3.14	0.41					
W-Pre	4.43	0.61	0.05	[-.13, .24]	0.60	.555	$\eta^2 < .001$
W-Post	4.48	0.64					

*Statistically significant result
Note. N = 25, $\overline{X}_d$ = Mean difference of KBP_{post} and KBP_{pre}.

Results were not statistically significant for FPQ or W. The correlation between KBP pre and post scores was less than .10 indicating little variance resulting from pre-test sensitization. Correlation between pre and post scores on FPQ was less than .06. However, the correlation between W pre and post scores was .75, which was statistically significant suggesting a large portion of variance for W could be attributed to pretest sensitization.

Discussion

Findings suggest that participation in the *Applying the Quality Matters Rubric* (APPQMR) workshop has a positive effect on faculty's knowledge of best practice in online course design. Non-statistically significant changes occurred in perception of online course quality and willingness to use the QM Rubric to redesign an online course.

Knowledge of Best Practice in Online Course Design

Results provided evidence that completing the APPQMR workshop can improve online faculty's knowledge base in standards of best practice for online course design. These results support Reilly, Vandenhouten, Gallagher-Lepak, and Ralston-Berg's (2012) findings of an increase in knowledge of elearning defined as "the use of network technologies to create, foster, deliver, and facilitate learning any time, anywhere" (Reilly et al., p. 103) after participation in professional development.

During the workshop participants learned how to analyze annotations of the standards and apply them to an online course in order to determine whether the course met the standard, thereby increasing understanding of individual standards. It should be noted that the workshop does not cover all standards delineated in the rubric so it would not be expected that participants would gain comprehensive knowledge of the Quality Matters™ rubric. Overall, findings suggested that the faculty improved expertise in online course design.

Perception of Online Course Quality

The participating faculty members' perception of quality of their respective courses did not statistically significantly change as a result of the APPQMR workshop.

This study of the effects of APPQMR did not require participants to assess their respective courses on each of the Specific Review Standards that would have required a higher level of critical thinking skills. Instead, the General Standards, the categories under which Specific Review Standards fall, were used to create evaluative statements with which participants indicated a level of agreement. A more appropriate method for measuring the effects of the workshop on this variable might be to have participants conduct a self-assessment of their respective courses using the Specific Review Standards before and after workshop participation.

Willingness

It was projected that participants would be more willing to change current practices (Guskey, 1986) and adopt the QM Rubric to redesign existing online courses (Rogers, 1995) by increasing knowledge of the standards, providing opportunities to experience application of standards, and discussing benefits of using standards for both students and faculty. Willingness to adopt the QM rubric to redesign an existing online course did not statistically significantly change. However, the outcomes on this variable ($\overline{X}_w$ = 4.48, SD = 0.64) suggest that on average faculty were willing to use the QM rubric to redesign an existing course, because 4.48 represents a rating that falls between Agree and Strongly Agree, respectively on the scale used to measure willingness.

Powell (2010) found that after professional development that incorporated Quality Matters™, participants felt prepared to go through the QM process that could suggest willingness to make a change. Reilly, Vandenhouten, Gallagher-Lepak, and Ralston-Berg (2012) reported results supporting faculty willingness to use the QM

Rubric to design courses as well. However, neither Powell (2010) nor Reilly et al. (2012) used a pre-post design. In addition, this study only included voluntary participants who were not randomly selected from the target population. Although this study did employ a pre-post design, a better approach to measuring the effects of the APPQMR workshop on willingness might be to administer the questionnaire to participants who are required to complete the workshop to meet job requirements. In summary, more rigorous research is needed to determine the extent to which this workshop can change attitudes facilitating an increased willingness to adopt the QM Rubric to design online courses.

Conclusion

The present study investigated cognitive and affective outcomes of the *Applying the Quality Matters Rubric* workshop for faculty as they take on the new multidimensional role of online faculty: content expert, course master, critical thinker, and professional growth expert. The study was unique in using a criterion-based instrument to determine gains in a defined knowledge base as opposed to using only self-report measures. Outcomes indicate that QM professional development can improve faculty members' knowledge of best practice in online course design. Increasing this knowledge can help faculty design quality courses.

Online teaching requires a distinct set of skills that include evaluation of course quality using criteria other than traditional student evaluations. Thus not only do faculty require expertise in design of online courses according to standards of best practice they also must be able to critically reflect on the quality of course components. Although this

study provided evidence that QM professional development can increase faculty members' understanding of best practices in online course design, results did not provide evidence that the workshop improved faculty members' critical thinking skills required to assess the quality of their own course. Assessing faculty perception of online course quality might best be conducted using methods that require participants to review their course according to the 41 standards in the QM Rubric.

To be effective online teachers, faculty must be committed to professional growth given the continuous changes in technology specifically related to online learning. Commitment to professional growth is evident when faculty members pursue learning opportunities regarding new technologies in online learning such as the QM Rubric. Although this study did not indicate that APPQMR can *increase* faculty members' willingness to adopt the QM Rubric to redesign existing courses, findings did indicate that overall faculty who participated were willing to use the QM Rubric to employ more systematic processes for online course design. Therefore, studies should include participants who are required to complete professional development and thus may not initially be open to changing existing practices to be able to assess whether the professional development can increase willingness to adopt new technologies.

Institutions that subscribe to QM and expect faculty to design, develop, and deliver online courses need faculty to be willing to adopt the QM rubric to guide the design or redesign of online courses. The theoretical model on which this study was founded suggested that professional development could provide the knowledge and persuasion necessary to facilitate adoption of the QM rubric implying a change in

attitude towards online course design. According to the findings of the present study, the APPQMR workshop equipped faculty with knowledge of best practices in online course design defined by the QM Rubric. Findings indicated that the workshop did not influence willingness to make a change in practice. However, faculty members who participated were generally open to changing practice by using the QM Rubric. Therefore, offering additional expert instructional support for applying QM standards to an online course is recommended after APPQMR participation.

Institutions that subscribe to Quality Matters are advised to provide the APPQMR workshop as an introduction to standards of best practice in online course design. However, to improve faculty perception of online course quality and willingness to adopt the QM Rubric, further instructional support is needed after APPQMR participation. For example, faculty could be provided professional development in an online format that spans several weeks. Providing the professional development in an online format simulates a student experience enhancing appreciation of the student perspective necessary to keep course design student-centered. Faculty would have access to an authentic learning experience embedded in QM standards as they build a module of online instruction that includes measurable learning objectives, appropriate instruction, assessment, and activities using tools that support student mastery of learning objectives. During the course, faculty should have access to peer submissions to see multiple perspectives on how to apply standards and learn from their own as well as others' mistakes.

Increasing understanding of how to apply QM standards through professional development opportunities as described will help faculty improve knowledge of best practice in online course design and perception of online course quality. In addition, allowing faculty to learn these new skills over a period of time with appropriate instructional support is likely to increase willingness to adopt the QM Rubric and the likelihood that faculty will make a permanent change in practice. Moreover, as faculty learn to trust that instructional support is available, they are likely to be more open to new technologies in the future.

Limitations of the present study included small sample size, the absence of a control group, and the use of participants who were not randomly selected from the target population. Future research should investigate various models of professional development with a focus on improving knowledge in best practices for design, perception of online course quality, and willingness to adopt new innovations such as the QM Rubric. Studies should include multi-institutional samples, employ the use of control groups, measure effects using pre-post designs combining both criterion-based and self-report measures, and include faculty who are required by their institution to complete professional development. However, there are questions left unanswered for which qualitative studies are more appropriate. For example, what do faculty experience as they design courses to meet QM standards? To what extent and in what ways do faculty improve their online courses after completing professional development focused on standards of quality such as APPQMR? Answers to such questions can inform distance education administrators and instructional support staff making decisions

regarding how best to ensure quality online learning experiences for both students and faculty.

CHAPTER IV

DESIGNING QUALITY ONLINE COURSES: FACULTY IN PURSUIT OF QUALITY MATTERS RECOGNITION

Instructional support for online faculty is essential as courses are developed daily by faculty with little to no instructional design background and who likely receive no training in best practices (Thompson & Irele, 2007). Best practices in quality assurance recommended by Lee and Dziuban (2002) recommend institutions of higher education provide online faculty with academic leadership and instructional support (Wang, 2006). Recently, these best practices in online course development also encourage a systematic approach to design using standards of quality to maximize learning outcomes (Pollacia, Russell, & Russell, 2009). Moreover, institutions that provide leadership and support are more likely to increase faculty adoption of systematic practices for online course design guided by quality standards (Dooley & Murphrey, 2000).

In an effort to ensure students are receiving quality online instruction, many institutions have adopted Quality Matters™ (QM). Quality Matters is recognized world wide as a highly reputable method for quality assurance in online learning (Ralston-Berg & Nath, 2008). The program uses a rigorous peer-review process and rubric based on standards of best practice, research, and instructional design principles to assess the design of an online course (Legon & Runyon, 2007). The program also offers professional development workshops. This study sought to explore the impacts of the

Applying the Quality Matters Rubric workshop on faculty who redesigned courses to meet QM standards.

Introduction

Distance education has become a permanent fixture in mainstream education (Marek, 2009). No longer are researchers focused on *if*, but *how* we can provide quality online education. Providing online options has become a necessity for meeting higher enrollment demands while addressing budgetary concerns (Orr, Williams, & Pennington, 2009). However, institutions of higher education delivering courses online must still meet accreditation requirements (Lezberg, 2007). Thus, there is an urgent need to ensure online courses meet nationally recognized standards of quality (Sherry, 2003).

Nationally recognized organizations have formulated criteria by which an online program can be assessed for quality (Lorenzo & Moore, 2002). Each institution must determine the standards it will adopt for quality assurance in online learning. In addition, faculty are primarily responsible for designing and developing the courses they deliver (Powell, 2010). Therefore, institutions should provide their faculty who teach online with instructional support for effective implementation of quality standards while designing online courses (Wright, 2011).

More research is needed to identify the needs of faculty who design courses to meet standards of quality (Covington, Petherbridge, & Warren, 2005; Koehler, Mishra, Hershey, & Peruski, 2004). Additionally, research is needed to provide guidelines for instructional support staff who collaborate with faculty during the design process (Chao, Saj, & Hamilton, 2010). The following is a review of the literature on quality assurance

in online learning from the perspective of instructional support for faculty who design, develop, and deliver online courses.

Quality Assurance in Online Learning

Greenberg (2011) defined quality assurance as "the practice of preventing faults from occurring within a process or system" (p. 2). Allen and Seaman (2004) defined quality in terms of the achievement of learning outcomes. Drawing from these two definitions quality assurance in online learning is the prevention of delivering courses that do not maximize learning outcomes and enabling those that do. Moreover, a primary focus of quality assurance in online learning should be the design of courses that meet quality standards (Bento & White, 2010). The Quality Matters rubric delineates a set of 41 standards for online course design. Thus, for the purpose of this review, quality assurance will be defined as actions taken by the institution and faculty to implement Quality Matters standards into the design of online courses for the purpose of maximizing learning outcomes.

Sherry (2003) described the urgency with which quality assurance in online learning should be approached. She emphasized the interrelationships between the institution, faculty, and students in a successful distance education program. And while many stakeholders play critical roles in the quality and success of online education, arguably the first step to ensuring quality in online learning is providing faculty with knowledge and skills necessary to design quality online instruction (Marek, 2009; Wright, 2011). Subsequently, expert instructional support staff should be available to

assist faculty during implementation of gained knowledge and skills (Wolcott & Betts, 2007).

Both the institution and its faculty are key components to quality assurance. In fact, faculty and the institution have an interdependent relationship (McLean, 2005). The institution depends on faculty to design, develop, and deliver quality online courses while faculty depend on the institution to provide the leadership and instructional support necessary to fulfill institutional expectations (see Figure 6). Thus, quality assurance in online learning requires a commitment from *both* the institution and faculty.

Figure 6. Institutional roles in online quality assurance. Interdependent relationship between faculty and the institution to meet expectations of quality.

Institutional Roles in Online Learning

In 2000, the Council of Regional Accrediting Commissions (CRAC) group drafted values and principles to be reflected in distance education programs offered by degree-granting institutions. According to Lezberg (2007), "an essential element in all

evaluative processes will be institutional self-evaluation for the purpose of enhancing quality" (p. 410). Thus the institution must lead efforts to ensure the quality of the education it provides (Shieh, Gummer, & Niess, 2008).

Leadership. Beaudoin (2007) defined leadership as "a set of attitudes and behaviors that create conditions for innovative change, enable individuals and organizations to share a vision and move in the appropriate direction, and contribute to the management and operationalization of ideas" (p. 519). Institutional leadership can facilitate a shared vision for advancing quality assurance initiatives (Beaudoin, 2007). Moreover, clarity in an institution's vision for online learning has shown to be a positive impact on faculty (Orr, Williams, & Pennington, 2009). Institutions can demonstrate leadership in online learning through instructional support (Orr, Williams, & Pennington, 2009; Shieh, Gummer, & Niess, 2008).

Instructional support. Lee (2001) defined instructional support as efforts to aid faculty in improving instruction. Faculty desire formal training in online course design and additional support but these affordances are not always part of the institutional infrastructure (Marek, 2009). However, technical support should not be equated with instructional support and as such, is not a comprehensive approach to assisting online faculty. Technology integration with effective pedagogy in the classroom is an important and relevant topic to online learning and more instruction in how to design courses that incorporate what is known about how people learn is needed (McLean, 2005).

Implementing Quality Assurance Measures

Nationally recognized organizations such as Sloan-C and the Council for Higher Education Accreditation have formulated criteria by which an online program can be assessed for quality (Lorenzo & Moore, 2002; Rovai, Ponton, & Baker, 2008). Greenberg (2011) argues that quality should not only be discussed at the program level but at the course level as well. Online courses oftentimes exist within the larger context of a site-based degree. An evaluation focused solely on online degree programs would create a distorted view of online course quality for the institution. When standards are properly implemented, a common place from which to improve upon exists (Estabrook & Arashiro, 2003). However, faculty typically receive no formal training in online learning or best practices in online course design (Lewis, Baker, & Britigan, 2011; Marek, 2009).

Professional development in online course design. Professional development in online course design can statistically significantly improve knowledge of best practices in online course design (Mercer, 2014). Poor design can be remedied via "on the fly" in the physical classroom. However "online instruction must control, reduce, or eliminate the variability of the uncontrolled and interactive e-learning environment" (Estabrook & Arashiro, 2003, p. 166). Professional development can increase faculty's willingness to design courses according to standards thereby maximizing control in an inherently uncontrolled learning environment (Reilly, Vandenhouten, Gallagher-Lepak, & Ralston-Berg, 2012). Yet more is needed. Faculty are less likely to utilize new

technologies if they are concerned about a lack of support for implementation (Wolcott & Betts, 2007).

Supporting faculty through collaboration. Collaboration has become a popular approach to online course development. Some researchers have focused on student input to address what Ali (2003) referred to as the faculty-student disconnect that can occur in online learning. Koehler, Mishra, Hershey, and Peruski (2004) paired students with faculty in a *learning by design* approach during which faculty experienced interrelationships between content, pedagogy, and technology and how the technology impacts content design and by extension online pedagogical practices. Covington, Petherbridge, and Warren (2005) focused on peer collaboration in their *triangular support approach* to online course development. Veteran online instructors provided workshops as well as one-on-one support.

