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Faculty members' best practice standards in the design of higher education online courses

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A Dissertation

entitled

Faculty Members' Best Practice Standards in the
Design of Higher Education Online Courses

by

Henry J. Marshall, Jr.

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the
Doctor of Philosophy Degree in Curriculum and Instruction: Educational Media

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August 2015

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The quality of online courses has an impact on retention and student satisfaction in higher education. Designing online courses using best practice standards is a critical role for faculty members in higher education. Therefore, many institutions are adopting best practices in the instructional design of online courses. However, little is known about whether faculty members in higher education are adopting best practice standards in designing their online courses. The purpose of this study was to discover if faculty members adopt best practice standards in the creation of higher education online courses. The results revealed that higher education faculty members do adopt best practice standards in the design of their online courses. In addition, the study determined that full-time versus part-time faculty status is the strongest predictor for the adoption of best practice standard for online course design. It was also indicated that full-time and part-time faculty have different motivational factors for adopting best practice standards for online course design. Lastly, the study indicated that institutions would benefit in providing different types of faculty development delivery methods in the design of quality online courses.

This dissertation is dedicated to my wife Lisa and daughter Alexa.

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Table of Contents

Abstract.....	iii
Acknowledgements.....	v
Table of Contents.....	vi
List of Tables	xi
List of Figures	xii
I. Introduction.....	1
A. Statement of the Problem.....	3
B. Significance of the Study	4
C. Purpose of the Study	5
D. Research Questions	6
E. Operational Definitions	6
F. Delimitations.....	8
II. Review of Literature	10
A. Online Learning	10
1. Theory of online learning.....	10
2. Online learning environment	12
B. Instructional Design	13
1. Instructional design and learning theories	13
i. Behaviorism.....	13
ii. Cognitivism.....	14
iii. Constructivism.....	14
2. Instructional design models	14

3. Instructional design components.....	15
i. Identifying the learner.....	15
ii. Instructional objectives.....	17
iii. Content sequencing.....	18
iv. Instructional strategies.....	21
v. Designing the instructional message.....	22
vi. Development of the instruction.....	26
vii. Evaluation.....	27
C. Faculty Development.....	28
1. Faculty candidate programs.....	29
2. Peer mentoring.....	29
3. Workshops and online training.....	30
4. Quality assurance programs.....	30
D. Quality Matters' Best Practice Standards in Developing Online Courses.....	31
1. Course overview and introduction.....	31
2. Learning objectives.....	33
3. Assessment and measurement.....	34
4. Instructional materials.....	35
5. Learner activities and learner interaction.....	35
6. Course technology.....	36
7. Learner support.....	37
8. Accessibility and usability.....	37

III. Chapter Three: Methodology	39
A. Pilot Study.....	40
1. Validation of instrumentation	40
B. Primary Study.....	41
1. Rationale for instrumentation	41
2. Instrument design.....	41
3. Scope of study.....	42
4. Researcher’s role.....	43
5. Participants.....	43
6. Data collection	43
7. Data analysis	44
8. Procedure to calculate best practice standards total score	46
IV. Chapter Four: Results	47
A. Pilot Study.....	47
1. Validation of instrumentation	47
B. Primary Study.....	48
1. Participant characteristics	48
2. Research questions.....	53
i. Research question 1	53
ii. Research question 1a	57
iii. Research question 1b.....	58
iv. Research question 2	59
v. Research question 3	60

vi. Research question 4	61
vii. Research question 5	61
V. Chapter Five: Discussions and conclusions	64
A. Discussions	65
1. Research question 1	65
i. Course overview and introduction	66
ii. Learning objectives	68
iii. Assessment and measurement	68
iv. Instructional materials	69
v. Learner activities and learner interaction	70
vi. Course technology	70
vii. Learner support	71
viii. Accessibility and usability	72
2. Research question 1a	73
3. Research question 2	74
4. Research question 3	75
5. Research question 4	76
6. Research question 5	77
B. Conclusions	77
1. Best practice standards	77
2. Faculty development	82
C. Recommendations for future research	84
D. Summary	85

VI. References.....	87
VII. Appendixes.....	96
A. Appendix A: Letter to Experts for Instrument Validation	96
B. Appendix B: Letter of Consent for the Pilot Study	97
C. Appendix C: Questionnaire.....	98
D. Appendix D: Letter of Consent for Primary Study	107

List of Tables

Table 1: Best practice standards of online education.....	2
Table 2: Statistical tests to be conducted	44
Table 3: Demographic characteristics of respondents	48
Table 4: Individual mean scores for each best practice standard question	49
Table 5: Mean scores for each Quality Matters' standard	53
Table 6: Quality of faculty development	53
Table 7: Best practice standards participant percentage	54
Table 8: Quality matters' best practice standards categories, range, and mean	56
Table 9: Best practice standard mean score quadrant scale	56
Table 10: Quality matters' best practice standards categories, range, and mean in rank order.....	57
Table 11: Independent samples <i>t</i> -test by each best practice standard and full-time faculty rank.....	58
Table 12: Independent samples <i>t</i> -test by each best practice standard and faculty status...	59
Table 13: Pearson correlation by each practice standard and years of online teaching.....	60
Table 14: Pearson correlation for each practice standard and average percentage of courses taught online per year.....	61
Table 15: Pearson correlation by each practice standard and hours of faculty Development.....	62
Table 16: Quality of faculty development ranking.....	63

List of Figures

Figure 1: Educational interactions	11
Figure 2: Online learning environment.....	12

Chapter One

Introduction

According to the 2013 Sloan report, online enrollment is growing with an increase of 572,000 students from fall 2010 to fall 2011. Additionally, 6.7 million students took at least one online course in fall 2011, as compared with 1.6 million students in fall 2002. This increase of 5.1 million students “represents a compound annual growth rate of 17.3 percent” (Allen & Seaman, 2013, p. 18). The Sloan report was based upon the “responses from over 2,800 colleges and universities” nationwide (Allen & Seaman, 2013, p. 43). According to the Association of International Educators, in the year 2020, the demand for global higher education seats will double to 200 million from the year 2000 suggesting an increase in international education (Redden, 2009). This tremendous increase in online education for colleges and universities throughout the world, will affect the quality of online courses (Rovai & Downey, 2010).

The impact of quality online courses on retention and student satisfaction has become an important topic in higher education. Therefore, many institutions are adopting a variety of benchmarks and best practices that serve as important guidelines in the instructional design of quality online courses (Herman, 2012). Listed below are some of the organizations that promote benchmarks and best practices in designing online courses.

The Institute for Higher Education Policy released a report sponsored by the National Education Association and Blackboard, Inc. titled *Quality on the Line: Benchmarks for Success in Internet-based Distance Education* which included seven categories of best practice standards (Institute for Higher Education Policy [IHEP],

2000). The American Distance Education Consortium created ten categories of best practice standards and the American Federation of Teachers created *Distance Education: Guidelines for Good Practice* which includes 14 best practice standards (American Distance Education Consortium [ADEC], 2003; American Federation of Teachers [AFT], 2000). Finally, a consortium of colleges in 2003 named Maryland Online designed a quality assurance rubric called Quality Matters, which included 43 best practice standards grouped into eight categories (Quality Matters [QM], 2014).

All of these organizations provide best practice standards that are important guidelines for many institutions in the instructional design of quality online courses.

Table 1 provides an overview of the different best practice standards among the organizations mentioned above.

Table 1
Best practice standards of online education

The Institute for Higher Education Policy (IHEP, 2000)	<ul style="list-style-type: none"> • Institutional support • Course development • Teaching/learning process • Course structure • Student support • Faculty support • Evaluation and assessment
American Distance Education Consortium (ADEC, 2003)	<ul style="list-style-type: none"> • Fosters meaning-making, discourse • Moves from knowledge transmission to learner-controlled systems • Provides for reciprocal teaching • Is learner-centered • Encourages active participation, knowledge construction • Based on higher level thinking skills-analysis, synthesis, and evaluation • Promotes active learning • Allows group collaboration and cooperative learning • Provides multiple levels of interaction • Focuses on real-world, problem solving

<p>American Federation of Teachers (AFT, 2000)</p>	<ul style="list-style-type: none"> • Faculty must retain academic control • Faculty must be prepared to meet the special requirements of teaching at a distance • Course design should be shaped to the potentials of the medium • Students must fully understand course requirements and be prepared to succeed • Close personal interaction must be maintained • Class size should be set through normal faculty channels • Courses should cover all material • Experimentation with a broad variety of subjects should be encouraged • Equivalent research opportunities must be provided • Student assessment should be comparable • Equivalent advisement opportunities must be offered • Faculty should retain creative control over use and re-use of materials • Full undergraduate degree programs should include same-time same-place coursework • Evaluation of distance coursework should be undertaken at all levels
<p>Quality Matters (2014)</p>	<ul style="list-style-type: none"> • Course overview and introduction • Learning objectives • Assessment and measurement • Instructional materials • Learner activities and learner interaction • Course technology • Learner support • Accessibility and usability

Statement of the Problem

The increase in students choosing online education is becoming a persistent and quickly changing issue facing the faculty and administration of many colleges and universities. With this increase in growth, higher education is relying upon faculty to ensure the quality of instruction and learning for online education. Higher education institutions are facing the challenge of ensuring the quality of online instruction by promoting best practice standards of designing online learning courses (Herman, 2012).

With the regard to best practice standards, the 2013 Sloan report emphasizes that faculty along with chief academic officers have concerns about the quality of online learning. The report also states that “only 30.2 percent of chief academic officers believe that their faculty accepts the value and legitimacy of online education” (Allen & Seaman, 2013, p. 6).

Based on the literature (Baghdadi, 2011; Grandzol & Grandzol, 2006; Schulte, 2009; and Thiede, 2012), designing online courses using best practice standards is a critical role for faculty members in higher education. Institution administrators throughout the country have begun to accept and support best practice standards of designing online learning courses. For example, “with over 800 current subscribers, ranging from four-year colleges and universities, technical and community colleges to other academic organizations, (QM) is the leading provider of tools and processes used to evaluate quality in course design” (Quality Matters, 2014). However, little is known about whether faculty members in higher education are adopting these best practice standards in designing their online courses.

After reviewing the literature, the researcher found that there is little to say about whether higher education faculty members have adopted best practice standards in the design of their online courses. Therefore, the focus of this study sought to discover to what extent, if any, best practices have been adopted by faculty members in the creation of higher education online courses.

Significance of Study

This study investigated whether faculty members in higher education have adopted best practice standards in the design of their online courses. In addition, the study

determined to what extent faculty members indicate whether they have used best practice standards when designing their online courses. The study also investigated the relationships between demographic characteristics and the adoption of best practice standards for online course design. The study determined the strongest predictor for the adoption of best practice standards for online course design. The research provided insight into the possible relationship between adoption of best practice standards for online course design and hours of faculty development for online course design. The study's findings provided faculty members with opportunities to improve their current practices in designing quality online courses. In addition, the results provided administration demographic-specific insight regarding additional opportunities in the promotion of specific faculty development programs concerning best practice standards in the design of online courses.

Purpose of Study

Based on the review of best practice standards in designing higher education courses (Achte-meier, Morris, & Finnegan, 2003; Chang & Smith, 2008; Conrad, 2002; Crow, 2008; Davidson-Shivers & Rasmussen, 2006; Johnson, 2004; Koroghlanian & Brinkerhoff, 2007; Lee, Dickerson, & Winslow, 2012; Malikowski, Thompson, & Theis, 2007; Morrison, Kalman, & Kemp, 2011; Sheridan & Kelly, 2010; Sims, Dobbs, & Hand, 2002; Stavredes & Herder, 2014; Thurmond, Wambach, Connors, & Frey, 2002; Trigano & Pacurar-Giacomini, 2004), it is important to understand if faculty members indicate that they have adopted best practice standards when designing their online courses. It is also critical to understand which best practice standards faculty members are adopting when designing online courses. Finally, the purpose of this study was to

understand how higher education faculty can enhance student learning in a web based environment by adopting best practice standards.

Research Questions

To fulfill the purposes of this study, the following research questions will be addressed:

1. To what extent do faculty members indicate that they have used best practice standards when designing their online courses?
 - a. Is there a difference in adoption of best practice standards for online course design based on full-time faculty rank (tenure-track and lecturers)?
 - b. Is there a difference in adoption of best practice standards for online course design based on full-time or part-time faculty status?
2. Is there a relationship between adoption of best practice standards for online course design and years of online teaching?
3. Is there a relationship between adoption of best practice standards for online course design and portion of online teaching load?
4. What is the strongest predictor for adoption of best practice standards for online course design?
5. Is there any relationship between adoption of best practice standards for online course design and hours of faculty development for online course design?

Operational Definitions

The terms listed below may be defined differently in other writings or studies, for the purpose of this study; the researcher has defined the terms as follows.

Asynchronous

Online communication that may occur at any time between or among participants (Davidson-Shivers & Rasmussen, 2006).

Best Practices

According to Robbins (2009), best practices can be defined as “those actions that surpass all others in pursuit of a goal or purpose according to some objectively measurable standard” (p. 291).

Faculty Development

“Faculty development is a set of activities to enhance the ability of faculty members to fulfill the education mission of the institution and the educational needs of students” (Fink, 2013, p. 1). Rovai & Downey (2010) state that faculty development engages faculty for the purpose of updating or advancing knowledge and skills to promote the institution’s quality learning programs.

Faculty member

In this study, faculty member is defined as anyone who teaches classes for higher education.

Instructional design

Instructional design involves a systematic planning process of developing instruction for a course. The planning process contains procedures in the design and development of an instructional course (Smith & Ragan 1999).

Instructional design model

An instructional design model provides a conceptual communication tool that one can use to visualize for generating episodes of guided learning (Gustafson & Branch, 2002).

Online learning

Online learning is a form of distance education in which the educational course is delivered over the Internet via a computer with a Web browser. The student and instructor are at a distance and interaction between student and instructor can occur at the same time (synchronous) or at different times (asynchronous) (Davidson-Shivers & Rasmussen, 2006).

According to Ally (2004), online learning is characterized by:

- A separation from instructor and learner
- The use of a computer to access educational content
- The use of technology is used for interaction between instructor and student
- A form of learner support is provided

Synchronous

Online communication that may occur while interacting at the same time between or among participants (Davidson-Shivers & Rasmussen, 2006).

