ONLINE PEDAGOGICAL QUALITY QUESTIONED: PROBING
INSTRUCTIONAL DESIGNERS’ PERCEPTIONS OF LEADERSHIP
COMPETENCIES CRITICAL TO PRACTICE

by

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Abstract

Improvements in the quality of online courses and programs for higher education are not keeping pace with burgeoning academic enrollments. While efforts as recent as 2010 have advanced assessments of online program administration and of elements in course designs, evidence is lacking of improved pedagogies. This present study posited that less attention has been paid to causal factors of quality, such as instructional designers’ understanding and application of personal leadership in practice. To explore this situation, a qualitative, phenomenological study of a panel of experts was undertaken. In-depth interviews were guided by the central research question, “What instructional design leadership competencies are identified as critical to creating quality online learning designs?” Participants identified three major critical leadership competencies for quality instructional designs, particularly for web-based higher education: strategy—team oriented and instructional, vision—for the field and pedagogies, and interpersonal skills—communication and character traits. When interview findings were triangulated with personal documents, participant-designed online courses and student evaluations, two evidence-based quality predictors—student-centeredness and student satisfaction—were found to be prevalent. Aggregated study results confirmed a strong relationship between leadership competencies in practice and quality outputs. Conclusions extended a traditional view of organizational and positional leadership to individual designers, along with relevant competencies, for designing quality learning events. Significant to the field of instructional design was the implication that practitioners approach the craft of online learning interventions with oversight and foresight, underpinned by relevant research, in order to lead in an on-going paradigm shift of how knowledge is acquired and
assimilated. The research study report concludes by offering a new model of leadership principles for instructional designers committed to excellence in crafting interventions for the 21st century and beyond.
Dedication

To the Originator of truth and reality, Jesus Christ, Who proclaimed “I am the way, the truth, and the life.” My gratitude overflows to Him for being so accessible, so forgiving, so trustworthy, and my closest friend through this arduous, yet rewarding journey.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Along with industry and trade, the economic status of higher education is suffering on a global scale. In the United States, university tuition is rising exponentially causing, in some cases, student outcries and riots on familiar campuses such as the University of California at Berkeley (Wollan & Lewin, 2009). One outcome of these pressures is an increased attraction to online universities with lower all-around costs—minimal housing, less transportation, and no lab fees (Allen & Seaman, 2008; Robinson, 2009). As a result, some predict the rosters of cyber alternatives will continue to swell. Kaplan University president J. Conlon estimated 16 million higher education learners will not find a place, for lack of infrastructure and funding, in the existing traditional academy by the year 2020 (Robinson, 2009). A shortage of this magnitude creates opportunity for increased online education enrollment.

In spite of new attractions to a flexible ethos of learning, learners seeking educational solutions in a nontraditional venue face critical pedagogical challenges, in particular, disparities of quality in online learning designs. For example, web-based instructional strategies frequently fail to promote active learning (DeGagne & Walters, 2009). This type of learning involves engaging the learner more directly with content; this is important due to the asynchronous nature of pedagogy in which teaching and learning transact in technology driven and mediated ways (Naidu, 2007). Recent studies
have shown quality online learning strategies afford stronger learner-to-content (Bernard et al., 2009) as well as learner-to-knowledge connections (Siemens, 2004) for contextualized and personalized learning (Sims & Stork, 2007). To the extent of engagement in modern social technologies, Sims and Stork (2007) posited an effective course design will not prescriptively provide for learning, rather, will afford learners opportunity to construct knowledge and meaning through an individualized perspective.

It is evident that deficiency in pedagogical quality often appears as a lack of provision within the course structure and design for learner-centered participation in knowledge acquisition and assimilation. Recent activity toward improvement in quality was represented by a longitudinal study of online adult learners in which Dixon and Dixon (2010) confirmed a diminishing role for teachers in lieu of collaborative metacognitive support. However one researcher, Clark (2010), reiterated a long-held position that “cyber learning theories and models fail to account for the influence of nonconscious cognitive processes” (2010, Abstract section) and rendered most current strategies inadequate for the complex learning ascribed to online environments. It has also been shown that organizations are making an attempt to standardize quality in distance programs with varying results as analyzed recently by Lockee, Burton, and Potter (2010), including through an instructional design perspective in a study reported by Spector (2010).

Time is of the essence in meeting a growing demand for online learning programs; however, a more urgent question prompted this study: Do learning products designated for online higher education represent high quality pedagogies? To investigate the problem of quality, exploration into online course designers—their practices and
competencies—were not overlooked. It was assumed for this study that understanding the meaning behind decisions made by those tasked with providing educational materials for modern learners was critical to explaining how course design quality is controlled. Further, it was assumed that instructional designers for online learning are influenced by unique leadership competencies in varying degrees and that those skills and attitudes would affect design and learning outcomes.