Researchers have also investigated partnerships between instructional designers and online faculty. Xu and Morris (2007) grouped faculty subject matter experts with an instructional designer to design and develop an online course. Findings indicated that workload seemed to increase because all parties had to agree before moving on to next steps. Therefore faculty felt developing in isolation was more simple and efficient. However, working *without* the expertise of the instructional designer may over simplify the development process and decrease course quality. Some suggest the instructional designer is a powerful change agent (Campbell, Schwier, & Kenny, 2009). As described by Chao, Saj and Hamilton (2010), "not only do instructional designers play the role of advisers to faculty and department on issues of curriculum and course quality, they also

play a vital role in faculty development and institutional change..." (p. 108). Collaboration also might prove more efficient if only one faculty member is paired with one instructional designer. Chao, Saj, and Hamilton (2010) created pairs of one faculty member with one instructional designer to build or redesign courses to meet standards of quality. The faculty–designer relationship was pivotal to a successful outcome and provided a feeling of shared responsibility for course quality.

Quality Matters

In an effort to ensure students are receiving quality online instruction, many institutions have adopted Quality Matters™ (QM). Quality Matters is recognized world wide as a highly reputable method for quality assurance in online learning (Ralston-Berg & Nath, 2008). The program uses a rigorous peer-review process and rubric based on standards of best practice, research, and instructional design principles to assess the design of an online course (Legon & Runyon, 2007).

The QM rubric was designed as the primary instrument for assessing the quality of online course design through a peer-review process (Ralston-Berg & Nath, 2008). However, the rubric has also demonstrated effectiveness as a tool to guide the design of new and existing online courses (Pollacia, Russell, & Russell, 2009; Swan & Matthews, 2012). Overall, research indicates that the Quality Matters program has proven beneficial in a variety of areas for institutions using the program to improve the quality of online learning (Aman, 2009; Bento & White, 2010; Effken, McEwen, Vincent, Shea, Garcia-Smith, & Kang, 2009; Pollacia & McAllister, 2009).

Beyond QM's peer-review process and rubric for assessing the quality of an online course, the program offers a variety of professional development workshops. The primary workshop delivered to educate participants on the rubric's standards and the peer-review process is the *Applying the Quality Matters Rubric* workshop (Shattuck, 2012). And although this workshop has proven beneficial for improving faculty knowledge of best practice in online course design (Mercer, 2014), it is not yet clear to what extent courses are improved when faculty put these standards into practice.

Instructional Support as a Means of Quality Assurance

Faculty need opportunities to learn best practices in online learning, specifically course design to initiate quality assurance processes at the most tertiary level (Koehler, Mishra, & Hershey, 2004). Research suggests that learning should occur through a combination of formal workshops and collaboration with instructional design experts (Chao, Saj, & Hamilton, 2010; Powell, 2010; Xu & Morris, 2007). Instructional designers can be instrumental in the diffusion of institutional initiatives for quality assurance acting as change agents (Campbell, Schwier, & Kenny, 2009). The question remains, how does prior professional development impact faculty who collaborate with instructional designers to redesign courses to meet standards of quality?

Quality Matters™ (QM) is recognized world wide as an effective means for implementing quality assurance measures for online learning. Research indicates that the QM peer-review process and rubric are effective in producing quality online courses (Shattuck, 2007). Professional development is one of the primary components of the QM program, yet thus far we know very little about how these professional development

opportunities impact faculty's ability to put QM standards into practice. In addition, more research is needed on the extent to which faculty improve courses using the rubric after participating in QM workshops and why.

Research also indicates that collaboration with instructional designers, although time consuming, produces the most effective results when designing courses to meet quality standards (Chao, Saj, Hamilton, 2010; Xu & Morris, 2007). However little to no research exists focused on collaboration between faculty and instructional designers working to achieve QM recognition.

Theoretical Framework

Quality Matters (QM) employs a systematic process for course design through use of a standards based rubric. This is contrary to the typical "piece-meal and unplanned fashion" (Moore & Kearsley, 1996, p. 6) to which faculty are accustomed. QM is thus an innovative approach to online course design. QM is specifically focused on changing teacher practice (in this case online faculty) for the purpose of improving student learning outcomes through instructional support tools such as the QM rubric, the QM course review, and QM professional development.

The present study was guided by a synthesis of Rogers' Diffusion of Innovations and Guskey's Teacher Change Process models (see Figure 7). Rogers (1995) defined diffusion as, "the process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 5). The diffusion process begins with providing knowledge and persuading the potential adopter that the innovation is a favorable change. The individual commits to adopt and implement the

new technology and anticipates positive outcomes to confirm a good decision was made. A primary method for provision of knowledge and persuasion to the relative advantage of an innovation is through professional development.

Guskey (1986) described professional development as a, "systematic attempt to bring about change—change in the classroom practices of teachers, change in their beliefs and attitudes, and change in the learning outcomes of students" (p. 5). In Roger's diffusion process, change is represented by the adoption and implementation of the innovation. In Guskey's teacher change process model, the change represents an educational practice, outcomes, and attitude. Synthesizing these two theories means providing knowledge and persuasion through professional development is a catalyst for change in teacher practice represented by the adoption and implementation of technological innovations.

In addition, teachers who experience positive outcomes based on change in practice will seek out new professional development opportunities to further improve learning outcomes. This is referred to as reaffirmation in this model. In addition, rapid changes in educational technology affect online faculty's pedagogical decisions. Online faculty are required to commit themselves to continuous professional growth. This commitment is necessary to providing online students with quality learning opportunities. The cyclical nature of this model represents: a) the desire for further training as adoption of new innovations prove fruitful and b) the continuous need for online faculty to seek out new pedagogical approaches to online learning.

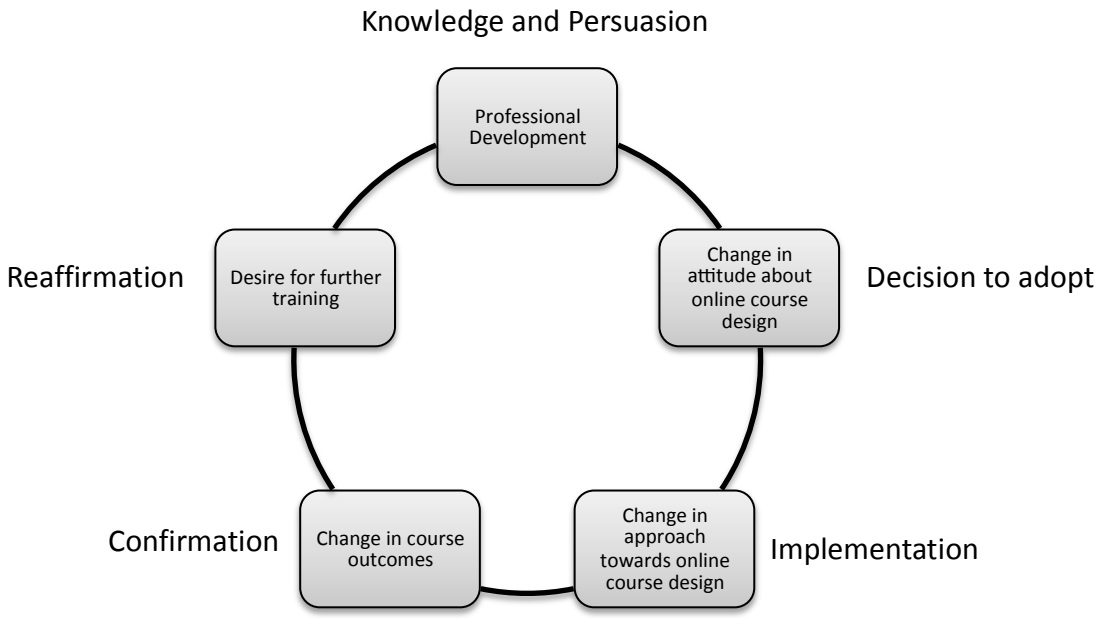

Figure 7. Theoretical framework integrating Roger's Diffusion of Innovations and Guskey's Teacher Change Process.

In sum, both theories posit that change begins with knowledge. Within the context of online learning, knowledge of new technologies most often comes in the form of professional development, one method of instructional support for online faculty (Lee, 2001). The theoretical model presented explains how providing instructional support through professional development and continuous instructional technology support (e.g. instructional designers) can positively changing attitudes, practice and outcomes for faculty who design, develop, and deliver online courses. Moreover, the instructional designer as change agent during each stage of this model can help further institutional quality assurance initiatives through collaboration with faculty who apply QM standards (Campbell, Schwier, & Kenny, 2009).

Purpose

The present study took place within the context of a larger two-phased mixed methods study. Phase one explored cognitive and affective outcomes of faculty who complete the *Applying the Quality Matters Rubric* (APPQMR) workshop. The purpose of the present study, phase 2, was to explore how faculty improved online courses after completing the APPQMR. This study also sought to describe faculty experiences as they participated in an online course redesign process using what was learned in the workshop and the Quality Matters rubric as a redesign tool.

The following research questions guided this research: 1) To what extent and in what ways do faculty improve quality of existing online courses after completing the APPQMR workshop and why? 2) What are the lived experiences of faculty who redesign an online course using the Quality Matters Rubric as a design tool? Answers to such questions can inform future collaboration approaches between faculty and instructional designers when using QM standards to guide the systematic design of online courses.

Method

Phenomenological case studies were used to explore answers to the research questions. Phenomenological case studies explore human experiences and a socially constructed reality based on a specific phenomenon (Bogdan & Biklen, 1992; Stake, 1995). The purpose for conducting phenomenological case studies was to explore two phenomena: a) course improvement outcomes, and b) redesign experiences from the perspectives of faculty members and an instructional designer who collaborated with

faculty. This methodological approach allowed faculty to tell their redesign story based on a reality situated in the unique context of each faculty member's experience.

Context

The setting for the present study was a large Research 1 university in the southern portion of the United States. At the time this study took place the university was comprised of 11 colleges. The campus and colleges within the campus have a decentralized approach to online learning that prevented quantifying the percentage of online courses taking place at the university.

Faculty use the campus provided learning management system (LMS) for varying purposes. These uses include posting grades and housing digital resources, providing instruction so as to use class time for activities (flipped and/or hybrid courses), and conducting all instruction and course activities with no face-to-face interaction (fully online courses). At the time this study took place, the university was transitioning to a new LMS.

Sampling procedures. A request for participation was sent via email (see Appendix C) to the 25 faculty who participated in phase 1 of the larger mixed methods study during May of 2013. Participation in the present study further required faculty to have: a) designed at least one fully online or blended course for the purposes of teaching the course in the future, or b) taught an online course and be primarily responsible for the design of the current version of the course he or she teaches.

Five cases were desired based on the amount of time it would take to conduct QM course reviews before and after the redesign process. Five faculty from three

different colleges and various disciplines responded to the invitation and completed the consent form affirming they met the criteria for participation. Although the researcher was not able to purposively select cases from a larger group out of the original 25 participants, the sample resulted in the two primary desired sample characteristics: varying experience of online teaching and multiple disciplines. However, the sample was diverse in other areas as well. The majority of participants from which sampling occurred were white, female, and worked within the College of Education and Human Development. Yet, the five case studies included one Asian male, an African American female, and three White females. In addition two of the case studies that participated work outside the primary college affiliation and two case studies were tenured faculty. The variety in gender, ethnicity, college affiliation on campus, and tenured and non-tenured status added further richness to the data.

Statement of Positionality

According to Lincoln (1995), "text that displays honesty or authenticity 'comes clean' about is own stance and about the position of the author" (p. 280). I, as the researcher, recognized that my role on campus as an instructional designer and advocate for Quality Matters standards expert affects every component of this study. I facilitated the APPQMR workshop for the five case studies. I reviewed their courses as a certified QM peer-reviewer. I also collaborated with the faculty during redesign and reviewed their courses again after the redesign process.

I am an instructional designer who values systematic design processes and the QM standards. I also teach a professional development course centered on best practices

in online course design that also advocates the use of QM standards. My assessment of course quality and feedback could not be disconnected from my background in these areas. To minimize this bias I systematically reviewed each course according to the defined QM processes and on some occasions used direct quotations from the annotations provided in the rubric to provide options for redesign that if carried out would meet the standard.

During the initial course review I was excited to see where each course stood in terms of quality and a little nervous as to how each faculty member would respond to the outcomes of that review. After the faculty finished the redesign process and it was time to review the course again to determine the extent to which course quality improved, I found myself hoping each case study's course would meet the standards. After the amount of work they put into the process, I wanted them to feel successful. However, the course review outcomes still indicated that no courses fully met QM standards. I think this provides some evidence that I was able to be consistent in my processes for reviewing courses. However, I recognize that my role as researcher and instructional designer within the study affects research outcomes.

Case Studies

Five faculty members participated as case studies for the purposes of this research: Carla, Sheila, Beck, Heather, and Diane. Names have been changed to ensure confidentiality. Case study characteristics provided a variety of perspectives. Faculty ages ranged from 39 to 52. Four out of the five faculty members were female; three were White, one was African American, and one was Asian. Rank included two tenure-

track and three non-tenure track faculty members. Course content areas included Youth Development, Educational Psychology, Special Education, and Psychology. Two faculty members had never taught the online class they designed, one was somewhat experienced in online teaching, and two were considered experienced online teachers with at least five years of experience. Case study participants did not work together and were not informed of who else was participating in this phase of the study. The following sections describe the five case studies and courses that underwent the redesign process described in this research.

Carla. Carla received her bachelor degree in Secondary Education, masters in Educational Psychology and Ph.D. in Vocational Education from the university where this study took place. Carla did not have a teaching position secured upon graduating with a Bachelor's degree and pursued a Masters degree. During her graduate work she secured a public school teacher position and continued her graduate studies. While working on her Ph.D., she learned that she really enjoyed teaching college students. Therefore, after completing her doctoral studies Carla decided to take a non-tenured university faculty position at her alma mater. She currently teaches two courses and conducts administrative duties within her department. She has been working there for approximately 26 years.

Carla has 5 years experience teaching hybrid courses and a little over 2 years of experience teaching fully online courses. The course she revised during this research was an undergraduate course that typically enrolls approximately 30 students. When

asked why she wanted to redesign her course according to QM standards she said, "Because it's the right thing to do."

Heather. Heather worked on her undergraduate degree at several institutions. However, she completed her undergraduate and graduate degrees from the university where this study took place. Heather had a family and wanted to work within the department from which she graduated. Therefore, similar to Carla, upon finishing her doctoral studies she took a non-tenured position in her department.

Heather is new to online teaching. She recently designed an online course in order to meet revised university requirements for her face-to-face course that is part of the university's core curriculum. Core curriculum courses have been revised according to university policies and Heather felt that the only way to meet the new requirements was to transition to an online format. Approximately 200 students from varying backgrounds take her course each time it is offered. When asked why she wanted to revise her course to meet QM standards she said, "There's got to be a way for a student who is wholly online to get the same quality of experience as the one sitting in my class."

Beck. Beck earned his doctoral degree at another institution focusing on child development and developmental psychology. Beck's position as a tenured professor necessitates a higher emphasis on research as opposed to teaching. Beck has five years of experience teaching an online course. He transitioned the course online at the suggestion of his department. Beck really prefers to teach this specific course online. He feels that because the learners come from varying backgrounds and the course covers

a myriad of topics for which some learners will not have prior experience, teaching online gives the students an opportunity to think about their responses in an asynchronous discussion. The course Beck revised is a graduate level course that is part of the required curriculum. When asked why he wanted to revise his course to meet QM standards he said that, "It's a very important course… I felt like it was the perfect opportunity to motivate myself to make sure the course is kind of staying with the times."