Delimitations

This study was confined to faculty members who teach online courses at one Midwestern university. The institution provides faculty development, instructional design services, and technical support to faculty members who design online courses. Therefore,

findings of this study are not applicable to other institutions that do not provide these services including K-12 schools. This study limits using Quality Matters as the foundation for best practice standards in designing online courses and therefore it does not address some facets of online course delivery. This study also limits an equal representation of all faculty members' ranks.

Chapter Two

Review of Literature

The purpose of this literature review is to provide an overview of the theoretical framework and previous research that supports this study. This review contains four sections: online learning, instructional design, faculty development for designing online courses, and best practice standards in designing online courses as outlined by Quality Matters (QM). The first section includes a discussion on a theory of online learning, while the second section elaborates on the instructional design learning theories, instructional design models and instructional design components. The third part of this review explores the various methods of faculty development for designing online courses in higher education, and finally, the literature provides a review of QM's eight best practice standards in designing online courses.

Online Learning

Theory of online learning

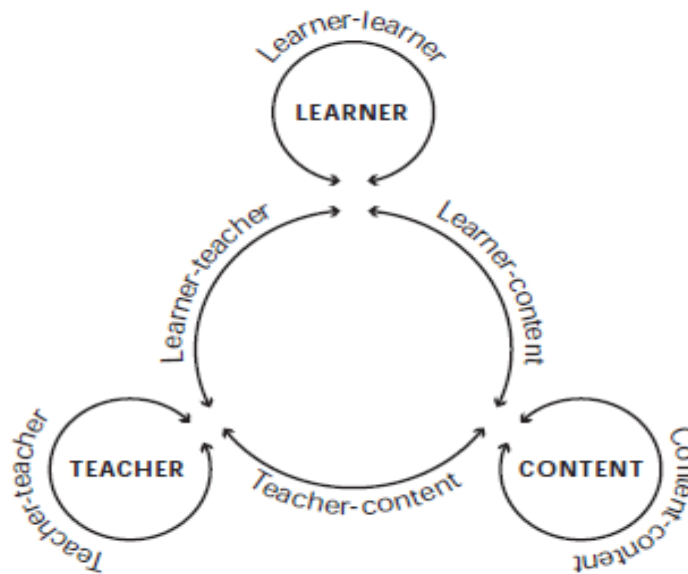
Anderson (2007) discussed his e-learning model as a first step in theory building of online learning. He states that there are four components of effective online learning as depicted below:

1. Learner-centered – instructor must be cognizant of the learner's prior knowledge and be aware of different cultural aspects
2. Knowledge-centered – instructor must be mindful of what the Internet provides in regards to an abundance source of knowledge resources for learners
3. Assessment-centered – instructor should provide different types of assessments including instructor, peer, and self

4. Community-centered – an online learning community where learners can collaborate and build knowledge together

Anderson (2007) also stipulates six categories of educational interaction in online learning as shown below in Figure 1:

Figure 1 *Educational interactions*



Anderson, 2007, p. 46

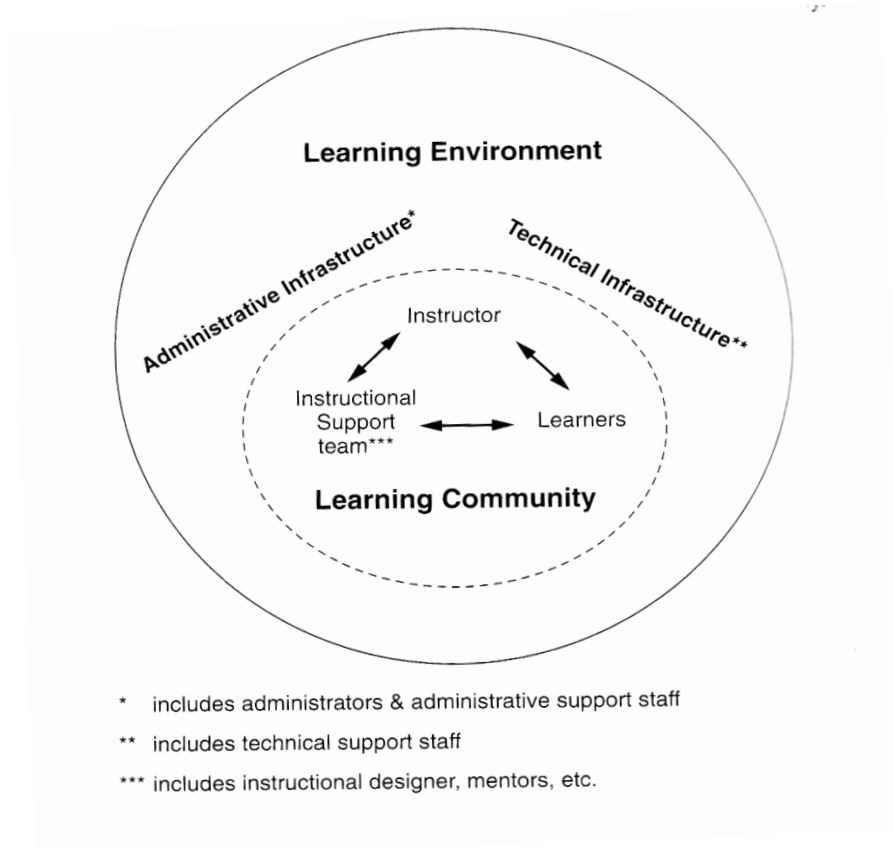
1. Learner-learner interaction
2. Learner-content interaction
3. Learner-teacher interaction
4. Teacher-content interaction
5. Teacher-teacher interaction
6. Content-content interaction

Online learning environment

In order to meet the needs of individuals within an organization, an online learning environment should encompass several subsystem components. The online learning environment consists of subsystems comprised of individuals and technologies. As depicted below in Figure 2, the online learning environment consists of administrative infrastructure, technical infrastructure, and the learning community (Davidson-Shivers & Rasmussen, 2006).

Figure 2

Online learning environment



(Davidson-Shivers & Rasmussen, 2006, p. 20)

Individuals who help run the day-to-day functions of the online learning environment such as managers, accountants, library support, and others, fit within the administrative infrastructure. Individuals who are included under the technical infrastructure subsystem include those who are webmasters, online help-support, and network technical employees. These individuals help support the software, hardware, servers, and learning management system. Finally, the online learning community includes instructors, students, and the instructional support team. The instructional support team is comprised of instructional designers and media related staff. The learning community also includes the instruction itself, including the design of the instruction (Davidson-Shivers & Rasmussen, 2006).

Instructional Design

Instructional design and learning theories

Learning theories provide the framework for instructional design. Three widely discussed learning theories that have been used in instructional design are behaviorism, cognitivism, and constructivism. It is important to provide a brief discussion on these theories as they help describe how individuals learn.

Behaviorism

Behaviorism is regarded as empirical, observable behaviors, and how the external environment can determine behavior (Schunk, 2004). “The behaviorist school of thought, influenced by Thorndike (1913), Pavlov (1927), and Skinner (1974), postulates that learning is a change in observable behavior caused by external stimuli in the environment (Skinner, 1974)”, (Ally, 2004, p. 6).

Cognitivism

Cognitivism is a learning theory based on the learner's cognitive skills, learning abilities, and behavioral change. "Whereas behaviorists focus on what is directly observable and controllable, cognitive theorists are concerned with what occurs inside the mind-how we think, process information, remember and forget information, and acquire and use language to communicate" (Morrison, et al. 2011, p. 388).

Constructivism

Constructivism learning theory pertains to a learner's logical and conceptual growth.

"Constructivists see learners as being active rather than passive. Knowledge is not received from the outside or from someone else; rather, it is the individual learner's interpretation and processing of what is received through the senses that creates knowledge. The learner is the center of the learning, with the instructor playing an advising and facilitating role" (Ally, 2004, p. 18).

Instructional design models

During the 1970s, instructional design (ID) models became popular and can be traced back to the work of Robert Gagne. His work was based upon the conditions of learning, and early attempts to apply general systems theory and systems analysis. Also in the 1970s many other ID models began to emerge based upon the core of the ADDIE model of analysis, design, development, implementation, and evaluation. By the 1980s to present, 60 new ID models were introduced. Many of these models include (Dick & Carey, 1990; Morrison, Ross, & Kemp, 2001; and Smith & Ragan, 1999) which are process-based in that they stipulate the processes and procedures that instructional

designers should follow in their practice. The characteristics of these models vary as some are systematic, several are detailed and comprehensive, and others are more generalized. However, “most of the models include the analysis of instructional problems and design, development, implementation and evaluation of instructional procedures and materials intended to solve those problems” (Reiser, 2002, p. 27). The ADDIE model provides generic procedural guidelines for many different types of ID models when designing a course of instruction (Gustafson & Branch, 1997; Smaldino, Russell, Heinich, & Molenda, 2005).

Instructional design components

The literature provides a framework of seven components for effective instructional design when designing a course of instruction: identifying the learner, instructional objectives, content sequencing, instructional strategies, designing the instructional message, development of the instruction, and evaluation.

Identifying the learner

Morrison et al. (2011) suggested identifying the characteristics, competencies, and learning styles of learners as an important step in instructional design. By identifying these elements, it helps an instructor with planning and selecting topics, choosing and sequencing learning objectives, and deciding on the type of learning activities. Some general characteristics of a learner can include gender, age, work experience, education, and ethnicity. Cerone (2008) stated that individual characteristics can also include the responsibilities and challenges some learners face such as raising children, dealing with aging parents, and time management. Many students enjoy the freedom to work from any place and any time due to being home bound with work commitments, disabilities, or

other constraints. Independence, willingness to take initiative, self-discipline, and self-confidence are also characteristics of learners.

Instructors need to identify the learner's competencies such as their previous knowledge about the topic that will be presented. By identifying a student's previous knowledge of the subject matter at hand, instructional designers can incorporate and build upon existing subject matter and by doing so the student's knowledge can be expanded beyond their current understanding of the subject matter (Chung, Chiang, Chou, & Chen, 2010; Morrison et al., 2011).

According to Morrison et al. (2011), instructors need to know the individual's learning style. The authors continue by contending that Bloom's Taxonomy of cognitive learning can help determine a student's learning style. Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity. Many instructional designers use each level as a stepping stone to encourage students to climb to a higher level of thought. The lowest three levels are - knowledge, comprehension, and application; the highest three levels are - analysis, synthesis, and evaluation. The taxonomy is hierarchical, in that each lower level is included within the scope of the higher levels. In other words, a student functioning at the application level has also mastered the material at the knowledge and comprehension levels (Bloom, 1956).

Morrison et al. (2011) have provided examples of how learning styles can include individuals who learn by attending lectures, studying material, reading text, or by a visual approach to studying. Individuals also learn by moving through instructional material at

their own pace. These different learning styles help in the planning for the selection of written materials, audio, and visual content for a course.

Instructional objectives

Instructional objectives are “statements that describe what students will be able to do after completing a prescribed unit of instruction” (Kibler et al., 1981, p. 2). Morrison et al. (2011, p. 16) state that “instructional objectives are a quality check to make sure the instruction and learning activities are focused on what the learner is to accomplish throughout the course.” Instructional objectives help provide directions for designing the course instruction and they also help develop a way to assess learner performance. Morrison et al. (2011) also mention that there are two important functions for providing measurable instructional objectives. “First, measurable instructional objectives help the instructor to select and organize instructional activities and assessments for effective learning. Second, measurable instructional objectives provide a means for evaluating student learning” (Morrison et al., 2011, p. 108).

Instructional objectives should also be as specific as possible. They are based on the new information or knowledge the learner will possess once the instruction has been completed. Stating the instructional objectives provides the instructor with a guideline to select specific and optimal material for the instruction and to develop assessments that can measure the acquired knowledge and skills (Kibler et al., 1981).

Smaldino, et al. (2005), constructed a model called the ABCD objectives’ checklist for developing well-stated instructional objectives that an instructor can use. The components of the ABCD objectives’ checklist are: Audience, Behavior, Conditions, and Degree. Smaldino and others, concluded that an instructor needs to know the

audience in order to develop instructional objectives based on what the learners are expected to know and accomplish as a result of the lesson. Defining what the learner will accomplish in “verbs” that describe performance is the behavior portion of the process. In describing well-stated instructional objectives, instructors need to use performance words such as “compute”, “define”, and “predict” to define what learners will be able to do after the lesson. Condition is the next component in the process. This step is important in deciding what type of materials the students will use in the web based course. The type of material that the student may use to demonstrate their grasp of the information is very important. The last step is called the degree, which is the criterion on which the student will be evaluated. Defining the degree of expected proficiency is an example of a well-stated objective. This step is also important when deciding what type of material to use for an online course.

Content sequencing

Once the instructor has identified his or her learners and the instructional objectives have been written, the instructor can begin to design the instruction in an appropriate sequence for presenting the course information. Content sequencing, i.e., the order in which information is presented helps the learner understand and learn the information. Sequencing the content in a specific way also helps the learner achieve the learning objectives (Morrison, et al., 2011).

Posner and Strike (1976) and Posner and Rudnitsky (2001) describe five types of content sequencing called: learner-related, world-related, concept related, inquiry-related, and utilization-related. Learner-related content sequencing is based on five learner related concepts. “Learning-related content sequences draw primarily on knowledge about the

psychology of learning as a basis for curriculum development and instructional planning” (Posner & Strike, 1976, p. 678). In the first learner related concept, instructors need to identify prerequisites a student must learn before going to the next step. An example of this step would be for a teacher to teach the alphabet prior to having students use a dictionary. In the second learner related concept, an instructor needs to teach something that is familiar or known prior to teaching something about the unknown. Prior to teaching about Swedish schools for example, an instructor should teach about American schools. The third learner related concept pertains to difficulty. Instructors should teach the less difficult material prior to that which is more difficult. An example would be teaching the spelling of short words prior to teaching longer words. Fourth is sequencing the content based on topics or tasks that will create the most learner interest. Teaching students how to pick a lock before teaching them the mechanics of a lock is a good example. The fifth learner related concept in concordance with Morrison et al. (2011) pertains to development. An example would be allowing students to shoot several pictures prior to teaching them how to edit and produce prints.

The next content sequencing that Posner and Strike (1976) describe is called world-related sequencing. “World-related sequences are those sequences in which there is consistency among the ordering of content, on the one hand, and relationships between phenomena as they exist or occur in the world on the other hand” (Posner & Strike, 1976, p. 672). Sequencing includes spatial relations, temporal relations, and physical attributes that occur in the world. Spatial relations describe content elements that are ordered in a physical arrangement of interest. An example would be teaching the names of states based on the geographical location on a map. The geographical location on the map could

include naming states first in the west coast, then the Midwest, and concluding with the eastern coast states. The temporal relationship based on world-related sequencing is a chronological order using a timeline to sequence the content. Teaching the name of the states in a chronological order based on when the states were admitted to the Union is a good example of a temporal relationship. Physical attributes are based on the physical characteristics of the content including size, age, or shape. An example would be teaching names of American states in geographical size order from smallest to largest.