Diane. Diane earned both her masters and doctoral degrees in Educational Psychology from the university where this study took place. Diane taught in public schools for a little over seven years and felt frustrated at the lack of professional growth opportunities in her field. Through encouragement from a colleague she entered a Masters program. As she continued to teach in the K-12 environment she grew weary of district activities that affected her students. Eventually it became too difficult to maintain a full time job and effectively conduct her activities as a doctoral student. Therefore, she secured a job at the university where she was studying and left the teaching field to complete her degree.

Diane has three years of experience teaching online courses. She is not a full time faculty member at the university. Her positions have been funded by grants. Thus, she has to consistently work to secure a position each year. This year she was unsure of her work status at the university and accepted an adjunct position at an outside university. When it became official that she would have full time work through a project

at her home university she accepted the offer. Thus, she is now working 175% of the normal workload of a full time employee.

The course Diane revised during this research was a graduate level course inherited from another professor and was taught in the past using a web conferencing application. Diane preferred to move the course to an asynchronous format. When asked why she wanted to redesign the course to meet QM standards she said, "I want to be able to make this more meaningful really for the students."

Sheila. Sheila also earned her doctoral degree at the university where this study took place. However, prior to finishing her doctorate she accepted a position as a tenured professor at another university and continued her doctoral studies while working full time. Sheila has not yet had the opportunity to teach online. However she designed and developed an online course that is an online version of her face-to-face course. The online version is taught by two other people. Sheila is currently designing and developing three more online courses that combined with her current course will create an online program certificate within her department. Sheila would like this certificate to be available to persons outside the university. She knew it would be important to provide quality assurance for any course, especially those shared among institutions.

When Sheila discovered Quality Matters she included it in her proposal for college funding to develop the online certificate and was approved. Once approved Sheila hired Jennifer to assist with the course development process. Jennifer was a recent graduate from the masters program in Sheila's department and had served as a teaching assistant for Sheila. Jennifer was well known within the department as an

experienced course developer. When asked why Sheila wanted her course to meet QM standards she said, "Because I want that stamp of approval that these courses are quality courses."

Course Redesign Treatment

Each faculty member's course went through an initial QM course review conducted by the researcher who was the instructional design expert within the study and a certified QM peer reviewer. Results of the course review were provided to participants who were given three months to work on redesigning their courses to meet QM standards. During this time the instructional design expert was available for support and collaboration as often as the faculty member desired. At the end of August a second QM course review was conducted to determine the extent to which course quality improved.

Data Collection

Data collection took place during June 1, 2013 thru August 31, 2013. Four sources were used for data collection: pre-design interviews, two informal course reviews (before and after redesign), and post-design interviews (see Figure 8). Preliminary data gathering consisted of the first informal course review and a pre-design interview with each case. Primary data gathering included post-design interviews and a second informal course reviews that took place at the end of the redesign process.

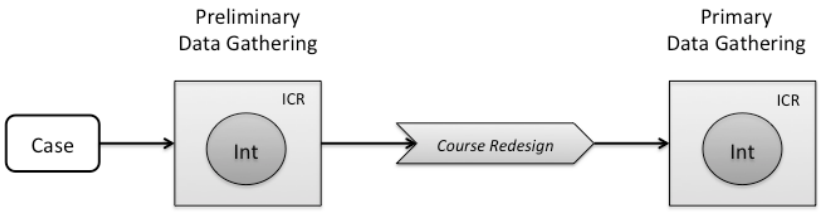

Figure 8. Individual case study participation. Int = interview. ICR = informal course review.

Interview protocols. The various ways faculty approached the course redesign process, used the QM Rubric as a tool, and made respective design decisions was investigated using semi-structured interviews. Variance in APPQMR learning outcomes and socially constructed reality (Stake, 1995) across cases elicits an exploration of how each case will implement QM standards into design practice. This experience is likely to be unique for each participant, and as Stake (1995) eloquently stated, "The interview is the main road to multiple realities" (p. 64).

Pre-design interviews were conducted to learn about faculty backgrounds, various faculty perspectives on workshop outcomes, elicit plans for course redesign, and discuss particular faculty concerns regarding the course under revision (See Appendix D). Post-design interviews were conducted to ask faculty to describe their experiences during the course redesign process (See Appendix E). All interviews were recorded and transcribed.

Informal course reviews. The researcher, who is a certified QM peer reviewer, reviewed the latest version of each course using the 2011-2013 QM Rubric. The initial course review prior to redesign provided baseline data regarding current course quality.

A second review was conducted to determine the extent to which courses improved in quality according to QM standards. Reviewing a course using the QM process involves assessing an online course according to 41 standards outlined in the QM rubric. Twenty-one of these standards are considered essential. A course that meets all 21 essential standards as well as earns 81 points in the total score is considered to "meet QM standards." Each course was provided a score, given detailed feedback as to why a standard was not met, and offered options for redesign that would meet the standard.

Data Analysis

Interview data were analyzed using the constant comparative method (Glaser, 1965). A unique feature to the constant comparative method is the continuous re-evaluation of previously coded data within categories. This re-evaluation process provides for continual refinement of the category as thematic attributes of each category emerge through the comparing process (Humberman &Miles, 1994). Interview transcriptions were unitized and uploaded into Atlas.ti, software used for coding and categorizing qualitative data. Temporary codes were applied to units from pre-design interviews. Codes were refined to eliminate repetition. This process resulted in 213 codes and 30 categories. Next, temporary codes were applied to units from post-design interviews. The researcher first attempted to select a code generated from pre-design interviews for consistency. If a code did not already exist that was deemed appropriate, a new code was created. Codes were then reanalyzed and refined resulting in 121 codes and 21 categories. Post-design interview categories were first chosen from existing pre-design interview categories for consistency. If an appropriate category did not exist, a

new category was created. Pre-design and post-design categories were next synthesized into 34 categories. Six of these categories reflected case study descriptions. The remaining 28 categories were analyzed and five themes emerged (see Figure 9).

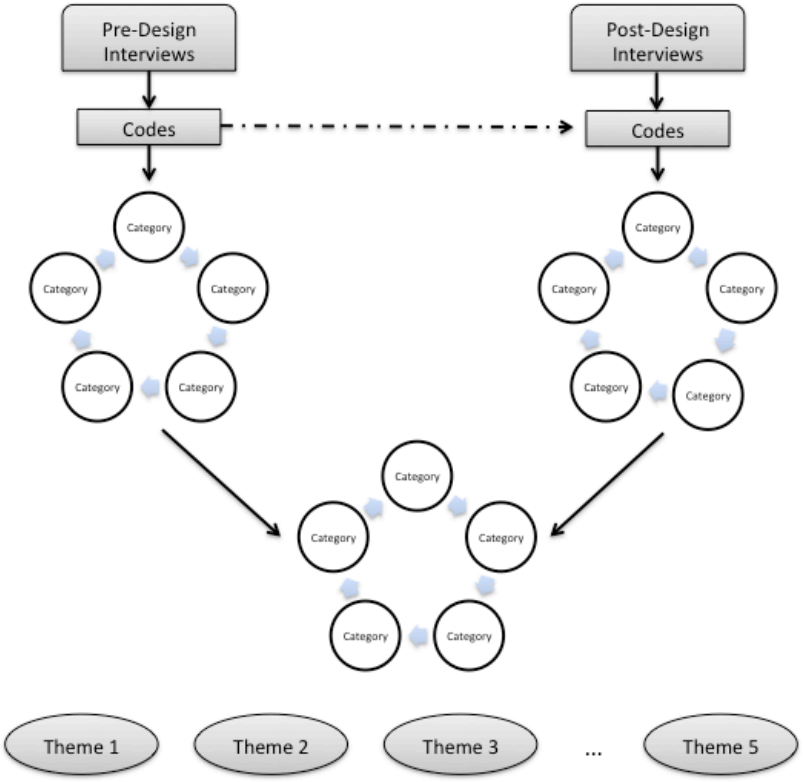

Figure 9. Conceptual model of data analysis for interviews.

Table 2 organizes the 28 categories generated from the analysis conducted on the pre-design and post-design interview data according to theme.

Table 2.

Thematic Categories

Themes				
Not Trained to Teach	Transitioning Online*	Design/Develop Online Courses*	Redesigning for QM	Professional Growth*
Teacher Training	Administration	Administration	Alignment	APPQMR
Teaching Experience	Awareness of Resources	Awareness of Resources	Collaboration	What's Next
	Quality Matters	Challenges in Online Teaching	Course Revision	Initial Course Review
		Faculty	ID Observed Issues	
		Instructional Support	Initial Course Review	
		Students	Outside Feedback	
			Meeting QM Expectations	
			Quality Matters	
			General Standard 1	
			General Standard 2	
			General Standard 3	
			General Standard 4	
			General Standard 5	
			General Standard 6	
			General Standard 8	

* Theme was also a highly saturated category
Note. ID = Instructional Designer

Data from informal course reviews were summarized according to before and after redesign outcomes by standard. For example, each of the 41 standards was listed and each course received a mark of "met" or "not met" based on course review outcomes. Primary reasons the course did not meet the standard were documented to look for patterns across courses. This process occurred twice, once for the initial review, and again for the post design review. See Table 3 for a sample of this process.

Table 3.

Before and After Comparisons of Meeting Quality Matters Standards

	Case 1		Case 3	
Standard	Before	After	Before	After
General Standard 1				
1.1	Navigation	Met	What to do first Schedule Navigation	Met
1.2	Met	Met	Met	Met
1.3	Netiquette	Met	Netiquette	Met
1.4	Met	Met	Met	Met
1.5	Prerequisites	Met	Prerequisites	Met
1.6	Technical skills	Met	Technical skills	Met
1.7	Met	Met	Self introduction	Met
1.8	Student introductions	Met	Met	Met

A group analysis was conducted on all 41 standards using only courses that were ready for delivery by the end of the redesign time fame. The following system was used to quantify course review outcomes as a group before and after course redesign: 0 – no course met the standard; 1 – majority did not meet the standard; 2 – majority did meet the standard; and 3 – all courses met the standard. Differences were calculated between group outcomes on each standard. These differences were summed and an average was computed for each General Standard to quantify the extent to which courses improved. See Table 4 for a sample of this process. Three themes emerged based on course review outcomes generated before and after course redesign.

Table 4.

Before and After Redesign Group Comparisons for General Standard 7

General Standard 7	Before Redesign	Group Outcomes	After Redesign	Group Outcomes	Group Differences
7.1	Generally not met	1	All courses met this standard	3	2.00
7.2	No course met this standard	0	All courses met this standard	3	3.00
7.3	No course met this standard	0	All courses met this standard	3	3.00
7.4	No course met this standard	0	All courses met this standard	3	3.00
Average					2.75

Trustworthiness. Trustworthiness was established through triangulating the data from journal entries, course reviews and interviews. As mentioned previously, I

was the researcher and instructional designer who collaborated with faculty during redesign. Therefore, I maintained a design journal to document meetings, questions, technical problems that arose, as well as reflect on collaboration with faculty. Although data from design journal entries were not coded, this documentation of my course review notes and interactions with case study participants helped me to be systematic in the course review process as well as reflect on decisions I made during this study. Findings from interviews and were often corroborated with course review notes within the design journal to further support themes. See Appendix F for a sample of a design journal entry.

Member checks were conducted during interviews, transcription, and during the synthesis of findings. A peer debriefer was also used to compare and contrast transcript data with written findings in order to identify any potential researcher bias during interpretation of findings and to ensure clarity. This process was considered essential given the researcher's position as an advocate for Quality Matters on campus.

Findings

Five themes emerged from case study interviews: 1) faculty are not trained to teach, 2) faculty transitioning online, 3) designing and developing online courses, 4) redesigning an online course to meet QM standards, and, 5) professional growth. These five themes represent faculty experiences before and after this study took place and provided an initial foundation for understanding outcomes of the course revision process.

Faculty Experiences

The five faculty members who participated in this study came from varying backgrounds and areas of expertise. Although these differences provided unique perspectives, common concerns, frustrations, experiences, and obstacles were encountered despite these differing personal and professional characteristics. The following sections synthesize the experiences of these five faculty who desired to be effective online teachers by learning how to design a quality online course and the many factors that helped or hindered attaining that goal.

Theme 1: Faculty are not trained to teach. Not surprisingly, the only faculty members who received formal training in teaching were those who earned degrees in Education or an education related field. Sheila who earned her doctoral degree in Forestry spoke very frankly on this topic.

> You were trained as a researcher and to go into the community to collect data, data management. We were not trained on teaching. So other than going to the course to be approved as a TA. That's all you got. Nothing in the department was geared towards teaching. We do not train Ph.D.s to do that. Ed.D.s I'm thinking yeah, because it's pedagogy, education for Ph.D.s no. That's not what we're trained to do.

Carla who has a strong background in the Education field said her department feels faculty who have taught in public schools generally make better professors. "When you get trained in pedagogy and stuff it just it just better prepares you." However, she also makes the point that formal training prior to professorship is not necessary if the

person is truly vested in learning how to teach. She said, “That’s not to say that someone who really cares about teaching can’t learn.”

However, those with experience in teaching public school do not always feel confident in their teaching skills. Diane who received an alternative certification for teaching in public schools was never quite sure she was doing things right until she entered the Masters program in Special Education and received more established formal training. Diane felt validated as she began taking courses on pedagogy in a formal education environment: “What I realized in this Masters program was that what I was doing was right and it was kind of validation for what I did”.

Graduate student experiences. Some faculty had opportunities for practical teaching experience during graduate work. For example, Heather described her teacher training as part of her graduate student responsibilities. Beck also taught during graduate school. However, he was never fully responsible for a course.

> My graduate work, you know, it was heavily focused on the research component. And as part of that I also obviously learned to teach. So I did some teaching during my doctoral training but very little of it actually. I didn't really teach a full course. I was more sort of responsible for certain lectures for certain weeks.

Sheila also was introduced to teaching during her graduate studies. However, much like Beck, this was minor and involved little true teaching responsibilities to prepare for future job requirements. Sheila pointed out that few graduate students were required to teach in her department. “I started in ‘94 finished in ‘99 and I only know of

three graduate students at that time that had the opportunity to teach where it was their course. Everybody else was research."

Learning on the job. Regardless of formal training or practical experience, teachers will still sometimes report feeling unprepared to teach. Carla commented, "So I was teaching in [school name] working on my masters and I really felt like I was not totally prepared to teach." She laughingly continued, "In fact, I still think I should go back and find those kids and apologize because I just really wasn't very skilled to be honest."

Sheila learned to teach during her first faculty position. During our initial interview I noted, "It seems you learned a lot about teaching on the job." Her response was an emphatic "Yes!" Unfortunately, she admits to not being prepared for the responsibilities of teaching when she took her first tenured faculty position at another university.

> In [name of state], I'm not gonna lie, I was thrown for a loop. I was teaching three classes and had never really truly been in charge of a class from lectures all the way to grading in terms of assessing the students. I did a lot of on the job training.

Theme 2: Faculty transitioning online. Some of the faculty such as Carla and Diane might be considered what Rogers (1995) refers to as "early adopters" because using a learning management system to provide instruction did not invoke any resistance. While Beck, Sheila, and Heather would not be categorized as early adopters,

they were willing to step out and try something new when other colleagues in their area had not yet made the transition.