The third type of content sequencing that Posner and Strike (1976) describe is called concept-related sequencing, or a “sequence in which content is structured in a manner consistent with the way the concepts themselves relate to one” (Posner & Strike, 1976, p. 673). Concept-related sequencing involves four elements called class relations, propositional relations, sophistication, and logical prerequisite. Class relations pertain to teaching about the properties of a class or a group prior to teaching about the individual class or individual group properties. An example would be to teach about the concept of databases first before moving on to more specific types of databases such as hierarchical, relational, and multidimensional databases (Morrison, et al., 2011). The second concept sequencing scheme is called propositional relations. “A proposition is a combination of concepts that asserts something. Sequences of this sort include teaching evidence prior to the proposition that the evidence supports, teaching a theory prior to the facts that the theory explains, or teaching micro-laws prior to teaching macro-laws” (Posner & Strike, 1976, p. 673). The third concept sequencing scheme is called sophistication. Teaching concrete or simple content helps explain the sophistication concept sequencing scheme. For example, one would teach mean, mode, and median prior to teaching advanced

statistics (Morrison, et al., 2011). “The fourth concept-sequencing scheme is the logical prerequisite, which prescribes that concepts necessary to understand another concept be taught first” (Morrison, et al., 2011, p. 142). An example would be to teach the concept of shapes before teaching geometry.

The fourth type of content sequencing that Posner and Rudnitsky (2001) describe is called inquiry-related sequencing which relates to logic and methods of inquiry. The last type of content sequencing is utilization-related which pertains to procedure and anticipated frequency of use (Posner & Rudnitsky, 2001).

Instructional strategies

After content sequencing the next step is to design the instructional strategies (Morrison et al., 2011). Instructional strategy can be described as “the pattern of interaction among students, materials and teacher” toward an educational goal (Posner & Rudnitsky, 2001, p. 158). Smaldino, et al. (2008) indicate that choosing the optimal instructional strategy for the specific learning outcome is key to helping the student learn effectively. Another author states:

The designer’s primary goal is to design effective and efficient instruction that produces reliable results each time it is presented to the learner. A well-designed instructional strategy prompts or motivates the learner to actively make these connections between what the learner already knows and the new information (Morrison, et al., 2011, p. 150).

As mentioned by several authors, different types of learning require different types of instructional strategies (Posner & Rudnitsky, 2001; Smaldino, et al., 2008). The literature regarding the various types of instructional strategies provides many strategies

from which instructors can choose. There are many reasons why instructors select one instructional strategy over another. For example, some instructional strategies are better suited for small class size, while other strategies can be effective for larger class size. Likewise, some instructional strategies are conducive for introductory courses, while other strategies are beneficial for advanced courses. Other reasons may relate to the learning objective that needs to be accomplished and the comfort level the instructor has in implementing the specific strategy (Smaldino, et al., 2008).

Designing the instructional message

After the instructional strategies have been selected, the focus should be on the design of the instructional message. The instructional message design process can provide a way for effectively communicating one's instructional strategies. While designing the instructional message, the pattern of words and pictures help communicate with the learners so that they can better understand the instruction. Also, the graphical presentation including bold or italic font, can help direct the learner's attention to the understanding of the instruction (Morrison, et al., 2011).

When describing the design principles and practices in designing pages for media, one should comprehend what is "literate" in the sense of the convention of the media to which one is referring. In the reference to media, "literacy" pertains to how one reads and writes information. Additionally, visual literacy can be used to describe media and how individuals interpret and create visual messages. When designing media, there are two approaches to visual literacy: input and output strategies (Smaldino, et al., 2005).

Input strategies

Input strategies can be defined as an individual helping another person decode visuals. When understanding decoding visuals, one needs to understand the developmental effects, cultural effects, and visual preferences (Smaldino et al., 2005). Developmental effects pertain to younger and older children and how they interpret words in print. Younger children interpret images differently than older children (Jarvis, Merriman, Barnett, Hanba, & Haitzma, 2004). Based on one's culture, an individual may interpret or decode visuals that are in print differently than a person from a different culture. Regarding visual preferences, when designing pages for media, one should make optimal choices based on a person's learning style as opposed to what is preferred by the masses (Smaldino, et al., 2005).

Output strategies

When designing media, the other approach to visual literacy includes the output strategies. "Output strategies involve helping learners to encode or write visuals to express themselves and communicate with others for example through planning and producing visual presentations" (Smaldino, et al., 2005, p. 84). Presenting information via PowerPoint, producing media, and sequencing are all methods of output strategies. With PowerPoint, one can insert many pictures or videos to present his or her material. Sequencing is how learners can arrange visuals into a logical order through planning. Story boarding is an example of how to sequence information and how to plan for a project (Smaldino, et al., 2005). As an example, Disney in the 1920s used story boarding for animation (Yaverbaum, Williams, Williams, & Fortner, 2001).

Types of visuals

Clark & Lyons, (2004) have indicated that there are six types of visuals to use depending on the learning task at hand. These types of visuals can be broken down into six categories: realistic, analogical, organizational, relational, transformational, and interpretive. An example of a realistic type of visual is showing a digital picture of an actual car and not showing a drawing of it. Sometimes, showing the actual picture can distort communication and learning. Analogical visuals try to show a picture that portrays something else but still expresses the topic at hand. Organizational visuals show qualitative relationships while relational visuals show quantitative relationships. An example of organizational visual would be an organizational chart, while a bar chart would be an example of a relational visual. Transformational visuals are usually some type of animated diagram of how to do something. Interpretive visuals are usually abstract relationships that include processes (Smaldino, et al., 2008).

Visual elements

There are five visual elements that one needs to use when designing pages for media: arrangement, balance, color, legibility, and appeal. When trying to design a page for media, it is important to make an arrangement of the overall look of the visual. While arranging the visual look, one needs to consider items which include: alignment, shape, rule of thirds, proximity, use of a directional, figure-ground contrast, and consistency (Smaldino, et al., 2008).

Alignment refers to positioning the elements so that the learner is able to comprehend what he or she is seeing with little effort (Djonov & Leeuwen, 2013). Shape relates to placing a visual element into a circle or perhaps a triangle because those shapes

are already familiar to the learner. “Another principle that can guide the placement of visual elements is the rule of thirds. According to the rule of thirds, elements arranged along any of the one-third dividing lines take on importance and liveliness” (Smaldino, et al., 2005, p. 92). Proximity is placing elements near each other that are related and items that are not related, further apart. A directional helps aim the viewer’s attention to a particular sequence or a specific element. One can use arrows, bold type, or bullets. Figure-ground contrast pertains to having figures that are dark show up against a light background; conversely, figures that are light should show up against a dark background. Lastly, media should have consistency in the arrangement of the elements throughout the lesson (Smaldino, et al., 2008).

On media material, balance of a page is dependent upon what type of information is to be conveyed. Balance pertains to information being equally distributed horizontally, vertically, or both. Sometimes depending on the material, one might prefer an informal or asymmetrical balance when designing media (Smaldino, et al., 2005).

When designing pages for media, one should take into consideration the color wheel as it can be very useful when choosing colors (Schindler, 1986). One should take into consideration complementary colors, any two colors on the color wheel that are directly opposite from each other. For example, orange and blue are directly opposite from each other on the color wheel and make excellent complementary colors. Analogous colors are two colors that are next to each other on the color wheel. For example, yellow-green and green are next to each other on the color wheel and when used together they can form eye-pleasing combinations. When designing pages for print media or designing Web pages, one needs to reflect on the color of the background page and the color of the

text that will appear in that background page. Some good examples include a white background and dark blue for the text. Another good example is a blue background and white text. While designing, one needs to think about a color that is repeated throughout the media. Individuals tend to think that there is a relationship between the words or symbols and his or her eyes will gaze back and forth among these words or symbols. Individuals need to think about the type of emotional response you want to achieve when choosing warm and cool colors. Warm colors tend to be red and orange. While cool colors are usually blue, green, and violet. Warm colors tend to approach the viewer and cooler colors tend to recede. Age can play an important aspect on choosing colors. Young children prefer brighter colors and older people prefer cooler colors (Covert, 1987; Smaldino, et al., 2005).

Development of the instruction

After the instructional strategies and the designing of the message have been completed, development of the instruction can take place. The development of the instruction includes selecting, modifying, or designing new instructional materials such as print materials, video, audio, and webpages. Deciding on the type of instructional material should be based on how the information is to be conveyed to the learner in a manner he or she can comprehend (Morrison, et al., 2011).

Smaldino, et al., (2005) point out it is important to select currently available material before deciding to modify or design a new online course. Faculty members should meet with the technology or media department within the institution to discuss their learning objectives and instructional strategies. Once the technology or media department understands the faculty member's material needs, both can begin looking at

existing or new materials from the institution's media collections. After the faculty member has retrieved and reviewed current available materials, he or she may choose to modify some of the existing material as it may not meet his or her learning objectives. Zhang and Carr-Chellman (2006) state that before the faculty member modifies any existing material, he or she needs to understand copyright laws and restrictions in modifying material.

The next process for the faculty member is utilizing the technology, media, and materials. A recommended process includes the following steps: preview the materials and media, prepare the materials and media, prepare the environment, prepare the learners, and provide the learning experience (Smaldino et al., 2005). Yamanaka and Wu (2014) state that in regard to the faculty member's learning objectives, he or she needs to preview the media and materials that align with the lesson to ensure that appropriate content or language has been used before students see or hear it. In the next step, the faculty member will need to prepare the media and materials. Preparing the environment can mean placing the materials in a fashion so that the students are able to find and view the materials easily.

Evaluation

The term "evaluation refers to the process of using measurement or assessment to make judgments about something" (Morrison, et al. 2011, p. 272). In this study, evaluation is broken down into two distinct concepts with evaluation of the learner and the evaluation of the instructional design. Beginning with the evaluation of the learner, there are two types of evaluation for a learner which are formative and summative. Formative evaluation provides immediate feedback by showing the learner how they are

doing. Summative evaluation is the result of a final examination to a learner (Chappuis, 2008). Formative and summative evaluation is also used in the design process. Formative evaluation of the instructional design should occur during the design process to determine if the objectives are being met. Measuring the outcomes at the end of designing the course pertains to summative evaluation (Morrison, et al., 2011). Conducting a summative evaluation will help determine if a new course design is better than an old design. According to Chiarelott, (2006), “generally, formative evaluation is considered an evaluation of ‘work in progress’ while summative evaluation provides a comparative analysis between or among curriculum designs to determine which is better or best” (p. 43).

Faculty Development

Faculty development pertains to organized programs for faculty to improve their teaching, enhance student learning, and provide quality online courses. Unfortunately, too many institutions allow faculty members to teach online courses without any faculty development in instructional design. By not having adequate faculty development in instructional design, institutions risk student dissatisfaction, low completion rates, and the institution’s reputation (Rovai and Downey, 2010).

While online faculty members often adopt their lectures to an online format, there is a strong need for faculty development in the design of online courses. In the 2009 Sloan report, informal and formal training was available to 81% of the 2,500 institutions that offered online programs (Allen & Seaman, 2009). The Sloan report also indicated the different types of training among the 81% of the 2,500 institutions as shown below:

- 59% are informal mentoring
- 65% are within the institution
- 40% are formal mentoring programs
- 15% are external from the institution

As online instruction is becoming more creative within higher education, so are the different types of faculty development programs that help prepare faculty in the design of their online courses. Based on the literature, the primary types of faculty development programs for online design instruction are: faculty candidate programs, peer mentoring, workshops and online training, and quality assurance evaluation programs.

Faculty candidate programs

Carnevale (2003) noted that more universities are requiring the completion of a faculty development program prior to teaching an online course. These faculty development programs can last for a few days or even several months. For example, the University of Phoenix's (OUP) faculty candidate program is provided to new candidates. This program is for new instructors who receive faculty candidate status after completing the hiring process. The faculty candidate receives a CD-ROM that includes the online learning platform utilized by OUP. Prior to enrolling in a four week online course, the instructor completes a tutorial and proficiency tests for email and newsgroups. The instructors learn about effective online communication, the different methods of engaging with students, and OUP's policies (Betz & Muirhead, 2005).

Peer mentoring

Covington et al. (2005) emphasize that peer mentoring is another avenue in the enhancement of faculty development in designing online courses. For example, Sacred

Heart University in Fairfield, Connecticut used peer mentoring for its online Bachelor of Science degree in Nursing. While designing their online course, faculty members worked with an online learning coordinator who helped them in the design process. Also, faculty members observed an online course during a semester taught by an experienced online instructor member. During the faculty member's first online course, the mentor provided guidance and feedback to the instructor (Barker, 2003).

Workshops and online training

Workshops can take place in the university or offsite at a different location, and the program can be for a few hours or a few days. Workshops attempt to provide faculty members with the necessary skills for teaching online. These skills include using online discussions, and adding multimedia to lectures. The workshops usually consist of lecture and hands-on training. Online training can be offered synchronously or asynchronously where the faculty member can experience the online learning environment first-hand (Villar, & Alegre, 2006; Weaver, 2006).

Quality assurance programs

Quality assurance programs are created to instill a rigorous quality review process in the design of an online course. These programs involve the faculty members, peers, instructional designers, and technical experts designing an online course based on a structured evaluated program. One of the most popular and well respected quality assurance programs in the United States is the Quality Matters (QM) program. The QM program was created in 2003 by MarylandOnline, Inc. "to develop a replicable pathway for inter-institutional quality assurance and course improvements in online learning." (Quality Matters, 2014, p. 1).

The QM program is a peer-reviewed process that uses a rubric, based upon instructional design principles using best practice standards in designing online courses that include: course overview and introduction, learning objectives, assessment and measurement, instructional materials, learner activities and interaction, course technology, learner support, and accessibility and usability. QM is also a quality assurance collaborative designed to achieve quality content in instruction that will promote student success in a web based environment (Quality Matters, 2014).