Administrative influence. One of the patterns across case studies was administration influencing a transition online. For example, Heather pointed out, "The dean of the college is also pushing us to look into this stuff." In addition to administrative pressure, Heather found herself in a precarious position with her core curriculum course. Courses in the core curriculum for the university must satisfy requirements. During the course of this study, the requirements had changed and Heather determined that the only way to meet these new requirements was to incorporate online components. "It was really serendipitous all this coming together but, as far as I can tell to do this correctly given the resources, the very limited resources that we have, we are going to have to incorporate some online stuff."

Despite the obvious need to transition online Heather still reported being hesitant to make the move.

> I was very very resistant, very resistant. So my daughter has taken a couple of online courses. One that I thought was pretty good. The rest were just, not to put too fine a point on it, but useless. There was really no interaction with the instructor; it was all self-paced; and she could wait 'til the last second and do everything. Just not, I just didn't like them. And so I have been very very resistant.

Like Heather, Beck was also encouraged by his department to teach online. "It was mentioned to me that that could be an option." However Beck expressed feeling concern about the implications.

> And initially I was like, to be frank I wasn't really sure that's something I wanted to do because I wasn't sure what direction things would go. Would I create this thing and then basically someone would just take it and run with it and then would I have any [control]?

Peer support. Heather and Beck felt hesitant about making the transition to online. Although they work in different colleges, neither was surrounded by faculty to whom they could look for guidance. Beck commented, "So I wasn't sure because it was a new thing at that time. There weren't many, I mean at least with the exception of Educational Technology, the other areas really didn't have many, if any online courses." Heather was not only lacking a community for support but was aware of criticism from her colleagues. "The first thing that people are going to say is if you want online go to Phoenix, we don't do online."

Administrative leadership through Quality Matters. The idea of university administration using Quality Matters to review online courses was welcomed by both tenured and non-tenured faculty. Beck compared it to research activities.

> I see that it's very similar to actually when we publish an article or when we submit a grant or something. It goes through like a rigorous process and a systematic one and in a way its kind of having those checks and balances… and then kind of validating.

> So having those two or three people who are certified all saying…this course is designed in a way that meets the standards. So I think that's important for the field of like education. I think this is really an important process to provide some checks and of quality I think is necessary.

Carla viewed it as a great way to market online programs. "All across the country. If you're gonna do a Masters degree in Special Ed, probably it's gonna be online. What's gonna set us a part from the others? That we have a quality program."

Faculty were not as receptive to administration requiring systematic processes for developing quality courses. Sheila felt that Quality Matters should be a goal for the university but using it as a requirement could cause problems.

> The reason I'm against that is because it takes away faculty's ability to facilitate learning based on their expertise. And which means, they're gonna say no. Coming from a faculty point of view. They're gonna be like no I'm not gonna go through that process. So you're gonna have more people revolt versus having them come to you for support. So if the university came down and said, to do an online course they all have to go through this process. No, I don't see it happening.

Theme 3: Designing and developing online courses. Teaching in general brings with it various challenges. However, there are challenges that are unique to teaching online that require instructional support specifically designed for online faculty.

Administrative support. One might expect that with administrative influence to teach online, administrative support manifested in various ways might follow. However,

providing faculty additional support to design and develop the online courses is inconsistent across the campus, within colleges, and within departments.

Incentives. None of the faculty in the present study received additional financial resources for course development unless they were grant funded. Sheila submitted for funding at the university level and was initially denied. Eventually she received grant funding through her college. When asked what she would have done if she had not received funding, she responding quickly, "I would not have done it. I'll be honest. I would not have done it."

Heather sought funding through a university level grant for course development to hire additional support staff to meet QM standards as well as the new university core curriculum requirements. Sheila used part of her funding to hire Jennifer, her primary support person for course development.

Carla is the only faculty member in the present study who received course release time for online course development purposes. "For our Special Ed everybody got leave to develop courses." Heather's department will also provide course release time. However, this incentive is restricted to tenured professors. Heather describes her frustration with this condition.

> And not every faculty member has as heavy a course load as I do. This job that I am in I have to do the schedule, I have to make graduate student assignments, I have to find their funding sources. I mean there's deadlines I can't miss. You know people's paychecks depend on it. So I got to thinking, really if I had a semester of development leave to create a new instructional…[but] I'm not

> eligible because I'm not tenure track. Which to me doesn't make any sense because the people, I am instructional, and they're not eligible to go for development leave. And the people who take development leave aren't doing it to develop courses. So it's a gap I think.

The absence of incentives, whether it be resources or course release time for developing courses, especially those that meet quality standards, can be frustrating. Sheila described her perception of other tenured faculty developing online courses to meet standards without support.

> As a faculty member, especially at a Research 1, you're time is divided between teaching, research and service. And even that service is very small. So when we're developing courses, yes teaching is a priority, but the amount of time in terms of getting the course up to standards for QM is enormous. And I don't, it's more than developing a new course. It is time consuming. I don't think the average faculty member will go through the QM process without support. If it is just me and my computer putting the course together, I don't see it happening, especially if that person is heavily involved in research.

Heather also emphasized the need for additional support to develop courses that meet quality standards: "If the university really wants us to get on board with this, we gotta have more support. It can't be a do it on your free time attitude. Because people aren't gonna do this. It's too hard."

Rewards. Frustration based on a lack of incentives can be further compounded by not offering rewards for developing quality online courses. This frustration resonated with Sheila who is a tenured professor.

> We do not get tenure based on developing a course. We get tenure based on research, publication, productivity. And so when you're talking about, what is it that you need, it would have to be a changing of the tenure process. To even recognize teaching higher than scholastics um scholarship and that's not gonna happen.

Heather is not a tenured professor and still felt a lack of reward for her efforts in the online course development process. "We have 10 million other things that we're supposed to be doing. This is like my free time. I don't get anything extra for doing this. Doesn't count for anything."

Perception of tenured faculty. Faculty are essentially divided into two major categories: tenured and non-tenured. Beck and Sheila are tenured faculty. Therefore their primary responsibility at the university is research with a smaller teaching load. Carla, Diane, and Heather carry titles that categorize their roles as primarily teaching faculty.

Faculty who primarily taught tended to feel that tenured faculty do not prioritize quality teaching and would not put forth the effort it takes to redesign a course according to quality standards. For example, Diane said, "They may have good intentions...but they're just overwhelmed and it's just not their priority. I think the teaching, the clinical

faculty are more likely to spend a lot of time on it." Carla also discussed a lack of desire to teach in general by some faculty.

> Some don't want to [teach]. I think you have people in their field who love it. They're enthusiastic even if their class isn't good. Their lectures are interesting because their passion for their subject comes across. But I think you also have people who think teaching is a necessary evil of... They have to do so much to get their work.

Despite these perceptions both Beck and Sheila are tenured faculty who participated in this study. Beck described his desire to improve his online course saying, "There are certain things I know right away I need to improve on." Sheila described in admiration an online teacher who was able to engage his online students in something called a Zombie Apocalypse. Her value for teaching was expressed in the following comment, "If I could do something even the tiny bit close to that, that would be remarkable." Beck's and Sheila's value for quality teaching was also reflected in the improvement in course quality they achieved during the redesign process. These improvements will be discussed in the section *Course Improvement*.

Perception of online students. Whether teaching face-to-face or online, working with students can be difficult. Addressing student issues online becomes more focused on designing courses that prevent problems as opposed to solving them. Several characteristics of online students that influenced design decisions were discussed.

Students do not read. Carla's biggest frustration was that her students don't read. For example, she discussed her efforts to help students check their progress and prepare

them for class discussions in her flipped (i.e., a course that delivers instruction primarily online to allow for higher levels of interaction within the physical classroom) course.

> I list, made a list of things to do. They're not reading it though. That's my problem you know. Or they're not... I think some students are. The good students are. They'll read it so they can check off that they've done everything. So I do that because here was my goal with the quizzes. Honestly, it was I just wanna make sure you read this before you come to class. It wasn't... That was my motivation. Because I know for a fact that when I didn't have quizzes, they didn't read. And so I want them to come to class having read.

Creating quizzes to ensure students were reading online materials was a common strategy used among the five faculty.

Trusting students. Beck discussed issues related to trust when students reported technical problems during quizzes.

> But I did let her know that I haven't really heard of any other problems and I asked her to look into that problem and see what potentially can be happening because I don't think it's a system problem necessarily. She said she was using a Mac and I'm not sure that's a problem.

Student engagement. Diane felt that students lacked a desire to engage in courses that used synchronous components. She described her frustration with using web conferencing software for a simulated lecture and class discussion.

> And so it ended up being a lot of lecture. And I would try to get engagement and they, you know it's just difficult. Similar types of things happen in person, but

you can at least see their faces and know if they're understanding what's going on or if they have a question. With this type of situation the only way I could see them is if they, you know, took the mic and were talking and they had the camera. And not everybody had a camera. Not everybody would voluntarily talk.

Perception of instructional support for online faculty. Transitioning to online teaching can be scary. Sheila said, "So I do have some fear." However, this fear can be minimized when faculty are aware of the support available for putting a course online. She went on to say that she felt alone trying to begin her process for developing an online course. "Cause I will tell you, other than meeting you, I felt like I was developing this by myself."

The university has a campus-level technology support group referred to as Instructional Technology Services. Faculty who have no experience in online teaching did not understand the extent to which this group can help. Heather who is just now beginning to teach online said, "We don't, outside of our little bubble we're not all that aware of what that means. I wouldn't have thought, I mean to me ITS, that's the people you call when your computer doesn't work."

Interestingly new online faculty searched the web for resources instead of looking to campus resources. Heather tried this approach with little success. "You have to know what to look for. So again there may be tons of very very cool stuff out there, but I don't even know how to find it you know?"

Sheila began looking online because she felt ITS used approaches that were not helpful. The method led her to find Quality Matters and templates for putting a course together.

> So I took some time to do research online and I just felt like I was finding better stuff at other universities saying how to develop an online course, how to develop and online program. Here are the things you need. Here are the steps, this is what best practices says and that's how I found Quality Matters.

Those who had been teaching online longer were aware of resources but not always sure how they could be best utilized. Beck who has been teaching his course for five years said, "I actually, my opinion is that I do have a lot of resources available to me. Whether I know how to use them or not, that's a different question."

Theme 4: Redesigning an online course to meet QM standards. After completing the *Applying the Quality Matters Rubric* workshop the five participants were excited about taking what they learned and improving their online courses. Carla said, "I'm just excited to get started." Even though Quality Matters does not require all standards to be met for a course to be considered QM Recognized, all faculty expressed their goal to meet every standard. Heather said, "I mean it's, I think that's not even an option not to if the course is being taught."

Faculty Expectations. Faculty participated in the pre-design interviews in June. When discussing plans for course revision faculty had mixed expectations as to the workload meeting standards would imply. Carla was about to leave for a study abroad trip and was scheduled for a conference in mid July: "I would like to have everything

pretty much finished before I go to that conference." Sheila took the perspective that meeting standards would require the entire summer: "By the end of the summer that development course and the second course should be done. And get ready for your review."

Constructing shared meanings. Establishing a shared vocabulary with the instructional designer was important. Conversations initially centered on the definition of module. Quality Matters requires a course have module level learning objectives for the purposes of assessing alignment among instruction, assessment, activities, and technology used within the course. Heather was under the impression that a specific span of time constituted a module but needed to know how I defined the term module: "And it has the introduction to the class and I kind of have it broken it down into, I think I called them modules, no Week 1 Week 2 Week 3 Week 4. So what does modules mean to you?" Although Quality Matters does not define a module as a week, all faculty designed their courses using weeks to define module. This is most likely based on the ease of closing out a new topic each week and the number of topics that need to be covered in the time span of a semester.

When asked what was the biggest take away from the APPQMR workshop, alignment was the most common answer. However, understanding the importance of alignment did not automatically transfer to successful course application. For example, one of the objectives in Beck's course was: *The student will be able to describe and identify what is unique to learners living in the 21st century*. However, quiz questions used to assess mastery of the objective were multiple-choice. During APPQMR

workshop participants discuss that multiple-choice questions do not afford students the opportunity to describe.

Instructional support. Faculty had direct access to three primary instructional support components during redesign: The informal QM course review, the QM rubric provided during APPQMR, and access to the instructional designer. Some also had additional support provided through hired staff, such as Sheila, who had hired Jennifer to help with course development.

The initial course review. Faculty focused their attention on the report from the informal course review and the recommendations provided by the instructional designer for standards that were not met. The report provided a real sense of the work that would be required and felt overwhelming. As Sheila said:

> So when we first got the initial review we opened it up and we were like… This is a lot. My developer and I actually met on Skype and we started going through and we were like, we not doing QM. There is no way we are gonna get this stuff done in the amount of time. This is ridiculous. So I will say it wasn't a happy feeling in the beginning. I will admit that. But once we sat down and looked at each individual thing, some of it was really small in terms of changes. Other things we really had to sit down and think about what we wanted to do. And so the developer and I met and went item by item.

The QM rubric. Although the primary tool used to guide the redesign process was the initial course review, faculty described the QM rubric as a helpful resource. Beck remarked, "I did go through them and use that as a reference. Then a lot of

information was also found from you, you know, your analysis or report. But I did use this workbook." Heather recommended the rubric to her colleagues and remarked, "understanding what criteria need to be met helps in terms of designing."

Student/Staff support. Sheila hired Jennifer to collaborate in the course development process. Jennifer was familiar with the course content and was able to quickly learn the new campus LMS to facilitate an efficient development process. Jennifer commented about Sheila's confidence in her abilities and how their collaboration created an efficient process.

> She knew that I would take the initiative to learn the new software. It's not my design. [Sheila] told me exactly what she wanted and I executed it. And I looked at what the learning management system could do and I made recommendations based off that.

Carla took the initiative to ask former students for opinions on course review outcomes to get the students' perspectives. She was also given permission by the department head to utilize a student worker to help develop a digital manual for the major project essential to success in the course.

Beck took advantage of having access to the instructional designer. He met frequently with me in the beginning to move his current content to the new LMS and then establish a new structure for his course that facilitated more interaction among his students.

> Primarily almost all, I wouldn't say all. You know at least 90% was with your support. And then you also facilitated additional support with help with closed

> captioning and so forth. But that's still through your support finding some other additional help. So yeah, I mean I feel like, like I said from the start I think everything went very smoothly.

Redesign processes. Faculty took the report generated from the informal course review and used the feedback provided to determine what needed to be done. Carla created a list to work through. Sheila and Jennifer created a spreadsheet to track progress and document questions to bring back to the instructional designer.

> We came up with a plan to do all the things that were easy. Like there were some things like numbering or just order in terms of preferences in terms of the flow. Things that took us a little longer were things like redoing some of the learning outcomes... Once we figured out what was the easy stuff, we put timelines on everything else... Then we also set a time to meet with the reviewer to really go over questions that we may have had.

Barriers encountered. Going through the redesign process was reported to generally be a smooth process and a positive experience. However, faculty encountered unique problems that caused delays or prevented them from reaching their goals.

Securing job position. Diane was unable to finish the course by the end of the summer because of job instability. As mentioned previously, Diane's position has to be secured on a yearly basis.

> My intention was to take that original document and go through every one of those different areas and address them. But I mean I don't know if you know what happened... At first I really wasn't going to have a job. I was going to have

> like part time work until February. And so when that was going on I was like oh Gosh. So I started you know I panicked. I'm like I need money. And I made arrangements with [outside university] to teach you know in an adjunct manner. And so I picked up two classes there. So originally I had intended, I thought I was going to have more time. I mean, but all this happened. And I'm very overwhelmed.

Technology. Beck had trouble transferring the newly redesigned course from the development site to the delivery site. Some of the restructuring of the course was lost in the transfer and had to be redone. Beck took the initiative to collaborate with the instructional designer and the course was back on track quickly.

Heather piloted ideas for her new online course with her summer face-to-face course and ran into some difficulty that was extremely frustrating.

> And I'm getting really really worried because my whole core curriculum 107 proposal was based on being able to do this. If what it means is I've gotta make 15 make up quizzes and of course, of those students, only four could show up for make up times. So I have still got 11 people out there lingering to make up this quiz. It's a problem.

Workload. As mentioned previously, the initial reaction to the course review outcomes was overwhelming in terms of workload. Sheila expressed this feeling when she said, "After initial shock. And once we said we were committed to QM and we would make the changes, we went ahead and made the changes." Beck echoed the concern for workload and making a commitment.

> Once I got over that initial kind of like, because you have to kind of get over that initial hump of, is this something I really need or want to do? Because that's [QM] a personal choice at this time. But once you get into it, and it does take some time, and grant it I think I have to situate my experience with what was going on, and it was in the summer I was doing some traveling and you were too. And so to kind of do all of that before the launch of the course which was kind of coming up against us, but it was very reasonable.

Understanding the standards. Understanding how to apply the standards to individual courses was not always clear. For example, Jennifer had a question about Standard 3.5 that says: *Students have multiple opportunities to measure their own learning progress*. In the feedback section, information directly from the QM rubric's annotation was provided to guide ideas for revision. Jennifer and Sheila interpreted the feedback to imply that when students answered a question incorrectly, feedback must be provided per question. Jennifer expressed her frustration with what she thought was required to meet the standard.

> You know how you wanted to ask us why something is wrong, how that needs to be incorporated into the quizzes? Like if a student gets the question wrong? How there needs to be a reason why? … It takes so long to go into eCampus and update everything.

Obviously this is helpful to provide, but would be a very time consuming process and not what was meant by "multiple opportunities." Once this misunderstanding was

corrected she realized one of the options she could implement would take little time and they were finished with the revisions.

Theme 5: Professional growth. Faculty agreed the APPQMR workshop was beneficial towards their professional growth in online learning and that participating in the course redesign process was a positive experience. Heather said, "So I thought the workshop was just really helpful in terms of helping it gel in my mind how the flow of the process works and just the simple information about the resources that are out there." However, with regard to redesigning a course to meet QM standards, faculty tended to emphasize how much they learned from the course review. Beck described the review report as a road map.

> So I think your report was a very good road map in a way to redesign the course. Now I could certainly take the rubric and do it too, but I think it was a lot easier with some kind of guidance from your report.

And Sheila expressed that her second course development process would be easier based on what she learned from the course review and redesign experience.

> But I now have a template that I can use for the other courses. So that's the nice thing. I feel like its, and Jennifer and I talked about this. It is going to be easier for the other courses because we now know what we're doing in some way. Not experts, but we at least kind of know the basics.

Desire for further training. At the time of the post-design interview, fall classes had begun. Preliminary results regarding student satisfaction with the course design had surfaced. Beck said, "I've had a couple students already email me and say, they

basically wrote something like, this is one of the most easy to understand online courses I've had, so forth and I appreciate that." Carla and Sheila were also pleased with course redesign outcomes and wanted to pursue the next level of QM training.

Course Improvement

The second course review along with the group analysis of course review outcomes were used to determine the extent to which course quality improved after redesign. Unfortunately, not all faculty members were able to complete the redesign process. Diane was unable to work on her revisions to the extent she intended because of job related issues. Heather did not make any revisions because she was piloting ideas using the LMS in her summer course and experiencing technical difficulties. Diane and Heather's issues interfered with my ability to assess changes in their course's quality. Therefore, only Beck, Sheila, and Carla's courses were included in the final analysis to determine the course review outcomes.

Course review outcomes. The average course review score increased from 46 to 80; an increase of approximately 70%. However, no course met QM standards even after the course revision process. The follow-up group analysis per standard conducted resulted in the emergence of three themes: 1) most improved General Standards, 2) general course improvement, and 3) persistent problems. See the QM rubric attached to this document for further details regarding Specific Review Standards that compose each General Standard.

Theme 1: Most improved general standards. General Standard 7 (GS7), Learner Support, and GS1, Course Overview and Introduction, and GS2, Learning Objectives,

improved the most, respectively. Not surprisingly, all three courses met all specific review standards within GS7 after course revisions. This standard requires providing links to resources for learner support such as technology support and university web accessibility policies directly within the course. Faculty members were generally unaware that courses needed to provide students this type of information directly within the online course. However, meeting each of the four specific review standards was not difficult given that faculty were provided with a document during APPQMR that contained all four links necessary to meet each of the four specific review standards within GS7.

Contrary to the Learner Support standard, GS1 (Course overview and Introduction) requires more work for the faculty member. In fact, seven of the eight specific review standards within GS1 were met after revisions providing evidence that faculty were willing to work hard during this process. This result was also important because none of the courses initially reviewed met standard 1.1, an essential standard of the QM rubric. A course that does not meet this standard will not be considered QM recognized. Standard 1.1 says that: *instructions make clear how to get started and where to find various course components*. To meet this standard the course must provide four primary components: general course overview, schedule of activities, what students should do first upon login, and detailed navigation instructions. After course redesign only one course did not meet standard 1.1 because navigation directions were not provided.

Finally, GS2 (Learning Objectives) was also one of the most improved standards. All three courses met the five specific review standards within GS 2. Faculty wrote clear and measurable course and module level objectives from the student perspective appropriate to the level of the course. Faculty also provided instructions on how to meet the learning objectives. The outcome on GS2 also was a not surprising because GS2 is central to the concept of alignment that according to all pre-design interviews was the biggest takeaway from the APPQMR workshop.

Theme 2: General course improvement. Courses overall improved on GS4 (Instructional Materials), GS5 (Learner Interaction and Engagement), and GS6 (Course Technology) but gains were small because initial course review outcomes indicated courses already met standards in general. This result meant that the majority of the courses received a mark of "met" for the standard. After revision, all courses met the standard, thus gains in quality were quantifiably small. Unfortunately, for three specific review standards within GS3 and GS5 group differences actually decreased. This result was based on the fact that group analysis consisted of only three courses. Therefore, change in one course could easily change group outcomes from generally met to generally not met.

Theme 3: Persistent problems. Some standards remained unmet after redesign. For example, no course met standard 3.1 before or after redesign. Standard 3.1 says: *The types of assessments selected measure the stated learning objectives and are consistent with course activities and resources*. Although the types of assessments were affording the behavior described, when multiple choice quizzes were used, more than

15% of questions asked did not align with an existing learning objective provided within the course. Although notes were provided to faculty as to how objectives could be refined to align with assessments, faculty did not fully complete this process.

In addition, standard 4.2 required more work than Diane was willing to do. Standard 4.2 requires sharing the purpose of instructional materials with students. Diane felt students should understand the purpose behind materials and that taking the time to add text throughout the course explaining the purpose was too time consuming. However, she noted that she had gone through every graphic and added alternative text, an equally time consuming task. This provided evidence that faculty will focus on standards they value. Diane did not finish the course review process but her comments do provide a possible rationale for why other faculty did not attend to this standard.

Faculty were extremely concerned about making their online courses accessible. However, very limited improvement occurred within the four standards that comprise GS8 (Accessibility). For example, standard 8.1 is the only essential standard within GS8 and says: *The course employs accessible technologies and provides guidance on how to obtain accommodation*. To meet this standard the course must provide a link to the LMS accessibility statement and information regarding the degree to which the course is accessible. Despite the ease with which one can meet this standard, no course met this standard before or after redesign.

Faculty were primarily concerned about the time needed to close-caption videos, a primary component of standard 8.2 that says: *The course contains equivalent alternatives to auditory and visual content*. Faculty were generally willing to learn how

to close-caption but due to time constraints used outside support to complete that task. In addition, adding alternative text, although not difficult, is a skill most faculty did not possess. Therefore, because faculty primarily focused on closed-captioning and disregarded the provision of alternative text for graphics where needed, no course met this standard before or after redesign. These results suggest that faculty may have focused on the overwhelming work required to meet standard 8.2 and other than ensuring videos were closed-captioned, avoided working on GS 8 in general.

Discussion

The present study explored answers to two research questions. The first question was, "To what extent do faculty who complete the APPQMR workshop improve the quality of their existing online courses and why?" Two of the five case studies did not complete the redesign process raising concerns for how instructional support staff can help faculty when external issues become potential barriers. However, course review findings for the three faculty who finished redesigning their courses suggest that faculty can substantially improve the quality of their online course when provided an initial course review and access to instructional support. The initial course review helped faculty by providing baseline data regarding strengths and weaknesses of the course's current design. This data provided a road map for redesign making for a more efficient process.

Course review outcomes indicated that courses improved most in Course Overview and Introduction (GS1), Learning Objectives (GS2), and Learner Support (GS7) with additional improvements in Instructional Materials, (GS4), Learner

Interaction and Engagement (GS5), and Course Technology (GS6). The least amount of improvement occurred in Assessment and Measurement (GS3) and Accessibility (GS8).

Assessment and Measurement is an important component to any course whether face-to-face or online. This standard described by QM is "designed to evaluate student progress by reference to stated learning objectives; to measure the effectiveness of student learning; and to be integral to the learning process" (Quality Matters Rubric 2011-2013). After course revisions, some combination of the following still occurred in all three courses:

- Learning objectives existed that did not link to existing assessments;
- Assessments were present for which no learning objective existed;
- Behavior described in the learning objective designed to be aligned with an assessment did not match the behavior required in the assessment.

These remaining issues with regard to assessment and measurement should alert instructional support staff to the need for additional collaboration with faculty to help ensure online courses create learning experiences for students where what is assessed is aligned with what is taught. However, just because faculty did not complete the process of ensuring each element of the course was aligned with objectives, nevertheless we should not assume faculty members do not value alignment. After all, the key takeaway cited by all participants was alignment indicating that, at least abstractly, faculty understood that assessments should align with learning objectives. However, as indicated both in previous research (e.g., Xu & Morris, 2007) and this study, course

design and development is time consuming. Thus, faculty may have felt pressured for time because the fall semester was beginning and the course needed to be launched.

Other possibilities for the lack of improvement could be that faculty prioritized other standards or did not understand how to apply the concept of alignment in an authentic setting. More consistent interaction with the instructional designer might have helped faculty transfer the abstract concept of alignment from knowledge level to application level. Additionally, most case study participants had no formal pedagogical training. Although the concept of alignment made sense, faculty cannot be expected to easily master a concept for teaching online that was not learned for teaching in the physical classroom. Finally, providing learning objectives that align with assessment also in some ways requires the faculty member to be more transparent with the learner. As indicated by all participants one of the primary concerns in online teaching is making sure students read. Therefore, faculty members feel they need to quiz students over reading material. However, the course review results indicated that a majority of quiz questions did not align with behaviors and topics expressed within the stated learning objectives. Instructional support staff working with faculty to align assessments with objectives will need to be mindful of this concern and work to ensure that faculty feel comfortable with design changes and ease them into a role where they need to be more transparent.

Accessibility refers to the degree to which *all* students can access all components of an online course (GS8). This standard was avoided almost entirely with the exception of closed-captioned videos. Faculty focused heavily on closed-captioning as though it

represented accessibility in its entirety when in reality closed-captioning represents only part of one standard. In fact, only one standard within the accessibility standards is essential to QM recognition and takes little effort to meet. Standard 8.1 says: *The course employs accessible technologies and provides guidance on how to obtain accommodation*. Yet no course fully met the standard. Likely, the overwhelming feelings regarding the time and skills necessary to design and develop an accessible online course in general overshadowed the one standard essential to the outcome of QM recognition and resulted in a focus on standards not related to accessibility that faculty felt they had the skills and time to address.

Accessibility (GS8) was a source of fear and frustration. General Standard 8 takes a comprehensive approach to ensuring an online course is designed to be accessible for all students. Typically faculty do not have the knowledge required to design an accessible online course. In addition, providing alternatives to audio and visual components is time consuming. Therefore, it was not surprising that this standard was poorly addressed during the redesign process. Further professional development, one-on-one collaboration with experts in accessibility, and additional support for completing the work may be necessary.

In summary, course review outcomes indicated that course quality improved substantially with each course needing minor additional revisions to be QM recognized. Interestingly, two of the three persons who finished the revision process were tenured faculty. Yet, the general notion from non-tenured faculty participants was that tenured faculty would not value or make the time-commitment required to design a course that

meets standards of quality. Because time was often cited as a barrier to designing a quality course and tenured faculty generally have a smaller teaching responsibility, tenured faculty may in fact have more time to design a course to meet QM standards. In addition, tenured faculty may have more financial resources from grants that can provide additional support for course development, such as Jennifer who assisted Sheila. Consequently, the position of rank among faculty could play a role in the faculty's time and resources to devote to designing quality courses.

In addition to exploring course improvement, the present study explored answers to the question, "What are the lived experiences of faculty who redesign an online course using the Quality Matters rubric as a design tool? The faculty who participated in this study expressed positive experiences from the APPQMR workshop and an excitement to start implementing the QM standards into practice aligning with the first two stages of the theoretical model within which this study was embedded. The initial reaction to the course review report was overwhelming and required a conscious commitment from faculty to complete the work. However, once the initial shock wore off, the workload was manageable and the process was viewed as a positive experience.

As mentioned previously, two faculty were unable to complete the redesign process. They expressed feelings of frustration and disappointment with not achieving their goals. However, these faculty members expressed excitement to continue with QM, thus representing a change in attitude about the design process indicating these two faculty are still at the model's implementation stage. Out of the three faculty who completed this process, one experienced confirmation as he saw changes in course

outcomes manifested in student satisfaction. The other two faculty exhibited evidence of reaffirmation by expressing interest in pursuing the next level of QM training to improve their skills as online course designers. In summary, all faculty progressed through the model at varying degrees based on outside influences, original motivations to participate, and satisfaction in revision outcomes.

In summary, these five faculty experienced professional growth by completing the APPQMR workshop, having their course reviewed by a certified Quality Matters peer-reviewer, and participating in a course redesign process to meet QM standards. Even though there were feelings of wanting to quit at times, and frustration at the amount of time and resources needed to do something for which no credit would be given, these faculty continued on knowing it was the right thing to do for students. Most importantly all five faculty reported they would continue using Quality Matters and would encourage colleagues who are teaching online to take the APPQMR workshop and have their courses reviewed. However, there was a resounding cry for administration to take the lead in quality assurance processes by providing adequate instructional support in terms of course release time, financial and human resources, and credit for the work put into designing a course that meets a nationally recognized set of standards. Support was highly desired by all faculty in the form of incentives and rewards (Orr, Williams, & Pennington, 2009). However, faculty did not see changes in administrative attitudes towards promotion and tenure to include efforts in quality assurance for online learning as a possibility.

Although faculty valued the peer-review process for ensuring the quality of an online course, this experience did not result in a desire for mandatory systematic processes for putting courses online (Xu & Morris, 2007). Faculty appreciated the flexibility and freedom within which they could create online instruction under the current infrastructure and were concerned that required collaboration would elicit push back and sluggish progress (Covington, Petherbridge, & Warren, 2005).