Quality Matters' Best Practice Standards in Designing Online Courses

Course overview and introduction

The course overview and introduction provides students the opportunity to become familiar with the course. Once the online course is open to the student, the first tab that the student should see is the “Start Here” tab or introduction tab which provides the following items (Stavredes & Herder, 2014):

1. Instructions on how to get started
2. Detailed navigational instructions
3. A purpose of the course
4. Structure of the course
5. Etiquette expectations
6. Course policies
7. Prerequisite knowledge in the discipline
8. Minimum technical skills
9. Instructor self-introduction
10. Students' self-introduction

The introduction tab should provide students with instructions about how to begin within the online course and students should be provided with detailed navigational instructions. These features will allow students to find various course components or modules. These navigational instructions can also help the student explore the online course, and help them determine what they need to do first. By providing navigational instructions, learners can become acclimated to the online learning. The “Start Here” tab should also include a paragraph describing the purpose of the course. An example could include reasons as to why the course is required for the student’s major. In addition, a course schedule should be included. The course schedule provides a “roadmap” that provides the student with the weekly major topics, readings, discussions, assignments, and any exams that are due (Stavredes & Herder, 2014).

Mintu-Wimsatt, Kernek, & Lozada (2010) mention that an item within the introduction tab should include etiquette expectations. Etiquette expectations are how students should communicate online to each other and the instructor. These expectations include the tone used in communicating whether by face-to-face interaction, or by email.

The introduction tab should include expectations or course policies that can include academic integrity, rules regarding incomplete grades, and late submission of assignments. The section should also include a sentence or a paragraph indicating any required competencies or prerequisite knowledge for the online course. By listing these competencies, it will help students ascertain what knowledge or skills they need to succeed in the course. Also, listing skills and knowledge that are needed to succeed in the course will help students determine if the course is a good match for them or if there are additional skills that they should obtain prior to taking the online course. The introduction

tab should also include the minimum technical skills that are required for the online course. Also, instructors need to list the basic computer skills needed to succeed in the online course. The list may include any technical skills' tutorials or self-study guides pertaining to the course management system being used (Koroghlanian and Brinkerhoff, 2007; Sims, et al., 2002).

Two additional important items that should be on the introduction tab are the instructor's and student's self-introduction. Instructors should introduce themselves by stating their name, title, field of expertise, publications that they have written, and explain a little about their work experience related to the course. The instructor may also want to include any hobbies that he or she might have. Students should also be given the chance to introduce themselves to the class, as these introductions helps bring a sense of community. The instructor may ask specific questions for the students to answer including why they are taking the course and what they expect to learn (Sims, et al., 2002; Stavredes & Herder, 2014).

Learning objectives

The learning objectives of an online course should provide measurable goals that are obtainable throughout the course. There are two important functions for providing measurable learning objectives. First, measurable learning objectives help the instructor to select and organize instructional activities and assessments for effective learning. Second, measurable learning objectives provide a means for evaluating student learning. Selecting and organizing instructional activities and assessments should be in alignment with the measurable course and module learning objectives. The learning objectives should also describe the knowledge and skills appropriate for the course and learning

module. In addition, they should be appropriately designed for the type of course and clearly written from the student's perspective with instructions about how the student can achieve them. The learning objectives should describe the specific knowledge that students need to achieve at regular intervals throughout the course. These intervals can be weekly, monthly or modular. These weekly, monthly, or modular learning objectives also need to be measurable in order to accurately assess students at different times throughout the course. Also, these learning objectives need to have instructions that are clearly stated and indicate the type of learning activities, assignments, and assessments that need to be accomplished (Morrison, et al., 2011).

Assessment and measurement

The course assessments should be in alignment with the course and modular objectives and should be measurable by the accomplishment of those objectives. Examples of course assessments can be case assignments, multiple choice exams, written exams, or compositions. If students have met the objectives based upon the course materials and learning activities, students should be able to successfully complete the assessments. These assessments and learning activities should have a clear explanation as to how the course grades are calculated. Having clear explanations can be accomplished by describing the relationship between points, percentages, or letter grades with each assessment and learning activity. Within each learning activity, students should be provided with a clear description of the criteria, such as within a rubric used to evaluate their completion of an activity. The rubric should be in alignment with the course and modular objectives and tied to the grading. The assessments for the course must be varied, including multiple-choice tests, case assignments or a term paper and are tied to

the course and modular objectives. The assessments and learning activities should also include timely and meaningful feedback, so that students can measure their learning progress throughout the course. Lastly, one should write an explanation describing the relationship between the final course letter grade and the student's accumulated points or percentages (Achtemeier, Morris, and Finnegan, 2003; Lee, et al., 2012; Thurmond, Wambach, Connors, & Frey, 2002).

Instructional materials

The instructional materials should not only help the student achieve the course and module learning objectives, but they should be in alignment as well. These instructional materials should have an explanation regarding the purpose of their use and instructions as to how the student will be able to achieve the learning objectives by using them. Each of the instructional materials being used for the course should be current and appropriately cited. Also, the instructional material should be from different types of sources, including lecture notes, websites, PowerPoint presentations, multimedia, and textbooks that are meaningful to the course and module objectives. All instructional material need clear explanations regarding which materials are required and which are optional (Lee, et al., 2012; Sims, Dobbs, & Hand, 2002).

Learner activities and learner interaction

The learner activities should include reading assignments, student presentations, online discussions, and case studies that are in alignment with the learning objectives for the course and module. Students should be able to interact and engage during learning based on the different types of activities. The type of interaction through these activities can be student-content, student-student, and student-instructor. Reading textbooks or

reading articles are examples of student-content interaction. Group discussions or group projects are good examples for student-student interaction. Submitting an assignment to the instructor for feedback is an example of student-instructor interaction. The instructor's feedback to the student should be timely. The timeframe as to when the instructor will provide feedback on assignments and when grades will be posted should be stated in the course syllabus. The instructor's expectations for student interaction should be clearly stated in the syllabus which includes frequency, length, and timeliness of responding to assignments. Also, the requirements for student interaction should be included in the syllabus that point out how student interaction will be graded (Chang & Smith, 2008; Conrad, 2002; Sims et al., 2002).

Course technology

The course technology should align with the course and module learning objectives by effectively supporting the instructional materials, learning activities and assessments. The course technology tools should also help the student engage in interaction among students and the instructor. The course technology tools can include audio, video, animations, podcasts, discussion boards, chat rooms, and wikis. The course technology tools should have instructions about how each tool will be used for the purpose of completing the learning course or module objective. Students should also be able to navigate easily throughout the online course based upon the instructor's planning and designing of the online course. Some navigational tools include hypertext links, icon buttons, or tabs to help steer the student throughout the course (Malikowski, Thompson, & Theis, 2007; Trigano, & Pacurar-Giacomini, 2004).

Learner support

According to Johnson (2004) learner support encompasses technical, accessibility, and academic services, along with student services support. Technical support provides access to information or a tutorial about how to log into and use the tools and features of the learning management system. Technical support can also include detailed instructions about how to receive help desk support and a link should be provided to a website within the institution (Paul & Cochran, 2013). Learner support should include accessibility information for students with disabilities. Accessibility support should provide policies or accommodation statements that describe how these services can be accessed. A telephone number, email address, or a website link to the accessibility department should be included in the accommodation information located within the online course. Learner support should also include academic and student support services. Academic support for students can include online orientation, access to library resources, tutoring services, writing centers, and other various types of academic services. Student support services include information regarding advising, registration, financial aid, online workshops, counseling, and career services. Individual links to academic and student support services should be within the online course (Johnson, 2004).

Accessibility and usability

Accessibility ensures that students with disabilities have the opportunity to access the learning management system, tools, and media within the course. The faculty member should provide a link or written communication pertaining to the accessibility of any tools or software that will be used in the course. Also, instructions or a link to the accessibility department should be provided to students about how to obtain accessibility

accommodation. Students should also be provided with a text transcript of any audio lectures that may be a part of the online course. Finally, if a video or animation is within the online course, captioning needs to be provided (Crow, 2008).

Chapter Three

Methodology

This non-experimental, cross-sectional study sought to determine whether faculty members in higher education have adopted best practice standards in the design of their online courses. It also investigated the relationships between faculty members' demographic characteristics including faculty development and the adoption of best practice standards for online course design. Questions were answered via a self-report survey and responses were analyzed quantitatively.

Research Questions

The study attempts to answer the following research questions:

1. To what extent do faculty members indicate that they have used best practice standards when designing their online courses?
 - a. Is there a difference in adoption of best practice standards for online course design based on full-time faculty rank?
 - b. Is there a difference in adoption of best practice standards for online course design based on full-time or part-time-faculty status (tenure-track and lecturers)?
2. Is there a relationship between adoption of best practice standards for online course design and years of online teaching?
3. Is there a relationship between adoption of best practice standards for online course design and portion of online teaching load?
4. What is the strongest predictor for adoption of best practice standards for online course design?

5. Is there a relationship between adoption of best practice standards for online course design and hours of faculty development for online course design?

Pilot Study

Validation of instrumentation

The purpose of the pilot study was to help establish the psychometric properties of the instrumentation designed by the researcher to be used in the primary study. The researcher conducted two different procedures to help validate the instrumentation.

The first procedure involved the researcher sending the pilot instrument to experts in the fields of online course design and online development to request feedback and comments which helped establish the instrument's content validity. Creswell (2008) notes that content validity can be supported by receiving feedback from experts in the design of an instrument. These experts were asked to judge whether the items are constructed appropriately, including the language and scales used in the survey. The researcher emailed the pilot instrument to instructional designers at a Midwestern University with specific directions on how to complete their feedback on the pilot instrument. Suggestions from the experts were taken into consideration before conducting the second procedure of the pilot study.

The second procedure involved testing and retesting the instrument. "A test- retest is done by administering the same test to the same group at different times to evaluate the stability of the responses overtime" (Wood & Kerr, 2006). The researcher emailed the pilot questionnaire to graduate teaching assistants who have taught online courses in a Midwestern University. Specific directions on how to complete the pilot questionnaire were included in the email. Two weeks later, the researcher emailed the same pilot

questionnaire to the same graduate assistants. Also, a questionnaire asked the participants specific questions regarding the style, format, and time it takes to complete the pilot questionnaire. The researcher then conducted a Pearson correlation to determine the stability and reliability of the pilot questionnaire.

Primary Study

Rationale for instrumentation

This study was conducted using an online instrument presented on SurveyMonkey software. An online instrument was used for data collection in this study because “online instruments can be administered to a larger sample more economically, have greater convenience, and are time efficient” (Creswell, 1994, p. 14).

Instrument design

The instrument was a self-report questionnaire with two parts. The first part of the questionnaire contained 43 questions that measured online faculty members’ use of best practices in designing online courses. The construct was based on the Quality Matters’ (QM) rubric that is used to review best practice standards in designing online courses (Quality Matters, 2014). The QM rubric consists of 43 specific review standards grouped into the following eight general standards:

1. Course overview and introduction.
2. Learning objectives
3. Assessment and measurement
4. Instructional materials
5. Learner activities and learner interaction
6. Course technology

7. Learner support
8. Accessibility and usability

The response options for the 43 questions were presented on a Likert scale specifying the extent that faculty members strongly disagree, disagree, agree, or strongly agree that their online courses reflect best practice standards for online course design. The scale started at “0”, with this number representing the participant “strongly disagreeing” to a question and ended at “3”, with this number representing the participant “strongly agreeing”.

The second part of the questionnaire contained five questions that obtained responses on faculty demographic characteristics including full-time faculty rank, full-time or part-time faculty status, years of teaching online, portion of online teaching load, and faculty development for online course design.

Scope of study

The study included faculty members who teach an online course section in the following colleges within the Midwestern University:

1. Business and Innovation
2. Communication and the Arts
3. College of Education
4. Engineering
5. Health Sciences
6. Languages, Literature and Social Sciences
7. Natural Sciences and Mathematics
8. Pharmacy and Pharmaceutical Sciences

9. Social Justice and Human Service

Researcher's role

The researcher sought approval to conduct the primary study from The University of Toledo's Department for Human Research Protections & Institutional Review Boards prior to submitting the instrument to any participants. The researcher also followed established protocols, including consent letters (Appendix A, B, & D).

Participants

The population for this study included any faculty member teaching at least one online course section during the Summer 2014, Fall 2014 or Spring 2015 Semesters at a Midwestern University. The population consisted of faculty members who teach undergraduate and graduate degree programs.

Data collection

Faculty members who teach online use Internet tools regularly to design course content are usually experienced with using the Internet. Therefore, a web-based survey was used for the collection of data from the faculty member participants.

Participants were sent a personalized email inviting them to participate in the study via the Midwestern University's e-mail system. The email contained a consent letter informing faculty members of their rights as participants. If faculty members elected to participate, they clicked a link to SurveyMonkey that was available for them to complete the anonymous questionnaire.

Data analysis

The statistical tests that were used include an independent samples *t*-test, Pearson correlation, and stepwise linear regression. Table 2 depicts the research questions, variables, type of variables and the statistical test that were used.

Table 2
Statistical tests conducted

Research Question	Variable	Type of Variable	Statistical Test
Is there a difference in adoption of best practice standards for online course design based on full-time faculty rank?	Adoption of best practice standards	Dependent, Continuous, Non-dichotomous	Independent samples <i>t</i> -test
	Full-time faculty rank (tenure track and lecturer)	Independent, Dichotomous	
Is there a difference in adoption of best practice standards for online course design based on full-time or part-time faculty status?	Adoption of best practice standards	Dependent, Continuous, Non-dichotomous	Independent samples <i>t</i> -test
	Faculty member's full-time or part-time status	Independent, Dichotomous	
Is there a relationship between adoption of best practice standards for online course design and years of online teaching?	Adoption of best practice standards	Dependent, Continuous, Non-dichotomous	Pearson Correlation
	Years of online teaching	Independent, Continuous, Non-dichotomous	
Is there a relationship between adoption of best practice standards for online course design and portion of online teaching load?	Adoption of best practice standards	Dependent, Continuous, Non-dichotomous	Pearson Correlation
	Portion of online teaching load	Independent, Continuous, Non-dichotomous	
What is the strongest predictor for adoption of best practice standards for online course design?	Adoption of best practice standards	Dependent, Continuous, Non-dichotomous	Stepwise Linear Regression
	Strongest predictor	Independent, Continuous, Non-dichotomous	
Is there a relationship between adoption of	Adoption of best practice standards	Dependent, Continuous, Non-	Pearson

best practice standards for online course design and hours of faculty development?		dichotomous	Correlation
	Hours of faculty development	Independent, Continuous, Non-dichotomous	

Once the data were collected from SurveyMonkey, they were downloaded into IBM SPSS 21.0 statistical software to conduct independent samples *t*-tests, Pearson correlation tests, and a stepwise linear regression test.