In sum, similar to the findings of Bento and White (2010) the process of redesigning a course to meet Quality Matters standards was reported to be a positive experience. Course quality improved in total scores and within each General Standard with additional evidence demonstrated in student satisfaction (Ralston-Berg & Nath, 2008). Areas of concern were Assessment and Measurement (GS3) and Accessibility (GS8) based on specific review standards that remained not met even after course revision. Other specific review standards in other areas also remained unmet after course revision. This result was most likely due to misunderstanding of required revisions and already limited time constraints for faculty (Powell, 2010).

Faculty experienced excitement towards using the Quality Matters program to redesign courses after completing the APPQMR workshop and decided to implement the innovation into practice based on knowledge gained and demonstration of the relative advantage of the tool (Rogers, 1995). This result provides further evidence that professional development can be a catalyst for teacher change (Guskey, 1986). Faculty also experienced professional growth by going through the course review process (Legon, & Runyon, 2007) and desired future training. These results illustrate the various

stages faculty went through as illustrated in the theoretical model within which this study was embedded. The multiple roles of researcher and instructional designer may have contributed to progress as well as lack of progress through each stage and thus future research on this topic should consider using an instructional designer who is a certified QM reviewer but does not have a vested interested in research outcomes.

One limitation to this study included the overlap in roles of the researcher who was also the instructional designer in this study. The researcher/instructional designer facilitated the APPQMR workshop, reviewed courses and collaborated with faculty during the redesign process with a bias in favor of the process. Faculty may have not felt completely free to discuss concerns about the workshop, review outcomes, or instructional support provided to meet QM standards. Participating as researcher and instructional designer also resulted in course review outcomes grounded in the researcher's perspective on how to meet QM standards. Finally, this study sought to explore the impacts of participation in the APPQMR workshop on faculty who redesign courses to meet QM standards. However, per faculty request, participants were provided with initial course review outcomes. Thus, faculty redesign decisions were heavily guided by the report as opposed to faculty relying on learning outcomes from APPQMR, the use of the QM rubric as a design tool, and collaboration with the instructional designer. However, access to initial course review outcomes was viewed as fruitful by participants and the best use of faculty time.

Conclusion

This study supported findings from Legon & Runyon (2007) that faculty experience professional growth by participating in a QM course review. In addition, when redesigning an online course to meet QM standards, the outcomes from an initial course review are instrumental in helping faculty improve the quality of their courses. Similar to Chao, Saj, & Hamilton (2010), faculty felt a sense of shared responsibility for course quality when collaborating with the instructional designer, collaboration levels depended on faculty preference, and standards needed to be taught not just provided. Finally, faculty members were open to Quality Matters but only if using the program was optional. This finding supports Lewis, Baker, & Britigan (2011) who reported that faculty valued their autonomy and feared that standards based course design would result in a loss of course creativity.

In summary, faculty need administrative leadership and support to transition online and continuous instructional support after the transition to provide quality online instruction in a fast changing learning environment. Faculty who participated in the present study took varying approaches to collaboration with an instructional designer to redesign online courses to meet standards of quality and overall course quality substantially improved. Unfortunately, only three faculty members completed course revisions, however, scheduled meetings for collaboration may have improved the probability of completing the redesign process for faculty who encountered obstacles. No course met QM standards by the end of the course revision process but only minor additions were necessary to reach this goal. Finally, perhaps one of the most important

findings was that faculty valued the systematic process and planned to continue using QM in the future.

Based on findings from the present study, the following guidelines are recommended for instructional support staff working with faculty designing courses to meet Quality Matters standards: 1) Provide the APPQMR workshop for faculty to provide an initial understanding of standards and the course review process, 2) Provide an initial course review to provide baseline data for the current quality of the course as well as a road map for revisions, 3) Try to establish faculty commitment to regularly scheduled meetings to check-in on how the design process is going and address problems that could halt progress, 4) Establish a course map that includes learning objectives and associated activities. This will help verify alignment during weekly meetings and help the faculty member reflect on which objectives are associated with which activities, 5) Ensure that faculty are clear on how to meet standards required for Accessibility. Provide examples for how other faculty have addressed these standards and reinforce which standards are essential and which are going to be a work in progress, and 6) Be flexible with faculty and affirm the context within which they work to establish trust for a fruitful collaborative process.

This study described the impacts on faculty who participated in the *Applying the Quality Matters Rubric* workshop and subsequently committed to redesigning online courses to meet QM standards. Outcomes can inform distance education administrators and instructional support staff who encourage faculty to use QM standards to guide the design process. Future research should include identifying: a) effective methods of

collaboration for designing online courses to meet standards of quality, b) appropriate instructional support for teaching faculty to align learning objectives with assessments, and c) methods for supporting faculty to design courses that are accessible to all students.

The institution is ultimately responsible for quality assurance in online learning. However, quality control measures are typically carried out by faculty who serve on the front lines. Designing and developing online courses takes a distinct set of skills and is time consuming. Institutional leadership must provide instructional support to carry out distance education missions. Faculty typically design and develop the courses they deliver. Therefore, no quality assurance initiative can succeed without faculty commitment. Furthermore, institutions may need to change their attitudes towards providing rewards and incentives for faculty who design and develop online courses.

CHAPTER V

CONCLUSION

Overview

Quality assurance in online learning is critical, as distance education has become a popular answer to issues in higher education such as increasing enrollment and budgetary concerns. Given the rising number of online courses, the recent push to design courses according to standards of quality, and the reality that a majority of faculty design and develop the courses they deliver, instructional support as a means of quality assurance should be a primary focus of distance education research.

Article 1

Results of a systematic literature review emphasized the critical roles institutions and faculty play in ensuring quality in online learning in higher education and identified three problems. First, findings indicated that professional development has numerous positive effects but results are limited to self-report measures. There is little to no empirical data on the effectiveness of professional development opportunities for faculty in online learning using pre and post-test methods and criterion-based assessment. Second, there is little research on how best to collaborate with faculty to support the design and development of courses that meet quality standards. Third, many institutions in higher education have adopted the Quality Matters™ (QM) program to ensure quality in online learning. In order to introduce the program's rubric and peer review process, QM offers the *Applying the Quality Matters Rubric* (APPQMR) workshop. This workshop is frequently used to prepare faculty for online teaching by institutions that

adopt the Quality Matters program. However, almost no research exists exploring the effectiveness of APPQMR or other QM workshops and/or describing the experiences of faculty who subsequently redesign online courses to meet QM standards.

Based on the three problems identified, a mixed-methods solution was proposed to: 1) quantitatively test the effects of APPQMR using criterion-based assessment and self-report measures to assess faculty knowledge and application of QM standards and willingness to adopt the QM rubric to redesign courses, and 2) qualitatively explore the experiences of faculty who complete APPQMR and subsequently redesign courses to meet QM standards through the use of phenomenological case studies. This two-phased solution was embedded in a theoretical framework that synthesized Guskey's Teacher Change Process Model and Roger's Diffusion of Innovations.

Article 2

Phase 1 of the present mixed-methods study explored the effectiveness of the *Applying the Quality Matters Rubric* (APPQMR) workshop on faculty who design, develop, and deliver online courses. This phase used a pre-post questionnaire design to assess outcomes of APPQMR participation on knowledge of best practice in online course design, perception of online course quality, and willingness to use the QM Rubric to redesign an existing online course. Findings indicated that APPQMR participation statistically significantly increased knowledge of best practices in online course design but did not improve perception of online course quality. In addition, workshop participation did not influence willingness to make a change in design practice. However, outcomes did indicate that faculty members who participated were generally

open to using the QM Rubric. Based on these findings QM subscribing institutions are encouraged to provide the APPQMR workshop as an initial step for professional development in online learning. Moreover, because participation was not sufficient to improve perception of online course quality, faculty need additional authentic learning opportunities to apply QM standards to their own courses and receive continuous feedback from instructional design experts trained on Quality Matters. Additional professional development experiences using the QM Rubric can help facilitate critical thinking skills necessary for the continuous improvement of online courses over time. Although Phase 1 provided evidence of the effectiveness of the APPQMR workshop, questions remained unanswered regarding how the workshop impacts faculty who decide to use the QM Rubric and knowledge gained to redesign their existing online courses to meet QM standards. These questions were addressed in Phase 2.

Article 3

Phase 2 of the present mixed-methods study explored the experiences and outcomes of five faculty members who completed the APPQMR workshop and subsequently redesigned online courses in efforts to meet QM standards. Outcomes supported current research findings that faculty generally have no pedagogical training regardless of modality, yet are typically responsible for designing and developing the courses they deliver. Not all faculty, especially new online faculty, were aware of the resources available on campus for designing and developing online courses despite the fact that the university provides an entire department devoted to instructional support for all colleges on campus. This added to frustration about the amount of work required to

design and develop an online course. In addition, because of the increased workload as a result of transitioning online, faculty desired more leadership and support in the form of templates and guidelines, as well as incentives in the form of financial resources and course release time. Although faculty valued the Quality Matters peer-review process for ensuring the quality of an online course and rubric as a tool for course design, they also valued the current decentralized nature of online course development on campus and resisted the idea of stipulating new processes or mandatory professional development for online teaching.

All Phase 2 participants reported having a positive experience during the research study. However, only three of the five faculty members completed the course revision process. Although, none of the three courses met QM standards before or after course revision, online course quality defined by the course review score increased substantially for all three courses. Faculty struggled most with aligning assessment with learning objectives despite acknowledging that the biggest "takeaway" from the APPQMR workshop was alignment. This disconnect further supports the need for additional instructional support after professional development participation. Faculty also tended to avoid accessibility of the online course based on misconceptions of meeting this QM standard and high workload required to make an online course accessible.

Summary

Findings from the present mixed-methods study provide further evidence that professional development can be a catalyst for faculty change in online course design practices resulting in implementation of new innovations and professional growth.

Phase 1 demonstrated that it is possible to increase faculty members' knowledge regarding best practices in online course design via the *Applying the Quality Matters Rubric* workshop. However, this knowledge is of no use unless appropriately applied to the course design process. Therefore, additional professional development beyond APPQMR is necessary to improve perception of online course quality and willingness to use the QM rubric as a tool for course design. Phase 2 provided insight into the struggles and frustrations faculty experience as they transition to online teaching and redesign courses to meet QM standards. Course quality improved as a result of workshop participation and redesigning courses using outcomes of a QM course review as a guide. Phase 2 outcomes also supported the need for additional instructional support as part of the continuous process of professional growth required of online instructors. Consequently, a set of guidelines was generated for instructional support staff as they collaborate with faculty to design courses to meet standards of quality.

Limitations of Phase 1 included a small sample size, a non-random sample, and lack of a control group to thwart threats to external validity. In addition, Phase 2 emphasized the use of the researcher's expertise in Quality Matters as the workshop facilitator, the peer reviewer for both course reviews, and instructional design support during redesign that could have affected how case studies portrayed their experiences. Future research should take these limitations into account to provide more rigorous methods for answering research questions similar to the ones posed in this study as well as questions harder to answer. For example, how can large research universities

implement quality assurances processes within a decentralized environment for online course development?

When faculty transition from face-to-face teaching to online teaching, they desire to provide quality online learning experiences for students that match the positive classroom experiences with which they have many years of experience. However, workload, time constraints, and lack of financial resources can impede faculty from reaching this goal. Thus, faculty members are looking to administration to provide leadership and support so that they can meet expectations demanded by the role of faculty as well as their own high expectations for always producing high quality work.

As illustrated in the theoretical framework for this study, change is a continuous process necessary to professional growth as an online instructor. Online teaching requires a distinct set of skills that are dynamic due to the dynamic nature of technology. To encourage a value of quality in online course design we must first provide faculty with the knowledge and skills relative to best practices and the relative advantage of using tools to design online courses, such as the QM rubric. However, to facilitate a long-term commitment to professional growth we must also provide continuous instructional support beyond professional development opportunities to help faculty successfully implement knowledge gained. This partnership between faculty and instructional support staff is essential to ensuring quality online learning experiences for both faculty and students. However, will employing these methods for quality assurance in online learning result in faculty at large research institutions ultimately losing the autonomy they have long enjoyed in making pedagogical decisions simply because they

teach online? What implications do imposing new requirements for quality in online learning have on the academy in terms of tenure and promotion given faculty demands for administrative leadership and support? These questions are of great importance as distance learning continues to change the face of higher education as we know it.

REFERENCES

Ali, A. (2003). Instructional design and online instruction: Practices and perception. *TechTrends, 47*(5), 42-47.

Allen, E. I., & Seaman, J. (2004). *Entering the mainstream: The quality and extent of online education in the United States, 2003 and 2004*. Needham: Sloan Center for Online Education.

Allen, E. I. & Seaman, J. (2011). *Going the distance: Online education in the United States, 2011*. Needham: Sloan Center for Online Education.

Aman, R. R. (2009). *Improving student satisfaction and retention with online instruction through systematic faculty peer review of courses* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (304974844).

Aydin, C. (2005). Turkish mentors' perception of roles, competencies and resources for online teaching. *Turkish Online Journal of Distance Education, 6*(3).

Baran, E., Correia, A-P., & Thompson, A. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. *Distance Education, 32*, 421-439.

Beaudoin, M. F. (2007). Institutional leadership. In M. G. Moore (Ed.), *Handbook of distance education* (2nd ed., pp. 391-402). Mahwah, NJ: Erlbaum Associates.

Bennett. S., & Lockyear, L. (2004). Becoming an online teacher: Adapting to a changed environment for teaching and learning in higher education. *Educational Media International, 41*, 231-248. doi: 10.1080/09523980410001680842

Bento, R. F., & White, L. F. (2010). Quality measures that matter. *Issues in Informing Science and Information Technology, 7*, 61-72.

Berge, Z. L. (1998). Barriers to online teaching in post-secondary institutions: Can policy changes fix it? *Online Journal of Distance Learning Administration, 1*(2).

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods*. Boston, MA: Pearson.

Bolliger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education, 30*(1), 103-116.

Britto, M., Ford, C., & Wise, J. M. (2013). Three institutions, three approaches, one goal: Addressing quality assurance in online learning. *Journal of Asynchronous Learning Networks*, *17*(4).

Campbell, K., Schwier, R.A., & Kenny, R. F. (2009). The critical, relational practice of instructional design in higher education: an emerging model of change agency. *Educational Technology Research and Development, 57*, 645-663. doi: 10.1007/s11423-007-9061-6

Chao, I. T., Saj, T., & Hamilton, D. (2010). Using collaborative course development to achieve online course quality standards. *International Review of Research in Open and Distance Learning, 11*(3), 106-126.

Chen, B. (2009). Barriers to adoption of technology-mediated distance education in higher-education institutions. *The Quarterly Review of Distance Education, 10*(4), 333-338.

Chickering, A. W., & Gamson, Z. F. (2010). Seven principles for good practice in undergraduate education. *Biochemical Education, 17*(3), 140-141.

Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education, 18*, 947-967. doi: 10.1016/S0742-051X(02)00053-7

Covington, D., Petherbridge, D., & Warren, S. E. (2005). Best practices: A triangulated support approach in transitioning faculty to online teaching. *Online Journal of Distance Learning Administration, 8*(1).

Crawford-Ferre, H. G., & Wiest, L. R. (2012). Effective online instruction in higher education. *The Quarterly Review of Distance Education, 13*(1), 11-14.

Dooley, K. E., & Murphrey, T. P. (2000). How the perspectives of administrators, faculty, and support units impact the rate of distance education adoption. *Online Journal of Distance Learning Administration, 3*(4).

Dykman, C. A., & Davis, C. K. (2008). Online education forum: Part two-teaching online versus teaching conventionally. *Journal of Information Systems Education, 19*(2), 157-164.

Ellis, A., & Phelps, R. (2000). Staff development for online delivery: A collaborative, team based action learning model. *Australian Journal of Educational Technology, 16*(1), 26-44.

Estabrook, N. & Arashiro, P. (2003). Standards for online courses: Can we do it? Yes we can! In A. Armstrong (Ed.), *Instructional design in the real world: A view from the trenches* (pp. 160-183). Hershey, PA: Idea Group.

Fish, W. W., & Wickersham, L.E. (2009). Best practices for online instructors reminders. *The Quarterly Review of Distance Education, 10*, 279-284.

Frydenberg, J. (2002). Quality standards in eLearning: A matrix of analysis. *The International Review of Research in Open and Distance Learning, 3*(2).

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems, 12*(4), 436-445.

Goodyear, P., Salmon, G., Spector, J. M., Steeples, C., & Tickner, S. (2001). Competences for online teaching: A special report. *Educational Technology Research and Development, 49*(1), 65-72.

Graham, L., & Thomas, L. (2011). Certification in distance learning for online instructors: Exploration of the creation of an organic model for a research-based state institution. *Online Journal of Distance Learning Administration, 4*(1).

Greenberg, G (2011). *From the ground up: Conceptions of quality in course design for web-support education*. (Unpublished doctoral dissertation). The Ohio State University, Columbus, OH.

Guba, E. G., & Lincoln, Y. S. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications, Incorporated.

Guskey, T. R. (1986). Staff development and the process of teacher change. *Educational Researcher, 15*(5), 5-12.

Hall, A., (2010, June). *Quality matters rubric as "teaching presence": Application of CoI framework to analysis of the QM rubric's effects on student learning*. Paper presented at the 2nd Annual Quality Matters Conference, Oak Brook, IL.

Huberman, A. M., Miles, M. B. (1994). Data management and analysis methods. In N. Denzin, & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 428-444). Thousand Oaks, CA: Sage Publications.

King, K. (2010). Adaptation to pressures of changing technology and online instruction. *LLI Review, 5*, 29-35.

Kinnie, J. (2012). Teacher as student: Lessons learned in an online teaching fellows program. *Journal of Library & Information Services in Distance Learning, 6*(3-4), 350-361.

Koehler, M. J., Mishra, P., Hershey, K. & Peruski, L. (2004). With a little help from your students: A new model for faculty development and online course design. *Journal of Technology and Teacher Education, 12*(1), 25-55.

Kucsera, J. V., & Svinicki, M. (2010). Rigorous evaluations of faculty development programs. *Journal of Faculty Development, 24*(2), 5-18.

Lee, J. (2001). Instructional support for distance education and faculty motivation, commitment, satisfaction. *British Journal of Educational Technology, 32*, 153-160.

Lee, J. & Dziuban, C. (2002). Using quality assurance strategies for online programs. *Educational Technology Review, 10*(2), 69-78.

Legon, R., & Runyon, J. (2007, August). *Research on the impact of the quality matters course review process*. Paper presented at the 23rd Annual Conference on Distance Teaching & Learning. Madison, WI.

Lewis, K. O., Baker, R. D., & Britigan, D. H. (2011). Current practices and needs assessment of instructors in an online masters degree in education for healthcare professionals: A first step to the development of quality standards. *Journal of Interactive Online Learning, 10*(1), 49-63.

Lezberg, A. K. (2007). Accreditation: Quality control in higher distance education. In M. G. Moore (Ed.), *Handbook of distance education* (2nd ed., pp. 403-417). Mahwah, NJ: Erlbaum Associates.

Lincoln, Y. S. (1995). Emerging criteria for quality in qualitative and interpretive research. *Qualitative Inquiry, 1*(3), 275-289.

Lorenzo, G., & Moore, J. (2002). Five pillars of quality online education. *The Sloan Consortium Report to the Nation,* 15-09.

Luck, A. (2001, January/February). Developing courses for online delivery: One strategy. *The Technology Source*. Retrieved from http://technologysource.org

McLean, J. (2005). Addressing faculty concerns about distance learning. *Online Journal of Distance Learning Administration, 8*(4).

Mandernach, B. J. (2005). A faculty evaluation model for online instructors: Mentoring and evaluation in the online classroom. *Online Journal of Distance Learning Administration, 8*(3).

Marek, K. (2009). Learning to teach online: Creating a culture of support for faculty. *Journal of Education for Library and Information Science, 50*, 275-292.

Mears, L. (2011). An overview of faculty-centered, peer-reviewed online course development models for application within accredited institutions of higher education. Higher Education, AIM Capstone.

Mercer, R. E. (2014). *Impacts of a quality matters workshop on faculty who design, develop, and deliver online courses: A mixed-methods study*. (Unpublished doctoral dissertation). Texas A&M University, College Station, TX.

Monroe, R. M. (2011). *Instructional design and online learning: A quality assurance study* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (916240573).

Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. Belmont, CA: Wadsworth.

Orr, R. L., Williams, M. R., & Pennington, K. (2009). Institutional efforts to support faculty in online teaching. *Innovative Higher Education*, *34*, 257-268.

Phipps, R., & Merisotis, J. (2000). *Quality on the line: Benchmarks for success in Internet-based distance education* (Report No. 2000-175). Washington, DC: Institute for Higher Education Policy.

Pollacia, L., McAllister, T. (2009). Using Web 2.0 technologies to meet quality matters™ (QM) requirements. *Journal of Information Systems Education, 20*, 155-164.

Pollacia, L., Russell, J., & Russell, B. (2009). Developing an online program in computer information systems using quality matters™ standards. *Journal of Online Learning and Teaching, 5*, 304 - 315.

Powell, T. (2010). What motivates faculty to adopt distance learning? Data collected from a faculty development workshop called "build a web course". *International Journal on Advances in Life Sciences, 2*, 173-187.

Ralston-Berg, P., & Nath, L. (2008, August). *What makes a quality online course? The student perspective*. Paper presented at the 24th Annual Conference on Distance Teaching and Learning, Madison, WI.

Ray, J. (2009). Faculty perspective: Training and course development for the online classroom. *MERLOT Journal of Online Learning and Teaching, 5*(2), 263-276.

Reif, R. J. (2009). *Faculty perceptions of pedagogical best practices as they relate to online course quality* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (305089016).

Reilly, J. R., Vandenhouten, C., Gallagher-Lepak, S., & Ralston-Berg, P. (2012). Faculty development for E-learning: A multi-campus community of practice (COP) approach. *Journal of Asynchronous Learning Networks, 16*(2), 99-110.

Ricci, G. A. (2002). *System infrastructure needs for web course delivery: A survey of online courses in florida community colleges* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (305438781)

Rogers, E. M. (4th ed.). (1995). *Diffusion of innovations*. New York, NY: The Free Press.

Rovai, A. P., Ponton, M. K., & Baker, J. D. (2008). *Distance learning in higher education: A programmatic approach to planning, design, instruction, evaluation, and accreditation*. New York, NY: Teachers College Press.

Schifter, C. C. (2006). Certification for distance education faculty. *Information Technology Newsletter, 17*(1), 2-3.

Sener, J. (2011, July). *Quality matters data mining project: Preliminary research findings*. Unpublished final report. Quality Matters: Annapolis, MD.

Shapiro, P. J. (2007). *Impacts of faculty professional development on online course design in community colleges in three northeastern states* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (304720267)

Shattuck, K. (2007). Quality matters: Collaborative program planning at a state level. *Online Journal of Distance Learning Administration, 10*(3).

Shattuck, K. (2012). *What we're learning from quality matters-focused research: Research, practice, continuous improvement*. Annapolis: MarylandOnline.

Shea, P., Pickett, A., & Li, C. S. (2005). Increasing access to higher education: A study of the diffusion of online teaching among 913 college faculty. *The International Review of Research in Open and Distance Learning, 6*(2).

Shea, P. J., Pickett, A. M., & Pelz, W. E. (2004). Enhancing student satisfaction through faculty development: The importance of teaching presence. In J. Bourne, & J.

Moore (Vol. 5, pp. 39-59) *Sloan C Series: Elements of quality online education: Into the mainstream.* Needham, MA: The Sloan Consortium.

Sherry, A. C. (2003). Quality and its measurement in distance education. In M. G. Moore, & W. G. Anderson (Eds.), *Handbook of distance education* (1st ed., pp. 435-459). Mahwah, NJ: Erlbaum Associates.

Shieh, R., Gummer, E., & Niess, M. (2008). The quality of a web-based course: Perspectives of the instructor and the students. *TechTrends: Linking Research & Practice to Improve Learning, 52*(6), 61-68.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications.

Swan, K. & Matthews, D. (2012, August). *Improving courses across an online program: A design-based approach*. Paper presented at the 28th Annual Conference on Distance Teaching and Learning, Madison, WI.

Taylor, A. & McQuiggan, C. (2008). Faculty development programming: If we build it, will they come. *Educause Quarterly, 12*(3), 29-37.

Thompson, M. & Irele, M. (2007). Evaluating distance education programs. In M. G. Moore (Ed.), *Handbook of distance education* (2nd ed., pp. 419-436). Mawhaw, NJ: Erlbaum Associates.

Wang, Q. (2006). Quality assurance-Best practices for assessing online programs. *International Journal on E-Learning, 5*, 265-274.

Weaver, D., Robbie, D., & Borland, R. (2008). The practitioner's model: Designing a professional development program for online teaching. *International Journal on E-Learning, 7*(4), 759-774.

Williams, P. E. (2003). Roles and competencies for distance education programs in higher education institutions. *American Journal of Distance Education, 17*(1), 45-57. doi: 10.1207/S15389286AJDE1701_4

Wilson, A. (2012). Effective professional development for e-learning: What do the managers think? *British Journal of Educational Technology, 43*, 892-900.

Wolcott, L., & Betts, K. (2007). What's in it for me? incentives for faculty participation in distance education. *The Journal of Distance Education/Revue De L'Éducation À Distance, 14*(2), 34-49.

Wolcott, L., & Shattuck, K. (2007). Faculty participation: Motivations, incentives, and rewards. In M. G. Moore (Ed.), *Handbook of distance education* (2nd ed., pp. 377-390). Mahwah, NJ: Erlbaum Associates.

Wright, J. M. (2011, June). *Effect of quality matters™ training on faculty's online self-efficacy*. Paper presented at the Annual Distance Learning Administration Conference, Jekyll Island, GA.

Xu, H. & Morris, L. (2007). Collaborative course development for online courses. *Innovating Higher Education,* 32, 35-47. doi: 10.1007/s10755-006-9033-5

Zawacki-Richter, O. (2009). Research areas in distance education: A Delphi study. *The International Review of Research in Open and Distance Learning, 10*(3).

APPENDIX A

POST-QUESTIONNAIRE

Demographics

1. Please enter your UIN –textbox-
2. How long have you been teaching in higher education?
    a. Less than 2 years
    b. Between 2 and 5 years
    c. 5 to 10 years
    d. More than 10 years
3. College Affiliation
    a. Agricultural and Life Sciences
    b. Architecture
    c. Bush School of Government and Public Service
    d. Dwight Look College of Engineering
    e. Education and Human Development
    f. Geosciences
    g. Liberal Arts
    h. Mays Business School
    i. Science
    j. University Libraries
    k. Veterinary Medicine and Biomedical Sciences
4. Within which content domain do you teach (e.g. mathematics, agriculture, physics, etc.)? –textbox--
5. What year were you born?—textbox--
6. What is your race?
    a. White
    b. African American
    c. Hispanic
    d. Asian
    e. American Indian
7. With what gender to you identify?
    a. Male
    b. Female
8. How many years have you been teaching online courses? –textbox--

Part 1: Best Practices in Online Course Design

The following questions will ask you about your knowledge of best practice in online course design. Please answer all questions. If you do not know the answer to a question, please choose the best answer and move on.

9. Which of the following is ***not*** a necessary component of a well-designed online *course overview and introduction*?

   a) instructions for how to meet the learning objectives
   b) course and/or institutional policies with which the student is expected to comply
   c) instructions on how to get started
   d) instructions on where to find various course components

10. In order for an online course to meet quality standards, its course overview and introduction must focus on which of the following?

    a) Personal introductions, course expectations, and course activities.
    b) Course organization, navigation, and expectations.
    c) A comprehensive syllabus, explicit grading criteria, and a course outline.
    d) Course learning objectives, course expectations, and course structure.

11. Which of the following statements does ***not*** explain why the design of the introduction to the online course is an important feature in terms of course quality?

    a) A well-designed course introduction will set the tone for the course
    b) A well-designed course introduction will let students know what to expect
    c) A well-designed course introduction will ensure students get off to a good start
    d) A well-designed course introduction will explain how the student can meet the course learning objectives

12. Which of the following learning objectives is ***not*** written according to standards of best practice?

    a) Students will be able to understand the differences between theoretical research and applied research.
    b) Students will write sentences that demonstrate correct use of commas, semicolons, and periods.
    c) The student will be able to distinguish between characteristics of a square, a rhombus, and a rectangle.

d) Students will be able to describe the events that led to the American Civil War.

13. With regards to learning objectives, the course designer should do all of the following **EXCEPT**:

    a) Write course objectives that support module objectives
    b) Provide access to learning objectives from within the course management system.
    c) Provide instructions on how to meet the learning objectives.
    d) Avoid use of words such as "understand" or "know".

14. Which of the following is a ***true*** statement regarding the ***impact*** of learning objectives in an online course?

    a) When written properly, learning objectives improve the instructor's ability to measure student understanding.
    b) Course-level objectives are the foundation upon which the rest of the course is based.
    c) Module-level objectives describe specific strategies the instructor will use to help students learn the material
    d) Learning objectives are the key component of alignment.

15. Which of the following is an example of an objective that is both **measurable** and **precise**?

    a) The student will be able to run for a state-elected public office.
    b) The student will understand the process for running for a school-elected council.
    c) The student will be able to demonstrate the self-defense tactic called the "eye gouge".
    d) The student will be able to analyze and summarize data from a self-report questionnaire.

16. The design of a quality online course ensures that ***each*** type of assessment

    a) generates a well-distributed set of scores
    b) is consistent with course activities and resources
    c) assesses mastery of all learning objectives
    d) produces a set of reliable scores

17. Which of the following assessments supports the following learning objective?

"The student will be able to select appropriate strategies for teaching students with behavioral disorders."

a) A project that has the learner pick one strategy and describe the context within which it should be used, the types of behavioral disorders with which it is most successful, and a description of the strategy.
b) A written paper comparing two strategies in terms of the appropriate time to use each.
c) A case study is presented to the learner. In the case study a teacher uses a teaching strategy for a student who suffers from a behavioral disorder. The case study directions for the learner are to evaluate the teacher's choice of strategy and provide feedback as to what he or she might have done differently.
d) The learner completes a matching exercise. Possible disorders and strategies are listed and the learner must choose which strategy should be paired with each disorder.