The researcher used an independent samples *t*-test for research questions 1a and 1b as the researcher was trying to determine if there was a statistically significant difference in the average score for the adoption of best practice standards for online course design based on full-time faculty rank (tenure track and lecturer) and also based on full-time versus part-time status. Since the dependent variable (best practice standards score) is continuous and non-dichotomous, and the independent variables are dichotomous (tenure track vs. lecturer) and (full-time vs. part-time status), the researcher determined that an independent samples *t*-test was the appropriate statistical test to analyze this data.

The researcher used a Pearson correlation test for research questions two, three, and five. The researcher tried to determine if there was a correlation between the adoption of best practice standards for online course design averages and average years of service for research question two, portion of online teaching load for research question three, and hours of faculty development for online course design for research question five. Since the dependent variable (best practice standards score) and the independent variables (years of online teaching, portion of online teaching load, and hours of faculty

development) are continuous and non-dichotomous, a Pearson correlation test was used to analyze the data.

The researcher used a Stepwise linear regression test for research question four as the researcher tried to determine the strongest predictor for the adoption of best practice standards for online course design. All independent variables (years of experience, faculty rank, part-time vs. full-time status, and hours of faculty development) was entered into the first step of the regression equation to determine the single strongest predictor followed by any additional statistically significant predictors.

Procedure to calculate best practice standards total score

The researcher created a score to assess the self-reported adoption of best practice standards total score among the 43 questions derived from the Quality Matters' rubric. Because the items within the QM rubric are not considered equal, QM assigns a point value to each item with a range of 1 to 3 (with a 3 indicating an item of most importance). To account for this QM point system, the participant's responses were weighted by this point value. In other words a response option of "strongly agree" which is coded as a "3" was multiplied by the QM point value prior to summation across all items. This resulted in a final potential range of 0-306.

Chapter Four

Results

Pilot Study

Validation of instrumentation

Two types of procedures were conducted to help validate the instrumentation. The first procedure involved sending the pilot instrument to experts in the fields of online course design and online survey development to request feedback and comments. Four instructional designers from a Midwestern University were selected to provide comments and suggestions on the pilot instrument.

The second procedure involved testing and retesting the instrument. Fifteen graduate assistants from a Midwestern University who have taught online courses were selected for the pilot study by using a “test-retest” procedure. After emailing the initial invitation to the fifteen participants for the initial “test”, seven participants responded initially for a response rate of 46% within the first week. A higher response rate was obtained by following up with another email. Based on the second invitation, another five participants completed the pilot survey. This resulted in a response rate of 80%. For “retest” purposes, another email was sent several weeks later to the same graduate assistants to have them complete the same survey. All twelve of the students who responded to the “test” also responded to the “retest”. To examine the consistency of response, the researcher conducted a Pearson correlation and determined the stability and reliability constancy which was $r = .946$.

Primary Study

The instrument was placed on SurveyMonkey.com (see Appendix C). An email invitation was sent to all faculty members who have taught at least one online course in the summer 2014, fall 2014, or spring 2015 semesters in the following colleges within a Midwestern University: Business and Innovation, Communication and the Arts, Education, Engineering, Health Sciences, Languages, Literature and Social Sciences, and Natural Sciences and Mathematics. Of the 410 faculty members who were sent an email invitation, ten messages were sent back due to bad email addresses. A total of 102 faculty members completed the survey within 14 business days. A response rate of (25.5%) was the result after three rounds of email reminders.

Participant characteristics

The demographic characteristics of the participants are illustrated in Table 3 that include: faculty rank, full-time and part-time status, years of experience teaching online courses, average percentage of courses taught online per year, and the number of hours participated in faculty development programs.

Table 3
Demographic Characteristics of Respondents

Variable	Category	n	(%)
Faculty Rank	Professor	13	12.75
	Associate Professor	25	24.51
	Assistant Professor	3	2.94
	Senior Lecturer	6	5.88
	Associate Lecturer	15	14.71
	Lecturer	6	5.88
	Visiting Instructor	1	0.98
	Part-time Instructor/Adjunct	14	13.73
	Teaching/Graduate Assistant	19	18.62

Status	Full-time	69	67.65
	Part-time	33	32.35
Years of experience teaching online courses	1-5	54	52.94
	6-10	32	31.37
	11+	16	15.69
Average percentage of courses taught online per year	0% – 19%	17	16.67
	20% – 39%	29	28.43
	40% – 59%	21	20.59
	60% – 79%	7	6.86
	80% - 100%	27	26.47
	Not reported	1	0.98
Number of hours participated in faculty development programs	Face-to-face workshops	738	21.36
	Online workshops	1033	29.90
	Individual consultations	595	17.22
	Online tutorial	244	7.06
	Professional conference	338	9.78
	Peer mentoring	331	9.58
	Other faculty development	176	5.09

Table 4 depicts the number of responses, mean, and standard deviation for each of the 43 questions that were presented on a Likert scale. The scale has a range from 0-3 with 0 representing strongly disagree and 3 representing strongly agree.

Table 4
Individual mean scores for each best practice standard question

No.	Item	n	M	(sd)
1	I provide a general course overview that includes a schedule of activities and student expectations of the course.	102	2.85	(.38)
2	I provide very detailed navigational instructions on where to find various course components.	101	2.49	(.55)
3	I provide information to the students to help them understand the purpose of the course.	102	2.67	(.47)

4	I provide information on how the learning process is structured and carried out including course schedule, modes of communication, type of learning activities, and how learning will be assessed.	100	2.72	(.45)
5	I provide an explanation of the etiquette expectations for online discussions, email, and other forms of communication for the course.	102	2.46	(.65)
6	I provide course and/or institutional polices with which the students are expected to comply including online conduct, academic integrity, and late submission of assignments.	100	2.67	(.47)
7	I provide information about required competencies and/or prerequisite knowledge.	101	2.22	(.76)
8	I provide information regarding the minimum technical skills expected of students including using Blackboard, creating word processing and spreadsheet documents, and sending email with attachments.	101	2.14	(.78)
9	I provide a bio, email address, office phone number, and times I am available in the office.	102	2.74	(.46)
10	I ask students to introduce themselves to the class by stating their major and any related work experience.	102	2.37	(.84)
11	I provide measurable course learning objectives that describe outcomes.	101	2.50	(.55)
12	I provide measurable module learning objectives that are consistent with the course objectives.	100	2.36	(.71)
13	I provide learning objectives that are stated clearly and are written from the students' perspective.	101	2.41	(.69)
14	I provide instructions to students on how to meet the learning objectives.	100	2.21	(.71)
15	I provide learning objectives that are appropriately designed for the level of the course.	102	2.66	(.47)
16	I provide measurable assessments that are consistent with the course and module objectives of the course.	101	2.56	(.53)
17	I provide a course grading policy that explains the relationship between points, percentages, weights, or letter grades.	101	2.70	(.45)
18	I provide descriptive criteria to students that explain the information they need to understand on how an	101	2.48	(.57)

	assignment will be graded. The descriptive criteria are also tied to the course grading policy.			
19	I provide assessments that are sequenced, varied, and appropriate to the student work being assessed.	102	2.54	(.53)
20	I provide frequent, meaningful, and frequent feedback when grading assignments and/or assessments.	102	2.44	(.53)
21	The instructional materials that I provide are in alignment with the course and module learning objectives.	100	2.64	(.50)
22	I provide a purpose for the instructional materials and I explain how the materials should be used for learning activities.	102	2.28	(.69)
23	I cite all resources and material used in the course.	101	2.37	(.65)
24	Most of my instructional materials are current.	101	2.52	(.52)
25	My instructional materials include textbook(s), PowerPoint presentations, websites, lecture notes, outlines, and multimedia.	101	2.58	(.55)
26	I provide clear explanations as to what are required materials and what are optional materials.	102	2.64	(.54)
27	My learning activities are in alignment with the course and module learning objectives.	100	2.62	(.48)
28	I provide learning activities between student-instructor, student-content, and student-student that supports active learning.	102	2.31	(.66)
29	I provide a statement in regards to the response time when responding to students' emails, discussion postings, and other types of communication.	101	2.27	(.78)
30	I provide a statement in regards to the expectations for student participation in required course interactions (frequency, length, timeliness, etc.).	101	2.39	(.61)
31	My discussion boards, chat rooms, wikis, blogs, video, and audio support the course and module learning objectives.	95	2.46	(.61)
32	My discussion boards, chat rooms, wikis, blogs, video, and audio help students actively engage and guide them in the learning process.	98	2.38	(.61)
33	Navigation throughout the online components of the course is logical, consistent, and efficient.	101	2.53	(.55)

34	Students can readily access the technologies (Acrobat Reader, Flash, Java, etc.) required in the course.	100	2.50	(.54)
35	The course technologies (Acrobat Reader, Flash, Java, etc.) are current.	102	2.50	(.55)
36	I provide instructions and/or a link to technical support.	101	2.62	(.56)
37	I provide instructions and/or a link to the universities' accessibility policies and services.	102	2.23	(.60)
38	I provide instructions and/or a link to an explanation of how the institution's academic support services and resources can help students succeed in the course and how students can access the services.	102	2.23	(.73)
39	I provide instructions and/or a link to an explanation of how the institution's student support services can help student succeed and how students can access the services.	100	2.19	(.74)
40	The course employs accessible technologies and provides guidance on how to obtain accommodation.	100	2.29	(.67)
41	The course contains equivalent alternatives to auditory and visual content.	100	1.77	(.82)
42	The course design facilitates readability and minimizes distractions.	102	2.29	(.57)
43	The course design accommodates the use of assistive technologies.	101	2.06	(.70)

A visual inspection of Table 5 represents the 43 specific review standards grouped into eight general standards: course overview and introduction, learning objectives, assessment and measurement, instructional materials, learner activities and learner interaction, course technology, learner support, and accessibility and usability. Each QM general standard has a mean and a standard deviation.

Table 5
Mean scores for each Quality Matters' standard

No.	Item	M*	(sd)
1	Course overview and introduction	2.50	(.23)
2	Learning objectives	2.40	(.16)
3	Assessment and measurement	2.51	(.09)
4	Instructional materials	2.48	(.14)
5	Learner activities and learner interaction	2.37	(.15)
6	Course technology	2.44	(.05)
7	Learner support	2.38	(.22)
8	Accessibility and usability	2.09	(.23)

* Range is 0-3 with 0 representing strongly disagree and 3 representing strongly agree

Table 6 depicts the mean and standard deviation for seven types of faculty development in terms of quality that were presented on a Likert scale. The scale has a range from 0-4 with 0 representing very poor and 4 representing very good.

Table 6
Quality of faculty development

Type	M*	(sd)
Face-to-face	3.21	(.84)
Online workshops	3.10	(.92)
Individual consultation	3.62	(.54)
Online tutorial	3.00	(.75)
Professional conference	3.10	(.74)
Peer mentoring	3.17	(.77)
Other faculty development	3.25	(1.03)

* Range of 0-4 with 0 representing very poor and 4 representing very good

Research questions

Research question #1: To what extent do faculty members indicate that they have used best practice standards when designing their online courses?

Table 7 depicts the response results for 43 questions that were presented on a Likert scale specifying the extent that faculty members strongly disagree, disagree, agree, or strongly agree that their online courses reflect best practices in designing online

courses based on QM's rubric that is used to review best practice standards in design of online courses.

Table 7
Best Practice Standards Participant Percentage

Item	Strongly disagree %	Disagree %	Agree %	Strongly agree %	Not Reported %
1	0.98	0.98	12.75	85.29	0.00
2	0.98	2.94	45.10	50.00	0.98
3	0.98	0.00	33.33	65.69	0.00
4	0.98	0.00	27.45	69.61	1.96
5	1.96	5.88	39.22	52.94	0.00
6	0.98	0.00	32.35	64.71	1.96
7	2.94	14.71	42.16	39.22	0.98
8	1.96	21.57	39.22	36.27	0.98
9	0.98	0.98	24.51	73.53	0.00
10	3.92	14.71	24.51	56.86	0.00
11	0.98	2.94	43.14	51.96	0.98
12	1.96	10.78	38.24	47.06	1.96
13	1.96	8.82	38.24	50.00	0.98
14	0.98	16.67	44.12	36.27	1.96
15	0.98	0.00	34.31	64.71	0.00
16	0.98	1.96	39.22	56.86	0.98
17	0.98	0.00	29.41	68.63	0.98
18	0.98	3.92	44.12	50.00	0.98
19	0.98	1.96	42.16	54.90	0.00
20	0.98	1.96	51.96	45.10	0.00
21	0.98	0.98	33.33	62.75	1.96
22	0.98	13.73	44.12	41.18	0.00
23	1.96	6.86	46.08	44.12	0.98
24	0.98	0.98	45.10	51.96	0.98
25	0.98	2.94	35.29	59.80	0.98
26	0.98	2.94	30.39	65.69	0.00
27	0.98	0.00	37.25	59.80	1.96
28	0.98	10.78	47.06	41.18	0.00
29	1.96	17.65	34.31	45.10	0.98
30	0.98	6.86	47.06	44.12	0.98
31	0.98	5.88	38.24	48.04	6.86
32	0.98	6.86	46.08	42.16	3.92
33	0.98	2.94	40.20	54.90	0.98
34	0.98	1.96	45.10	50.00	1.96
35	0.98	2.94	44.12	51.96	0.00
36	0.98	3.92	29.41	64.71	0.98
37	0.98	5.88	30.39	62.75	0.00
38	0.98	17.65	42.16	39.22	0.00
39	1.96	16.67	43.14	36.27	1.96
40	0.98	11.76	46.08	39.22	1.96
41	2.94	38.24	35.29	21.57	1.96

42	0.98	5.88	58.82	34.31	0.00
43	0.00	21.57	50.00	27.45	0.98

Table 8 shown below provides the mean scores for each category of the eight Quality Matters' standards evaluated in the study. The first category explored to what extent faculty members indicate that they provide a course overview and introduction for their online courses. The mean score reported by faculty members was 51.90 on a scale from 0-60. The second category explored to what extent faculty members indicate that they provide learning objectives for their online courses. The mean score reported by faculty members was 36.41 on a scale from 0-45. The third category explored to what faculty extent members indicate that they provide assessments and measurements for their online courses. The mean score reported by faculty members was 33.18 on a scale from 0-39. The fourth category explored to what extent faculty members indicate that they provide instructional materials for their online courses. The mean score reported by faculty members was 32.36 on a scale from 0-39. The fifth category explored to what extent faculty members indicate that they provide learner activities and learner interaction for their online courses. The mean score reported by faculty members was 26.37 on a scale of 0-33. The sixth category explored to what extent faculty members indicate that they provide course technology for their online courses. The mean score reported by faculty members was 27.12 on a scale from 0-33. The seventh item explored to what extent faculty members indicate that they provide learner support for their online courses. The mean score reported by faculty members was 22.24 on a scale from 0-27. The eighth category explored to what extent faculty members indicate that they provide accessibility and usability for their online courses. The mean score reported by faculty members was 20.88 on a scale from 0-30. The overall explored to what extent faculty members indicate

that they have used best practice standards when designing their online courses. The mean overall score reported by faculty members was 250.49 on a scale from 0-306.

Table 8
Quality Matters' Best Practice Standards Categories, Range, and Mean

No.	Item	Range	M
1	Course overview and introduction	0 – 60	51.90
2	Learning objectives	0 - 45	36.41
3	Assessment and measurement	0 - 39	33.18
4	Instructional materials	0 - 39	32.36
5	Learner activities and learner interaction	0 - 33	26.37
6	Course technology	0 - 33	27.12
7	Learner support	0 - 27	22.24
8	Accessibility and usability	0 – 30	20.88
	Overall	0 - 306	250.49

Table 9 shows the best practice standard mean score quadrant scale. Each best practice standard as well as the overall has its own quadrant scale based on strongly disagree, disagree, agree, and strongly agree.

Table 9
Best Practice Standard Mean Score Quadrant Scale

Best Practice Standard	Strongly Disagree	Disagree	Agree	Strongly agree
1	0.00 – 15.00	15.01 – 30.00	30.01 – 45.00	45.01 – 60.00
2	0.00 – 11.25	11.26 – 22.50	22.51 – 33.75	33.76 – 45.00
3	0.00 – 9.75	9.76 – 19.50	19.51 – 29.25	29.26 – 39.00
4	0.00 – 9.75	9.76 – 19.50	19.51 – 29.25	29.26 – 39.00
5	0.00 – 8.25	8.26 – 16.50	16.51 – 24.75	24.76 – 33.00
6	0.00 – 8.25	8.26 – 16.50	16.51 – 24.75	24.76 – 33.00
7	0.00 – 6.75	6.76 – 13.50	13.51 – 20.25	20.26 – 27.00
8	0.00 – 7.50	7.51 – 15.00	15.01 – 22.50	22.51 – 30.00
Overall	0.00 – 76.50	76.51 – 153.00	153.01 – 229.50	229.51 – 306.00

Table 10 shown below provides in rank order, the mean scores for each category of the eight Quality Matters' standards evaluated in the study.

Table 10

Quality Matters' Best Practice Standards Categories, Range, and Mean in Rank Order

No.	Item	Range	M
1	Course overview and introduction	0 – 60	51.90
2	Learning objectives	0 - 45	36.41
3	Assessment and measurement	0 - 39	33.18
4	Instructional materials	0 - 39	32.36
5	Course technology	0 - 33	27.12
6	Learner activities and learner interaction	0 - 33	26.37
7	Learner support	0 - 27	22.24
8	Accessibility and usability	0 – 30	20.88
	Overall	0 - 306	250.49

Research question #1a: Is there a difference in adoption of best practice standards for online course design based on full-time faculty rank (tenure track and lecturers)?

As shown in Table 11, an independent samples *t*-test was used to determine whether differences existed in the mean score for each of the QM best practice standard categories and overall scores for online course design based on full-time faculty rank (tenure track and lecturer). As shown in Table 11, there were no statistically significant differences in the score ($p < .05$) for any of the QM best practice standard categories or the overall score for online course design based on full-time faculty rank (tenure track and lecturer). Although there was not a statistically significant difference, the lecturers did have a higher mean score in each area compared to tenured track.

Table 11

Independent Samples t-test by Each Best Practice Standard and Full-time Faculty Rank

Best practice standard	n	t	p	Tenure Track M	Lecturer M
Course overview and introduction	69	-1.669	.100	49.31	52.19
Learning objectives	69	-.805	.424	34.51	35.96
Assessment and measurement	69	-.645	.521	31.95	32.74
Instructional material	69	-.439	.662	31.63	32.21
Learner activities and learner interaction	69	-.244	.808	25.29	25.62
Course technology	69	-.817	.417	26.26	27.31
Learner support	69	-1.906	.061	20.53	22.74
Accessibility and usability	69	-1.870	.066	18.80	21.40
Overall	69	-1.281	.205	238.32	250.20

Research question #1b: Is there a difference in adoption of best practice standards for online course design based on full-time or part-time-faculty status?

As shown in Table 12, an independent samples *t*-test was used to determine whether differences existed in the mean score for the adoption of QM best practice standard categories for online course design based on full-time or part-time faculty status. As shown in Table 12 there is a statistically significant difference in score ($p < .05$) for the adoption of QM best practice standard categories for online course design between full-time and part-time faculty status for: course overview and introduction, learning objectives, assessment and measurement, learner activities and learner interaction, learner support, accessibility and usability, and the overall of each QM best practice standard categories. There was no statistically difference in mean score for the adoption of QM

best practice standard categories for online course design for: instructional material or course technology.

Table 12

Independent Samples t-test by Each Best Practice Standard and Faculty Status

Best practice standard	n	t	p	Full-time	Part-time
Course overview and introduction	102	-2.992	.003	50.54	54.85
Learning objectives	102	-2.699	.008	35.08	39.31
Assessment and measurement	102	-2.496	.014	32.35	35.00
Instructional material	102	-1.701	.092	31.78	33.62
Learner activities and learner interaction	102	-2.529	.013	25.48	28.32
Course technology	102	-1.366	.175	26.64	28.16
Learner support	102	-2.667	.009	21.44	24.00
Accessibility and usability	102	-2.651	.009	19.90	23.04
Overall	102	-2.954	.004	243.25	266.34

Research question #2: Is there a relationship between adoption of best practice standards for online course design and years of online teaching?

As shown in Table 13, a Pearson correlation was used to determine whether there is a statistically significant relationship between each of the scores for the adoption of QM best practices standard categories and overall for online course design and the average years of online teaching among faculty members. As shown in Table 13, there is no statistically significant relationship between the average score ($p < .05$) for any of the QM best practices standard categories or the overall for the average years of online teaching among faculty members.

Table 13

Pearson Correlation by Each Practice Standard and Years of Online Teaching

Type	n	p	Pearson Correlation
Course Overview and Introduction	102	.770	-.029
Learning Objectives	102	.459	-.074
Assessment and Measurement	102	.556	.059
Instructional Material	102	.866	.017
Learner Activities and Learner Interaction	102	.426	.080
Course Technology	102	.789	.027
Learner Support	102	.339	-.096
Accessibility and Usability	102	.075	-.177
Overall	102	.740	-.033

Research question #3: Is there a relationship between adoption of best practice standards for online course design and portion of online teaching load?

As shown in Table 14, a Pearson correlation was used to determine whether there is a statistically significant relationship between the adoption of best practices for online course design and average percentage of online teaching per year. There is a weak relationship between the average percentage of online teaching per year and: learner activities and learner interaction, course technology, and overall of the adoption of best practices for online course design. There is no relationship between average online teaching per year and: course overview and introduction, learning objectives, assessment and measurement, instructional material, learner support, and accessibility and usability of the adoption of best practices for online course.

Table 14
Pearson Correlation for Each Practice Standard and Average Percentage of Courses Taught Online Per Year

Type	n	p	Pearson Correlation
Course Overview and Introduction	102	.079	.206
Learning Objectives	102	.282	.127
Assessment and Measurement	102	.066	.215
Instructional Material	102	.154	.167
Learner Activities and Learner Interaction	102	.005	.320
Course Technology	102	.028	.255
Learner Support	102	.087	.200
Accessibility and Usability	102	.151	.169
Overall	102	.041	.238

Research question #4: What is the strongest predictor for adoption of best practice standards for online course design?

A stepwise linear regression was conducted to evaluate whether faculty classification; full-time versus part-time status; faculty rank; years taught online; percent of courses taught online in a year; and participation in face-to-face workshops, online workshops, individual consultations, online tutorial, professional conference, peer mentoring, and other faculty development predicted QM best practice standard total score. At step one of the analysis, full-time versus part-time status emerged from the regression equation as statistically significantly related to best practice standards score ($p < .05$). The adjusted R Square was .140, indicating approximately 14.0% of the variance in the best practice standard score that could be accounted for by full-time versus part-time status. No other variables emerged that added a statistically significant amount of variance.

Research question #5: Is there a relationship between adoption of best practice standards for online course design and hours of faculty development for online course design?

As shown in Table 15, a Pearson correlation was used to determine whether there is a statistically significant relationship between the adoption of QM best practices for online course design and average hours of faculty development for online course design. Also shown in Table 15, there is a weak relationship ($p < .05$) between the adoption of best practices for accessibility and usability for online course design and average hours of faculty development for online course design. There is no relationship between the average hours of faculty development for online course design and: course overview and introduction, learning objectives, assessment and measurement, instructional material, learner activities and learner interaction, course technology, learner support, or the overall for online course design.

Table 15
Pearson Correlation by Each Practice Standard and Hours of Faculty Development

Type	n	p	Pearson Correlation
Course Overview and Introduction	78	.396	.097
Learning Objectives	78	.251	.132
Assessment and Measurement	78	.365	.104
Instructional Material	78	.395	.098
Learner Activities and Learner Interaction	78	.062	.213
Course Technology	78	.147	.166
Learner Support	78	.177	.154
Accessibility and Usability	78	.015	.274
Overall	78	.113	.181

Table 16 depicts the response results for faculty members' opinion regarding the quality of faculty development they participated in. The question was presented on a Likert scale specifying the extent that faculty members opinioned the quality of faculty development based on very poor, poor, fair, good, very good and not applicable.

Table 16
Quality of Faculty Development Ranking

Type	M*	(sd)
Individual consultation	3.62	(.54)
Other faculty development	3.25	(1.03)
Face-to-face	3.21	(.84)
Peer mentoring	3.17	(.77)
Online workshops	3.10	(.92)
Professional conference	3.10	(.74)
Online tutorial	3.00	(.75)

* Range of 0-4 with 0 representing very poor and 4 representing very good

Chapter Five

Discussions and Conclusions

A review of the literature revealed that higher education online enrollment is increasing at a substantial rate (Allen & Seaman, 2013). Because of this increase, the quality of online courses in higher institutions has been affected (Rovai & Downey, 2010). Many higher education institutions are adopting a variety of best practice standards in the design of online courses to ensure quality is being met (Herman, 2012). However, little is known about whether higher education faculty members have adopted best practice standards in designing their online courses. Therefore, the purpose of this study was to investigate the following questions:

1. To what extent do faculty members indicate that they have used best practice standards when designing their online courses?
 - a. Is there a difference in adoption of best practice standards for online course design based on full-time faculty rank (tenure track and lecturers)?
 - b. Is there a difference in adoption of best practice standards for online course design based on full-time or part-time faculty status?
2. Is there a relationship between adoption of best practice standards for online course design and years of online teaching?
3. Is there is a relationship between adoption of best practice standards for online course design and portion of online teaching load?
4. What is the strongest predictor for adoption of best practice standards for online course design?
5. Is there any relationship between adoption of best practice standards for online course design and hours of faculty development for online course design?

Discussions

In this study, a web-based survey was used to collect data from online faculty members from a Midwestern University that offers online courses. The survey was titled “Best Practice Standards for Online Course Design”. The survey consisted of three sections: “Best Practice Standards Questions”, “Faculty Development”, and “Demographics”. A total of 102 participants of the 400 online faculty members who were sent an email responded to the survey, resulting in a response rate of 25.5%. The specific findings for each research question are presented below based on the data analysis:

Research question 1: To what extent do faculty members indicate that they have used best practice standards when designing their online courses?

There were several noteworthy findings in the present study regarding faculty members’ adoption of QM’s best practice standards. Table 8 provides the mean for the QM best practice standards for all faculty members based on the findings from the Likert scale questions. The mean best practice standard overall score reported by faculty members was 250.49 on a scale from 0-306.

Based on the findings shown in Table 9, faculty members do indicate and strongly agree that they have used best practice standards when designing their online courses. The researcher created the scale from 0-306 based on 43 questions derived from the QM’s rubric to ascertain whether faculty members indicate that they have used best practice standards when designing their online courses. The QM’s rubric is based upon instructional design principles using best practice standards in designing online courses that include:

1. Course overview and introduction.
2. Learning objectives
3. Assessment and measurement
4. Instructional materials
5. Learner activities and learner interaction
6. Course technology
7. Learner support
8. Accessibility and usability

Faculty members perceived that they have adopted each of the eight best practice standards when designing online courses based on the evaluated results of this study.

Each of the eight QM best practice standards has a different range for evaluating the best practice score. Because the individual items which comprise these QM best practice scores are not considered equally important, QM assigns a point value to each item with a range of 1 to 3 (with a 3 indicating an item of most importance). To account for this QM point system, the participant's responses on the individual items with a range of 0 to 3 (with a 3 indicating an item of "strongly agree") were multiplied by the QM point value (1 to 3) for a potential score of 0 to 9 for each item in the QM rubric. These computed values were then summed across all of the items within a particular QM best practice standard.

Course overview and introduction

The first category explored to what extent faculty members indicate that they provide a course overview and introduction for their online courses. The best practice standard mean score as computed from the Likert scale for course overview and

introduction reported by faculty members was 51.90 on a scale from 0-60 shown in Table 8.

Based on this best practice mean score shown in Table 9, faculty members do indicate and strongly agree that providing a course overview and introduction for their online course is very important for students. Stavredes & Herder (2014) mention that providing an overview and introduction is crucial for students so that they become familiar with the course. The findings also indicate that faculty members do provide the following items in the course overview and introduction in the design of online courses:

1. General course overview
2. Detailed navigational instructions
3. A purpose of the course
4. Structure of the course
5. Etiquette expectations
6. Course policies
7. Prerequisite knowledge in the discipline
8. Minimum technical skills
9. Instructor self-introduction
10. Students' self-introduction

The findings also suggest that faculty members provide students a navigational tool to help them explore the online course. Lastly, faculty members indicate the importance of providing expectations or course policies regarding academic integrity and rules regarding incomplete grades.

Learning objectives

The second category explored to what extent faculty members indicate that they provide learning objectives for their online courses. The best practice standard mean score as computed from the Likert scale for learning objectives reported by faculty members was 36.41 on a scale from 0-45 shown in Table 8.