18. To meet quality standards for online course assessment, all of the following are true **EXCEPT**:

a) The assessments should evaluate student progress according to stated learning objectives
b) The assessments should measure the effectiveness of student learning
c) The assessments should provide the instructor a broad perspective on students' mastery of the content
d) The assessments should allow students multiple opportunities to demonstrate mastery on a particular topic

19. When designing an online course, the choices for instructional materials ***best*** meet quality standards when

a) the course employs the use of the most current textbook on the subject
b) the materials support the mastery of the learning objectives
c) audio/video resources are provided whenever possible
d) a variety of instructional materials are chosen

20. According to standards of best practice in online course design, which of the following statements is ***false*** with regards to instructional materials?

a) Instructional materials should be comprehensive to achieve the stated learning objectives
b) Instructional materials should vary in format and perspective
c) Instructional materials should support course competencies
d) The most appropriate instructional materials are freely available and in digital format.

21. Which of the following instructional materials would ***least*** support the following learning objective:

The student will be able to role-play diffusing a heated parent conference.

a) A recent article describing case studies involving teachers in difficult parent conference situations and the techniques used.
b) A recent book authored by an expert in the field of working with difficult parents. The book comes with a DVD containing clips of difficult parent conferences that ended in successful outcomes.
c) A current textbook on teaching difficult students authored by experts in the field.
d) A podcast of an expert describing methods for facilitating successful parent conferences.

22. Providing appropriate learner interaction and engagement in the design of an online course means all of the following **EXCEPT:**

a) Providing students opportunities to practice learning
b) Continually providing activities throughout the course where students are interacting with each other.
c) Promoting active learning
d) Providing appropriate interaction within the course to motivate students and promote learning

23. Which of the following is a ***true*** statement regarding learner interaction?

a) To meet quality standards for learner interaction, all types should be evident in the course design.
b) There are two types of learner interaction: student-student and student-instructor
c) An example of student-instructor interaction is an assignment submitted for instructor feedback.

d) An appropriate online activity is one that supports the learning objective and student-student interaction.

24. Which activity provides an opportunity to practice the following learning objective?

The learner will be able to describe the essential elements of a persuasive speech.

a) Taking a practice multiple choice quiz on the essential elements of a persuasive speech
b) Viewing a video of a persuasive speech
c) Creating a PowerPoint presentation on the essential elements of a persuasive speech
d) Participating in a forum where students are required to persuade their classmates to buy a product

25. All of the following are reasons that the tools and media chosen for the online course are a key component to quality course design **EXCEPT**:

a) the tools and media should support the course learning objectives
b) an easy to navigate course ensures access to course components
c) course technology can be a barrier to student progress
d) the use of technology has been shown to improve learning outcomes

26. Which of the following instructional media is ***best*** aligned with the following learning objective?

The learner will be able to create a floral arrangement.

a) A podcast of the instructor describing the arrangement he is creating and the steps he takes to choose flowers and placement of each stem.
b) A multimedia presentation that shows pictures of the instructor making the arrangement with text describing the process.
c) A document that describes the decision process used when creating a floral arrangement.
d) A video that demonstrates the process of creating a floral arrangement with commentary.

27. Which online course tool ***best*** supports the following learning objective?

The learner will be able to present and discuss findings from a self-developed questionnaire on a chosen topic.

a) a narrated PowerPoint presentation
b) a discussion forum
c) a summary paper
d) a chat room in the LMS

28. Which of the following delineates the types of institutional learner support to which the well-designed online course should provide access?

a) Instructor, technical, academic services, accessibility, and student services
b) Technical, accessibility, academic services, and student services
c) Technical, academic services, and student services
d) Instructor, technical, academic services, and student services

29. Which of the following statements is ***true*** with regards to institutional learner support and online course design?

a) Learner support is about providing the online learner with services comparable to those found on campus.
b) The course design should provide advising information for students
c) The primary responsibility of ensuring students with disabilities have access to the online course belongs to the institution's disability services.
d) An example of institutional learner support for academic assistance is a link to financial services.

30. Which of the following is ***false*** statement regarding institutional learner support within a well-designed online course?

a) The individual instructor is only responsible for providing links to institutional services within each course.
b) Instructor led online tutorial sessions are an example of institutional academic support.
c) Including directions for accessing online orientations to the learning management system is an example of providing technical support.
d) The course should provide a description of the technical support provided.

31. Accessibility in online learning refers to which of the following:

a. The extent to which an online course is available for login on a daily basis.
b. The extent to which all students can access course materials.
c. The affordance for all students to have the opportunity to enroll in the course.
d. The extent to which a course accommodates for students with disabilities.

32. All of the following statements describe design elements of an online course that demonstrate a commitment to accessibility for all students **EXCEPT**:

a) Providing equivalent alternatives to auditory and visual content.
b) accommodating the use of assistive technologies
c) using the most current technologies in the course
d) facilitating readability and minimizing distractions

33. Which of the following statements is ***false*** with regards an instructor's responsibility in making an online course accessible?

a) Instructors need to review the accessibility of each technology used in the course
b) Instructors should choose technologies that are accessible or provide a comparable alternative
c) The instructor must provide documentation regarding whether or not videos in an online course are accessible.
d) Disability Services is primarily responsible for helping students with accommodations for online courses.

34. What does the concept of ***alignment*** refer to in online course design?

a) The extent to which learning objectives are supported by activities and assessments.
b) The degree to which the order of learning objectives listed matches the order of activities and assessment.
c) Evidence that all assessments are directly related to the learning objectives.
d) Essential elements of the online course working together to support mastery of the learning objectives.

35. Which of the following lists the critical course components that reinforce one another to ensure students achieve desired learning outcomes.

a) Learning objectives, instructional materials, and assessment, and course technology
b) Learning objectives, instructional materials, assessment, and learner interaction and engagement
c) Learning objectives, instructional materials, assessment, and course technology

d) Learning objectives, instructional materials, assessment, learner interaction and engagement, and course technology

36. The foundation for alignment in online course design is the:

a) types of assessment used
b) instructional materials chosen
c) learner interaction and engagement provided
d) learning objectives stated in the course

Part 2: Quality of Online Course Design
The following questions will ask you to reflect on the quality of the design of the online course you teach. If you teach more than one online course, please choose one course and mentally reference that same course as you answer each question. Please answer all questions.

Directions:
Mark each statement with Strongly Disagree, Disagree, Agree, Strongly Agree, Not sure.

Scale Definitions

Strongly Disagree: None of these elements described here are reflected in the design of my online course.
Disagree: My online course reflects the description provided here in a few ways.
Agree: My online course reflects most of what is described here.
Strongly Agree: My online course reflects what is described here in its entirety
Not Sure: I do not know enough about the elements described here to assess my course in this area.

37. My course introduction is effective in explaining the overall design of the course, as well as, setting the tone for the course, letting students know what to expect, and providing guidance to ensure they get off to a good start.

38. My learning objectives are measurable and clearly stated. They establish a foundation upon which the rest of the course is based.

39. I assess my students in a manner that not only allows me to have a broad perspective of the students' mastery of the content, but also allows students to measure their own learning throughout the course.

40. My instructional materials are sufficiently comprehensive in providing the necessary foundation for successfully mastering the course learning objectives and competencies for my course.

41. I provide engaging activities for my students to be active and persistent learners. The forms of interaction incorporated in my course motivate students and promote learning.

42. The technologies in my course support student engagement and ensure access to course components. These technologies do not impede student progress.

43. My course facilitates student access to institutional support services essential to student success such as technology support, accessibility support, academic services support, and student services support.

44. My course demonstrates a commitment to accessibility for all students.

Part 3: Using the Quality Matters Rubric as a Design Tool
Mark each statement with Strongly Disagree, Somewhat Disagree, Disagree, Agree, Somewhat Agree, Strongly Agree.

45. I am willing to redesign my online course using the Quality Matters Rubric as a guide to meet standards of best practice.

46. If I had more training, I would be willing to use the Quality Matters Rubric to redesign my online course.

47. If given adequate resources, I would be willing to work to use the Quality Matters Rubric to ensure my online course met standards of best practice in online course design.

48. If I knew there were elements of my course that did not meet the standards for best practice in online course design, I would be willing to redesign my course using the Quality Matters Rubric.

49. I would be willing to use the Quality Matters Rubric to design a new online course in the future.

50. I would be willing to edit my online course using the Quality Matters Rubric as a guide to meet standards of best practice.

APPENDIX B

PHASE 1 INVITATION EMAIL

Howdy!

My name is René Mercer and I will be facilitating your *Applying the Quality Matters Rubric* workshop. What a great pleasure to see so many of our online faculty, staff, and administrators across campus so interested in learning about best practices in online learning. I have facilitated this workshop several times on campus in the past year and have heard only good things about the outcomes from participants. I hope this will be your experience as well.

In addition to conducting your workshop I will also be collecting data before and after workshop sessions in pursuit of my doctoral degree in Educational Psychology at Texas A&M University. *This is not a requirement for you to complete the workshop*. However, if you would consider participating in my doctoral research study called ***Quality Design Online***, please read the document attached to this email. Please note that any reference to "online" also includes hybrid courses and feel free to further clarify qualifications for participation at the email address provided below or in the information sheet attached.

I really look forward to meeting each of you and introducing you to Quality Matters. I will send you a reminder message about your session as the time draws near. If your schedule has changed and you are no longer able to attend or need to adjust your session dates, please contact me and I will be happy to help you with your requests.

Thanks and Gig 'Em,
René Mercer, PhD (c)
remercer@tamu.edu
Instructional Design Specialist
College of Education & Human Development
Quality Matters Institutional Representative
Texas A&M University

APPENDIX C

PHASE 2 INFORMATION SHEET

Dear Former Workshop Participant,

You are being invited to participate in Phase 2 of a research study on professional development in online learning. The study is called ***Quality Design Online***. Quality assurance for online learning in higher education is an important research topic as more faculty begin to utilize the benefits of virtual technologies to maximize learning outcomes. The purpose of Phase 2 of this study is to investigate the impacts of the *Applying the Quality Matters Rubric (APPQMR)* workshop on the ways and extent to which faculty improve the quality of their online course using the QM Rubric and knowledge gained from the workshop. This study also explores the lived experiences of faculty using the QM Rubric as a design tool.

Participation Requirements

You are eligible to participate in this research if you meet ***all*** of the following criteria:

1. You intend to make significant changes to your online course over the next several weeks.
2. You intend to use the knowledge gained from the APPQMR workshop.
3. You intend to use the Quality Matters Rubric as a design tool during the process.

Participant Selection

You are invited to be a possible participant because you were a Phase 1 participant and a member of either Group 1 or Group 2 who took the post-questionnaire after completing the APPQMR workshop. Because of the intensity of data collection for this phase, only five participants will be selected. Selection will be based on experience in online teaching (new and experienced online faculty) and content area (different domains) to provide more than one perspective.

Participant Activities

As a participant in of this research study:

- You will be asked to participate in a pre-design interview that may last 1 to 1.5 hours.
- You will be asked to provide the researcher access to the current version of your online course as soon as possible prior to making changes so that she can complete an informal Quality Matters course review for initial quality assessment*.
- You will be asked to provide the researcher access to the latest version of your online course by August 31, 2013 so that she can complete an informal Quality Matters course review for post design quality assessment*.

- You will be asked to participate in a post-design interview that may last 1 to 1.5 hours as soon after August 31, 2013 as possible.
- You will receive results from both informal course reviews when data collection has ended.

**The researcher is a certified Quality Matters peer reviewer. Review results will be provided to the case study participant when Phase 2 data collection has ended.*

Direct Benefits

The benefits to participating in Phase 2 of this study are:

1. A full online course review by a Quality Matters expert both before and after you make changes to your course,
2. Continuous instructional design support from a Quality Matters expert during the redesign process, and
3. A $50 gift card.

Additional Potential Benefits

Potential benefits based on research include:

1. Professional growth as both an online and face-to-face educator
2. Improved learner outcomes in your online course
3. Improved student evaluations for your online course
4. Improved course delivery satisfaction for both students and you as the course instructor

Confidentiality

All information will be kept confidential, in paper and digital format for which only the researcher and the doctoral research assistant will have access. Raw data (excluding personal information) will be made available to the researcher's committee upon request with personal identification removed. Only the researcher will have direct access to your online course.

Contact Information

This study is being conducted by René Mercer, the instructional design specialist for the College of Education and Human Development, and in pursuit of a doctoral degree in Educational Psychology at Texas A&M University. For more information, please contact her at the email provided below. Otherwise, to indicate a willingness to participate in Phase 2, follow the directions below the signature line.

Thank you,

René Mercer
qualitydesignonline@gmail.com.

Next Step
If you are willing to participate in this next phase of the research study, please complete a consent form by clicking this link: **insert link here**. You will be contacted soon regarding potential participation.

APPENDIX D

PRE-DESIGN INTERVIEW PROTOCOL

Background information
Prompt: Tell me about your teaching background.
Possible follow-up questions:

- What subject(s) do you currently teach?
- Does your position place an emphasis on teaching or research?
- What do you consider to be your area of expertise?
- Have you had any training on how to teach either face-to-face or online? If so, can you describe that training?

Experience in Online Education
Prompt: Describe your experience in online teaching.
Possible follow-up questions:

- How long have you been teaching online courses?
- Did you have help designing the course you currently teach?
- Did you have any preparation for teaching online?

Experience with the Quality Matters and APPQMR workshop
Prompt: Tell me about Quality Matters and what you experienced in the workshop.
Possible follow-up questions:

- How did the training meet or not meet your expectations?
- Did anything stand out to you as impactful to you as an online teacher?

Course Review and Revision Plans
Prompt: What are you plans now for revising your online course using QM?
Possible follow-up questions:

- How would you evaluate the quality of your course design as it is now?
- Do you plan to attempt to meet all of the standards?
- Do you have access in your college to online learning support? Can you describe the support available to you?

Final question: Is there anything else you would like to share about the workshop or what you anticipate in the coming weeks?

APPENDIX E

POST-DESIGN INTERVIEW PROTOCOL

The Redesign Experience

Prompt: How did it go? Tell me about your redesign experience over the past weeks.

Prompt: Tell me about the changes you made to your online course.

Prompt: Describe your experience using the QM Rubric.

Possible follow-up question:

- In what ways did the APPQMR workshop help you?

Prompt: Tell me about the kinds of instructional support you used.

Prompt: What plans do you have now for your online course and Quality Matters?

Final question: Is there anything you would like to share about your experiences?

APPENDIX F

SAMPLE OF DESIGN JOURNAL ENTRY

Today I met with Beck. First, I updated him on how he could use Blackboard Collaborate to facilitate the group discussions he was thinking of implementing for his course. However I still needed to investigate the recordings further. I also brought a laptop with me so I could show him some of the ways I had reorganized his content folders into learning modules. We discussed his idea for the group discussions. His course is 15 weeks. He envisions three major discussions by the students after a period of 5 weeks. I wanted to clarify whether he wanted to be able to view their conversations via a recording or whether he would like them to report back on the discussion individually. He began to ask me questions about whether it was appropriate to assign one point to a posting and then 2 points to the discussion. My response was that he just needed to tell the students up front what was expected and provide them criteria on how to achieve the maximum number of points available. I have noticed that he asks me this question a lot. He wants to know if it is "ok" or "appropriate". He had mentioned in an email that after looking at the QM rubric he realized he needed more student interaction. Then in our discussion today he mentioned, "is this enough?" So I had to reiterate that it is all about the learning objectives. And that there is not required minimum of interaction. I followed that up with that in general it is believed that social construction of knowledge maximizes learning outcomes and thus the more interaction within the course the more students are probably going to learn.