Based on the analysis in Table 9, faculty members do indicate and strongly agree that when designing an online course it is best practice to include learning objectives for their online course. They strongly agree that providing learning objectives helps the faculty members select and organize instructional activities and assessments for effective learning. These learning objectives should be stated clearly and written from the student's perspective. Also, faculty members indicate that providing measurable learning objectives provides a means for evaluating student learning. Faculty members do indicate that they provide instructions on how to meet the learning objectives. According to Morrison, et al. (2011), when faculty members provide learning objectives, the instructional activities and assessments should be in alignment with the course and module learning objectives. Morrison, et al. (2011) also state that by providing learning objectives, it helps provide a quality check in helping the learner accomplish the goals of the course.

Assessment and measurement

The third category explored to what level faculty members indicate they provide assessments and measurements for their online courses. The best practice standard mean score as computed from the Likert scale for assessment and measurement reported by faculty members was 33.18 on a scale from 0-39 shown in Table 8.

Faculty members strongly agree based on Table 9 that providing assessments and measurements are important as best practice for aligning the course and modular objectives. Based on the findings, faculty members do provide measurable assessments that are sequenced, varied, and appropriate to the student work being assessed and are consistent with the course and module objectives of the course. Faculty members also provide frequent feedback when grading assignments and assessments. Literature reveals that the alignment between assessments and measurements with course and modular objectives will help a student succeed in the course (Achteimer, Morris, and Finnegan, 2003; Lee, et al., 2012; Thurmond, Wambach, Connors, & Frey, 2002).

Instructional materials

The fourth category explored whether faculty members indicate they provide instructional materials for their online courses. The best practice standard mean score as computed from the Likert scale for instructional materials reported by faculty members was 32.36 on a scale from 0-39 shown in Table 8.

This score represents that faculty members do indicate and strongly agree based on Table 9 that when designing an online course it is imperative to provide instructional materials that are current and appropriately cited as a best practice when designing online courses. Also, as a best practice, faculty members use a variety of instructional materials. These materials include: lecture notes, websites, PowerPoint presentations, multimedia, and textbooks. According to the findings, faculty members provide instructional materials that are in alignment with the course and module learning objectives.

Learner activities and learner interaction

The fifth category looked into whether faculty members indicate that they provide learner activities and learner interaction for their online courses. The best practice standard mean score as computed from the Likert scale for learner activities and learner interaction reported by faculty members was 26.37 on a scale of 0-33 shown in Table 8.

According to the mean score in Table 9, faculty members do indicate and strongly agree that they have used best practice standards when providing learner activities and learner interaction when designing their online courses. Faculty indicate that learner activities should include be in alignment with the learning objectives for the course and module.

The findings also indicate that faculty members provide learner activities that are in alignment with the course and module learning objectives and include student-instructor, student-content, and student-student learning activities. Chang & Smith (2008), mention that students should be able to interact with different individuals in an online course. Based on the findings, faculty members believe that to support active learning, learner interaction should be between student-instructor, student-content, and student-student.

Course technology

The sixth category explored to what extent faculty members indicate they provide course technology for their online courses. The best practice standard mean score as computed from the Likert scale for course technology reported by faculty members was 27.12 on a scale from 0-33 shown in Table 8.

As a best practice, as shown in Table 9, faculty members do indicate and strongly agree that when designing an online course it is imperative to include course technology that aligns with the course and module learning objectives. The findings from the study indicate that faculty members strongly agree that course technologies are readily accessible and are current. This includes discussion boards, chat rooms, wikis, blogs, video, and audio support. Lastly, faculty members strongly agree that navigation throughout the online course is logical, consistent, and efficient.

Learner support

The seventh item explored to what extent faculty members indicate that they provide learner support for their online courses. The best practice standard mean score as computed from the Likert scale for learner support reported by faculty members was 22.24 on a scale from 0-27 shown in Table 8.

This research indicated that faculty members do provide learner support. Faculty members strongly agree that they provide instructions or a link to:

1. Technical support
2. The universities' accessibility policies and services
3. Information on how the institution's student support services can help students succeed and how students can access the services

According to Johnson (2004), learner support should include policies on accommodations that include how these services can be accessed either by telephone, email, or a website link. Also, learner support should include access to academic support that may include online orientation, access to library resources, tutoring services, and writing centers.

Accessibility and usability

The eighth item explored to what extent faculty members indicate that they provide accessibility and usability for their online courses. The best practice standard mean score as computed from the Likert scale for accessibility and usability reported by faculty members was 20.88 on a scale from 0-30 shown in Table 8.

This score represents that faculty members do indicate and agree that when designing an online course it is vital to provide accessibility and usability information when designing online courses. Faculty members also agree that providing a link or written communication pertaining to the accessibility department should be included in an online course. According to Crow, (2008), captioning should also be provided for any video or animation shown on the online course.

Research question 1a: Is there a difference in adoption of best practice standards for online course design based on full-time faculty rank (tenure-track and lecturers)?

Tenure-track and lecturer faculty members have no significant differences in adopting best practice standards when designing an online course. Based on the findings, the reasons why tenure-track and lecturer faculty members have no significant differences in adopting best practice standards is because both groups provide instructional design, they optimize technology, and they utilize faculty development when designing online courses. Regarding instructional design, both groups provide and adopt the following:

- A course overview and introduction
- Measurable course learning objectives that describe the course outcomes,
- Measurable assessments that are consistent with the learning objectives

- Instructional materials that are in alignment with the course and module learning objectives
- Alignment between the course and module learning objectives, along with learning activities

Also, according to the findings, both tenure-track and lecturer faculty members provide the following pertaining to technology:

- Course technology that support the course and module learning objectives
- Instructions and/or link to technical support
- Accessible technologies such as equivalent alternatives to auditory and visual content

According to several authors (Green, Alejandro, & Brown, 2009; Tabata & Johnsrud, 2008), various reasons can explain why both tenure-track and lecturer faculty members have no significant differences in adopting best practice standards; some reasons include the following:

- Flexible working conditions
- Administration values online learning
- Opportunity to use technology
- Advancement opportunities
- Teaching experience
- Financial incentive
- Different types of faculty development

Research question 1b: Is there a difference in adoption of best practice standards for online course design based on full-time or part-time-faculty status?

Based on the findings, full-time and part-time faculty members have significant differences when adopting QM best practice standard's categories for online course design. Reasons as to why full-time and part-time faculty members have differences when adopting best practice standards for online course design include motivational differences. Part-time faculty members are motivated to adopt best practice standards for online course design due to having more free time to devote to learning and adopting best practice standards. Also, part-time instructors are motivated to design an online course due to the possibility for a future full-time faculty position (Shea, 2007).

Full-time faculty members are more motivated to adopt best practice standards for online course design due to their commitment to the institution, monetary incentives for developing an online course, personal or professional growth, career advancement, faculty development programs, and administrative support. Also, full-time faculty members are motivated due to opportunities to help in developing quality online courses or quality online programs (Green, Alejandro, & Brown, 2009).

Research question 2: Is there a relationship between adoption of best practice standards for online course design and average years of online teaching?

Faculty members' average years of online teaching does not relate to the adoption of best practice standards for online course design. Roehrs, et al. (2013) also indicate that faculty members' online teaching experience has no relationship in the scoring of QM rubrics. Further analysis of the findings showed that each of the eight best practice standards found no relationship with the adoption of best practice standards for online course design.

Some reasons as to why faculty members' online teaching experience has no relationship with best practice standards may include the various methods as to how they acquired the types of knowledge, skills, abilities, and experiences to teach online.

Schmidt, et al. (2013), discusses several types of knowledge, skills, abilities, experiences that include the following:

1. Blended learning situations
2. Experience as an online student
3. Received help from colleagues in the college department
4. Reviewed articles and websites
5. "Jumped right in" or "Got thrown in"
6. Faculty development courses

Research question 3: Is there a relationship between adoption of best practice standards for online course design and portion of online teaching load?

There is a weak relationship between the adoption of best practice standard's categories for online course design and online teaching load in a year. In analyzing the data in more detail, there is a weak relationship between online teaching load in a year and the subsequent two outcome variables:

1. Learner activities and learner interaction
2. Course technology

However, there is no relationship between online teaching load in a year and the following:

1. Course overview and introduction
2. Learning objectives

3. Assessment and measurement
4. Instructional materials
5. Learner support
6. Accessibility and usability

Research question 4: What is the strongest predictor for adoption of best practice standards for online course design?

Full-time and part-time status is the strongest predictor for adoption of best practice standards for online course design. Based on research (Green, Alejandro, & Brown, 2009; Shea, 2007), the following is a reason as to why full-time and part-time status is the strongest predictor. Full-time and part-time faculty members have different types of motivation for adopting best practice standards for online course design. For full-time faculty members these types of motivation include:

- Commitment to institution
- Monetary incentives
- Different types of faculty development programs
- Different types of delivery of faculty development programs
- Administrative support
- Opportunities to develop new online courses
- Opportunities to develop new online programs
- Professional growth advancement

For part-time faculty members, the different motivational factors include:

- More free time
- The possibility of a future full-time faculty position

- Online faculty development programs

Research question 5: Is there a relationship between adoption of best practice standards for online course design and hours of faculty development for online course design?

There is no relationship between the adoption of best practices for online course design and hours of faculty development for online course design. A likely reason that there is no relationship is because the quality of faculty development is much more important than the number of hours one attends in any type of training.

Conclusions

According to the results of this study, while designing online courses, faculty members adopt eight best practice standards including course overview and introduction, learning objectives, assessment and measurement, instructional materials, learner activities and learner interaction, course technology, learner support, and accessibility and usability. These findings resonate with Herman's (2012) discussion indicating higher education institutions are adopting best practices for the promotion of quality online courses.

Best practice standards

Higher educational institutions are facing the challenge of ensuring the quality of online learning by promoting best practice standards of designing online learning courses (Herman, 2012). Designing online learning courses by adopting best practice standards requires pedagogy, along with technology knowledge and skills which are not possessed by all faculty members. Based on the literature (Baghdadi, 2011; Grandzol & Grandzol,

2006; Schulte, 2009; Thiede, 2012), higher education institutions need their faculty members to utilize best practice standards in the design of online learning courses.

Therefore, higher education institutions should ensure that when faculty members design online courses, they incorporate components of instructional design when implementing best practice standards. According to the literature, the components of instructional design include:

- Identifying the learner
- Instructional objectives
- Content sequencing
- Instructional strategies
- Instructional message
- Development of the instruction
- Evaluation

Also, higher education should ensure faculty members adopt best practice standards when designing online courses. These best practice standards according to the literature include:

- Course overview and introduction
- Learning objectives
- Assessment and measurement
- Instructional materials
- Learner activities and learner interaction
- Course technology
- Learner support

- Accessibility and usability

Faculty members should ensure that their online course provides students the opportunity to become familiar with their online course by providing a course overview and introduction to their online course. Since students take the online course to learn the subject matter at hand, they do not want to feel overwhelmed by not knowing where to go for information. According to Stavredes & Herder (2014) potential confusion can be minimized by creating a “Start Here” tab that contains the following sections:

1. Instructions on how to get started
2. Detailed navigational instructions
3. A purpose of the course
4. Structure of the course
5. Etiquette expectations
6. Course policies
7. Prerequisite knowledge in the discipline
8. Minimum technical skills
9. Instructor self-introduction
10. Students’ self-introduction

The findings from the study imply that faculty members do indicate that providing a course overview and introduction plays a critical role in the design of an online course. Stavredes & Herder (2014) state that, students will become better acclimated to the online learning course by having a course overview and introduction. Therefore, faculty members should adopt a course overview and communicate to the students to “click” on the tab called “Start Here” before perusing anywhere else within the online course. Also,

it would be helpful for students if faculty members introduce themselves, either in writing or via video, to the students to provide students a bit of background information about themselves. Lastly, the faculty member should have a discussion board created for students to introduce themselves to the instructor and to other students.

Morrison, et al. (2011) emphasize that it is imperative that faculty members provide learning objectives that contain measurable goals throughout the online course. According to this research, faculty members indicate the importance of having measurable learning objectives throughout the course. Also, faculty members agree that if the course is structured by modules, each module should contain measurable learning objectives that are consistent with the course objectives. Accordingly, an online course can be more valuable if faculty members design their online course with measurable learning objectives as they not only assist the instructor in selecting and organizing instructional activities and assessments for effective learning but they also help the faculty member provide a means for evaluating student learning.

Aligning assessments and measurements with course and modular objectives is an important task in the design of online courses as it enables students to succeed in the online course (Achte-meier, Morris, and Finnegan, 2003; Thurmond, Wambach, Connors, & Frey, 2002). This study's findings show that faculty members agree that assessments and measurements should be an alignment with course and modular objectives. As such, faculty members should continue to align their assessments and measurements with their course and modular objectives.

As with assessments and measurements, instructional materials need to be in alignment with the course and module learning objectives. The instructional materials

also need to be current and appropriately cited based on best practices when designing online courses (Sims, Dobbs, & Hand, 2002). The findings in the study indicate that faculty members agree that the assessments and measurements should be an alignment with the course and module learning objectives and they agree that these instructional materials need to be current and appropriately cited. Therefore, the findings from this study would suggest faculty members continue to align instructional materials with course and module learning objectives.

Learner activities should be alignment with the learning objectives for the course and modules, and these learner activities should include reading assignments, student presentations, online discussions, and case studies. Learning activities should include activities that will involve learner interaction between student-instructor, student-content, and student-student (Chang & Smith, 2008; Conrad, 2002). The findings from this research corroborate previous studies in that instructors agree that learning activities should provide learning activities between student-instructor, student-content, and student-student and that these learning activities must be in alignment with the learning objectives for the course and modules. Consequently, faculty members should align their learning activities with the course and modules' learning objectives.

The course's different technology methods -such as audio, video, animations, podcasts and other technologies - should align and support the course and module learning objectives (Malikowski, Thompson, & Theis, 2007; Trigano, & Pacurar-Giacomini, 2004). Based on the findings, faculty members presently have technology methods that align and support the course and module learning objectives. Based on the

literature and the findings from this study, faculty members should also align their different technology methods with the course and module learning objectives.

Online courses should include technical, accessibility, and academic services for students that include information and a link (Johnson, 2004). According to the findings, faculty members report that they provide instructions in their online courses and they also provide links to technical, accessibility, and academic services for students. Therefore, as a best practice, faculty members should always provide information and links pertaining to technical, accessibility, and academic services in their online courses.

An online course should provide a link or written communication on how to obtain accommodations. Also, the course should contain equivalent alternatives for auditory and visual content (Crow, 2008). The findings indicate that faculty members do believe they should provide alternatives to auditory and visual content. They also agree that the online course needs to provide guidance on how to obtain accommodations. Therefore, the findings from this study would recommend that faculty members provide guidance on how to obtain accommodations and include alternative auditory and visual content for their online courses.

Faculty development

According to the Sloan report (2009), 81% of the 2,500 responses from colleges and universities provide faculty development for their online programs. The report differentiates the following types of faculty development:

- 59% are informal mentoring
- 65% are within the institution
- 40% are formal mentoring programs

- 15% are external from the institution

Due to the increase of students taking online courses and with 81% of colleges and universities providing faculty development for their online programs, it is imperative that institutions provide faculty development resources to ensure faculty members have the opportunity to adopt best practice standards in the design of online learning courses. Administrators in higher education institutions can begin by promoting instructional design methods and encouraging faculty members to attend faculty development courses that incorporate best practice standards.

Based on the findings shown in Table 16, individual consultations ranked the highest of all types of faculty development with a mean score of 3.62. Faculty members prefer an instructional designer to meet with them on a one-on-one basis to help them design a specific course. By doing so, the faculty member is able to ask specific questions regarding the course they are designing. Most of the other faculty development approaches do not provide that level of individualized attention to the design of an online course. Regarding face-to-face workshops, there are usually other faculty members in attendance and therefore, the focus is on designing an online course and not on a faculty member's individual course. Also, faculty members may not raise design questions regarding their specific online course. With peer mentoring, a faculty member's peer may not have the right answers to their questions or the approach in designing an online course may not be the correct way. For online workshops, some faculty members may not be comfortable utilizing technology in learning how to design an online course. An online tutorial is self-paced and usually there is no human contact.

Higher education institutions need to understand the different motivational factors of faculty members when promoting faculty development. These motivational factors include any financial incentives the institution may provide in the design of a new or revised online course. Another factor could be the differences between a full-time and a part-time faculty's motivational levels and how these differences might impact the type and delivery of faculty development programs within the higher education institution. Institutions should insist that part-time faculty must complete some type of faculty training prior to designing an online course. Also, institutions need to offer different types of online design training to all faculty members.

Recommendations for future research

The results of this study indicate that faculty members have adopted best practice standards when designing their online courses. Based on this research, recommendations for future research emerged which would add to the knowledge of designing quality online courses.

1. This study investigated if faculty members adopted best practice standards in the creation of higher education online courses. It would be beneficial to investigate students' perception of the adoption of best practice standards in their online courses.
2. This research also explored faculty development pertaining to best practice standards. A longitudinal study comparing online courses with and without faculty development methods would be beneficial to determine if there are differences in the quality of online courses.

3. A qualitative study would be beneficial using some of the same questions from this study. A qualitative analysis would provide a deeper understanding of why faculty members have adopted best practice standards and it would provide specific reasons why faculty members chose a specific method for faculty development.
4. Through this study, it was determined that there are motivational differences between full-time and part-time faculty members in adopting best practice standards for online course design. It would be useful to conduct further research into the different motivational reasons why full-time and part-time faculty members choose to adopt best practice standards.

Summary

The findings from this study indicated that faculty members have adopted best practice standards when designing their online courses. Further analysis explored the faculty members' responses to the eight Quality Matters (QM) best practice standards. Within each of the eight best practice standards, faculty members agreed that they have adopted each of the standards.

Differences exist between full-time and part-time faculty members in adopting best practice standards for online course design. The literature pertaining to these differences indicate that full-time and part-time faculty have different motivational factors for adopting best practice standards for online course design. Higher education institutions would benefit in determining what type of motivational factors full-time and part-time faculty members have in designing online courses.

Institutions would benefit in providing different types of faculty development delivery methods to encourage the design of better quality online courses based on faculty members' preference of method. As this study indicated, faculty members preferred the method of an individual consultation versus an online tutorial.

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Appendix A

Letter to Experts for Instrument Validation

Dear Colleague,

I am a doctoral student in Curriculum and Instruction: Educational Media at The University of Toledo. I am conducting a research study to examine faculty's best practice standards and faculty development in designing online courses.

To ensure the instrument's validity for this research project, I am humbly requesting your comments and suggestions regarding the questionnaire attached in this email. Your feedback will be used to update the items in this questionnaire.

Your input is critical to the success of this research study and your comments and suggestions will be confidential.

Thank you for your time and consideration.

Sincerely,

Henry Marshall, MA
Doctoral Candidate
Department of Curriculum and Instruction
Judith Herb College of Education
The University of Toledo
Henry.marshall@utoledo.edu

Appendix B

Letter of Consent for the Pilot Study

Dear Colleague,

As a graduate teaching assistant who has taught online courses, you are invited to be part of a pilot study entitled: Faculty Members' Best Practice Standards in the Design of Higher Education Online Courses. As part of my doctoral dissertation in the Department of Curriculum and Instruction: Educational Media at The University of Toledo, I am conducting a research study to examine faculty's best practice standards and faculty development in designing online courses from the instructor's perspective.

The purpose of the study will provide valuable insights regarding best practice standards and faculty development in designing online courses. The questionnaire gathers information related to faculty demographics and faculty's best practice standards in designing online courses.

The instructions are included within the questionnaire which will take a few minutes of your time. Please complete this survey by mm/dd/yyyy. Your participation is completely voluntary.

Information you provide via this online survey will remain anonymous. By completing this survey you are providing your consent and acknowledging that the data provided by you can be accessed by the research team.

If you have any questions or concerns regarding this survey, please contact Dr. Berhane Teclehaimanot by email: Berhane.Teclehaimanot@utoledo.edu. **Please complete the survey by clicking on this link.**

Thank you for your time and consideration.
Sincerely,

Henry Marshall, MA
Doctoral Candidate
Department of Curriculum and Instruction
Judith Herb College of Education
The University of Toledo
Henry.marshall@utoledo.edu

Appendix C
Questionnaire

**There are three sections to this questionnaire with 50 total questions.
Completing the questionnaire will take approximately 5-10 minutes.**

Section I
Best Practice Standards Questions

Please specify the extent that your online course(s) reflect the following best practice standards for online course design. Please click on the one answer that best matches your opinion.

1. I provide a general course overview that includes a schedule of activities and student expectations of the course.

Strongly disagree Disagree Agree Strongly agree

2. I provide very detailed navigational instructions on where to find various course components.

Strongly disagree Disagree Agree Strongly agree

3. I provide information to the students to help them understand the purpose of the course.

Strongly disagree Disagree Agree Strongly agree

4. I provide information on how the learning process is structured and carried out including course schedule, modes of communication, type of learning activities, and how learning will be assessed.

Strongly disagree Disagree Agree Strongly agree

5. I provide an explanation of the etiquette expectations for online discussions, email, and other forms of communication for the course.

Strongly disagree Disagree Agree Strongly agree

6. I provide course and/or institutional policies with which the students are expected to comply including online conduct, academic integrity, and late submission of assignments.

Strongly disagree Disagree Agree Strongly agree

7. I provide information about required competencies and/or prerequisite knowledge.

Strongly disagree Disagree Agree Strongly agree

8. I provide information regarding the minimum technical skills expected of students including using Blackboard, creating word processing and spreadsheet documents, and sending email with attachments.

Strongly disagree Disagree Agree Strongly agree

9. I provide a bio, email address, office phone number, and times I am available in the office.

Strongly disagree Disagree Agree Strongly agree

10. I ask students to introduce themselves to the class by stating their major and any related work experience.

Strongly disagree Disagree Agree Strongly agree

11. I provide measurable course learning objectives that describe outcomes.

Strongly disagree Disagree Agree Strongly agree

12. I provide measurable module learning objectives that are consistent with the course objectives.

Strongly disagree Disagree Agree Strongly agree

13. I provide learning objectives that are stated clearly and are written from the students' perspective.

Strongly disagree Disagree Agree Strongly agree

14. I provide instructions to students on how to meet the learning objectives.

Strongly disagree Disagree Agree Strongly agree

15. I provide learning objectives that are appropriately designed for the level of the course.

Strongly disagree Disagree Agree Strongly agree

16. I provide measurable assessments that are consistent with the course and module objectives of the course.

Strongly disagree Disagree Agree Strongly agree

17. I provide a course grading policy that explains the relationship between points, percentages, weights, or letter grades.

Strongly disagree Disagree Agree Strongly agree

18. I provide descriptive criteria to students that explain the information they need to understand on how an assignment will be graded. The descriptive criteria are also tied to the course grading policy.

Strongly disagree Disagree Agree Strongly agree

19. I provide assessments that are sequenced, varied, and appropriate to the student work being assessed.

Strongly disagree Disagree Agree Strongly agree

20. I provide frequent, meaningful, and frequent feedback when grading assignments and/or assessments.

Strongly disagree Disagree Agree Strongly agree

21. The instructional materials that I provide are in alignment with the course and module learning objectives.

Strongly disagree Disagree Agree Strongly agree

22. I provide a purpose for the instructional materials and I explain how the materials should be used for learning activities.

Strongly disagree Disagree Agree Strongly agree

23. I cite all resources and material used in the course.

Strongly disagree Disagree Agree Strongly agree

24. Most of my instructional materials are current.

Strongly disagree Disagree Agree Strongly agree

25. My instructional materials include textbook(s), PowerPoint presentations, websites, lecture notes, outlines, and multimedia.

Strongly disagree Disagree Agree Strongly agree

26. I provide clear explanations as to what are required materials and what are optional materials.

Strongly disagree Disagree Agree Strongly agree

27. My learning activities are in alignment with the course and module learning objectives.

Strongly disagree Disagree Agree Strongly agree

28. I provide learning activities between student-instructor, student-content, and student-student that supports active learning.

Strongly disagree Disagree Agree Strongly agree

29. I provide a statement in regards to the response time when responding to students' emails, discussion postings, and other types of communication.

Strongly disagree Disagree Agree Strongly agree

30. I provide a statement in regards to the expectations for student participation in required course interactions (frequency, length, timeliness, etc.).

Strongly disagree Disagree Agree Strongly agree

31. My discussion boards, chat rooms, wikis, blogs, video, and audio support the course and module learning objectives.

Strongly disagree Disagree Agree Strongly agree

32. My discussion boards, chat rooms, wikis, blogs, video, and audio help students actively engage and guide them in the learning process.

Strongly disagree Disagree Agree Strongly agree

33. Navigation throughout the online components of the course is logical, consistent, and efficient.

Strongly disagree Disagree Agree Strongly agree

34. Students can readily access the technologies (Acrobat Reader, Flash, Java, etc...) required in the course.

Strongly disagree Disagree Agree Strongly agree

35. The course technologies (Acrobat Reader, Flash, Java, etc.) are current.

Strongly disagree Disagree Agree Strongly agree

36. I provide instructions and/or a link to technical support.

Strongly disagree Disagree Agree Strongly agree

37. I provide instructions and/or a link to the universities' accessibility policies and services.

Strongly disagree Disagree Agree Strongly agree

38. I provide instructions and/or a link to an explanation of how the institution's academic support services and resources can help students succeed in the course and how students can access the services.

Strongly disagree Disagree Agree Strongly agree

39. I provide instructions and/or a link to an explanation of how the institution's student support services can help student succeed and how students can access the services.

Strongly disagree Disagree Agree Strongly agree

40. The course employs accessible technologies and provides guidance on how to obtain accommodation.

Strongly disagree Disagree Agree Strongly agree

41. The course contains equivalent alternatives to auditory and visual content.

Strongly disagree Disagree Agree Strongly agree

42. The course design facilitates readability and minimizes distractions.

Strongly disagree Disagree Agree Strongly agree

43. The course design accommodates the use of assistive technologies.

Strongly disagree Disagree Agree Strongly agree

Section II
Faculty Development

1. Have you participated in any faculty development programs regarding online course design?

Yes No

2. Please select the response that best represents your opinion regarding each faculty development program you participated in.

Face-to-face

Workshops Very Good Good Fair Poor Very Poor Not Applicable

Online

Workshops Very Good Good Fair Poor Very Poor Not Applicable

Individual

Consultations Very Good Good Fair Poor Very Poor Not Applicable

Online

Tutorial Very Good Good Fair Poor Very Poor Not Applicable

Professional

Conference Very Good Good Fair Poor Very Poor Not Applicable

Peer

Mentoring Very Good Good Fair Poor Very Poor Not Applicable

Other

 Very Good Good Fair Poor Very Poor Not Applicable

3. For each faculty development program, please enter the number of hours you participated in.

Face-to-face Workshops

Online Workshops

Individual Consultations

- Online Tutorial
- Professional Conference
- Peer Mentoring
- Other

Section III Demographics

1. Please click on your academic rank.

- Professor
- Associate Professor
- Assistant Professor
- Senior Lecturer
- Associate Lecturer
- Lecturer
- Visiting Instructor
- Part-time Instructor
or Adjunct Faculty
- Teaching Assistant or
Graduate Assistant

2. Please click whether you are a full-time or part-time faculty member.

- Full-time
- Part-time

3. Please enter the number of years you have taught online courses.

4. Please enter an average percentage of the courses you teach online per year.

Thank you so much for your time!

Appendix D

Letter of Consent for Primary Study

Dear Faculty,

As a faculty member who has taught online learning courses, you are invited to be part of a research study entitled: Faculty Members' Best Practice Standards in the Design of Higher Education Online Courses. As part of my doctoral dissertation in the Department of Curriculum and Instruction: Educational Technology at The University of Toledo, I am conducting a research study to examine faculty's best practice standards and faculty development in designing online courses from the instructor's perspective.

The findings of the proposed study will provide insights regarding best practice standards in the design of higher education online courses. Such information will be beneficial to academic staff when planning faculty support and development.

Your participation is completely voluntary and will take approximately ten minutes. Information you provide via this survey will remain anonymous and confidential. The risks of participating in this study are no greater than those encountered in normal daily life. By completing this survey, you are providing your consent and acknowledging that the data provided by you can be accessed by the research team.

If you have any questions or concerns regarding this survey, please contact Dr. Berhane Teclehaimanot or Henry Marshall by email: Berhane.Teclehaimanot@utoledo.edu or Henry.Marshall@utoledo.edu. Please complete the survey by clicking on this link below by mm/dd/yyyy.

The survey can be accessed at:
<https://www.surveymonkey.com/s/>

Thank you for your time and consideration,

Henry Marshall, MA
Doctoral Candidate
Department of Curriculum and Instruction
Judith Herb College of Education