**Key Concepts**

To contextualize the study, two key concepts are defined. First, a traditional setting is considered a classroom in a building set apart for educational purposes, with an instructor or teacher present, and is often referred to as face-to-face (Wuensch, Aziz, Ozan, Kishore, & Tabrizi, 2008). Education, in a setting other than that found in a brick-and-mortar classroom, is generally referred to as alternative—correspondence, hybrid, cyber, virtual, online, mobile, and other emergent designations. From a recent national survey of postsecondary institutions, Parsad and Lewis (2008) distinguished certain alternatives from traditional education as distance education and defined its paradigm as “a formal education process in which the student and instructor are not in the same place” (p. 1). Although Parsad and Lewis offered a limited definition, the perspective distinguished learning in a traditional classroom environment from that in which the student is elsewhere. More specific to this study, an online learning paradigm affords the acquisition of new skills, knowledge, ability, and attitudes; and, takes place entirely over the internet (Means, Toyama, Murphy, Bakia, & Jones, 2009) through various educational technologies.
Second, orientation for this study required an understanding of leadership competencies in the context of instructional design. Leadership competencies generally represent the quality of key attributes, behaviors, and skills attributed to past, existing, and future leaders (Covey; 1989; Dooley, Lindner, Telg, Irani, Moore, & Lundy, 2007; Drucker, 1981; Fullan & Scott, 2009; Kowch, 2009; Senge, 2006; Sergiovanni & Corbally, 1984). Leadership also denotes direction and influence over both tasks and people (Carnegie, 1936/2009; Howard & Wellins, 2008). Moreover, leadership defines both positional and nonpositional roles (Gressick & Derry, 2010), situating its concept within the individual, small, or large design team. Contextualized for the higher education curricula design process, leadership competency adds a dimension to established instructional design competencies generally restricted to work practices and skills (IBSTPI Instructional Design Competencies Report, 2000). During the creation and implementation of courses, Dooley et al. (2007) concluded that critical decisions underpin high quality, effective, and relevant designs. This study showed that decisions made by instructional designers of online courses demand leadership competence, in addition to practical skills, to produce quality outcomes.

**Key Issues**

Three overarching issues initially inspired an in-depth investigation into what relationship existed between online course quality and instructional design leadership competencies. The following discussion will include support for (a) reported degradation in quality pedagogies, (b) theories of a learning process that is quite different when
engaged online, and (c) compelling views on the criticality of leadership competencies required for instructional designers to meet new learning mode demands.

**Pedagogical quality.** Degradation of online pedagogical quality discussed by Naidu (2003) was demonstrated by traditional methods infused into web-based course designs. The researcher described the methods,

> Evidence of this is all around us in the form of innumerable university course Web sites that contain little more than the schedule, a brief outline of the course content, PowerPoint slides of the lecturer's notes, and sometimes, sample examination papers. (Naidu, 2003, p. 349)

Meanwhile, Reeves, Herrington, and Oliver (2004) found significant flaws in designs for online courses; and though the implications were made by the study several years ago, more recent evidence continued to fuel concerns. For example, Der-Thanq, Hung, and Wang (2007) found a lack of congruence between available tools for online instructional designs and divergent epistemologies of learning. The study highlighted a linear and hierarchical task analysis—a pillar of instructional design practice (Jonassen, Tessmer, & Hannum, 1999)—that did not synchronize with the task prescribed for an online collaborative project. In that the nature and dimension of the task involved multiple contributions of ideas from various cultures in asynchronous communication, it was not reasonable to expect a single set of predictable outcomes required of a typical task analysis process in which expectations of a prescribed outcome are articulated (Jonassen et al., 1999). Sims (2006) concurred with Der-Thanq et al.’s (2007) findings by underlining ineffective strategies employed by designers when faced with the uniquely constructivist, distributed, and student-led learning environment inherent in web-based course rooms.
On a similar note, Wilson (2005a) argued for theory and delivery issues to go beyond [traditional applications] by providing for quality learning in contexts and situations, including those engaged online. In response to the situativity problem, Naidu (2007) reiterated his earlier claims of mismatched strategies and offered concrete pedagogical alternatives with which to align strategy and the environment, namely “resource and...activity-based approach[es]” (p. 251). Representing contemporary thought on creating quality learning designs, research by both Sims and Stork (2007) and Bernard et al. (2009), found that pedagogical excellence is achieved with congruence between strategies and learning context.

Shifts in learning theory. Educational theorists are increasingly convinced that learning is different when computer-mediated. Sims (2006) maintained low quality online designs result when teaching strategies and learning activities are steeped in instructivist methods and theories of learning. Pinpointing dissimilarities in learning when in a constructivist environment, the researcher (Sims, 2006) posited new conceptions of acquiring knowledge influenced by (a) distance between instructor and learner, (b) unaided access to boundless information, and (c) new learning technologies. Extending the notion, Beaudoin (2007) considered the phenomenon of online classrooms a new mode of learning, suggesting a typology shift in gaining knowledge. At the same time, Dede, Dieterle, Clarke, Jass-Ketelhut, and Nelson (2007) discussed positive learning outcomes from widespread studies of students connecting and learning in new ways: through online communities of learning such as Second Life™ and other multi-user virtual environments (MUVEs).
Crisis of leadership. While addressing the complexities of learning, the practice of instructional design is a problem-solving, decision-making effort aimed at pleasing multiple stakeholders (Moore & Kearsley, 2005; Smith & Ragan, 1999) with diverse views on its outcomes. Results from a study by Stein, Shephard, and Harris (2009) confirmed various conceptions and perceptions govern decisions in the work environment, including those required for leadership thinking. Although earlier, Reeves et al. (2004), Naidu (2003), and Sims (2006) each claimed online pedagogies for higher education were suboptimal and called into question the competencies and leadership skills inherent in their creators’ decisions—decisions essential for developing relevant and effective online artifacts.

Various perspectives inform the concept of decision-making by leaders. Sackney and Mergel (2007) declared leaders to be stewards of vision and responsible for leading others through the decisions they make. Sergiovanni (2003) identified a cognitive approach to leadership based not on rules or personality, rather, on ideas that underpin decisions with purpose and morals. Campbell, Schwier, and Kenny (2009), while studying instructional designers’ perceptions on issues of practice, found that a sense of duty included intentional decisions made from self-confidence and strength of purpose. In this regard, a perceptual influence on practical decisions resonates with Gibson’s (1966) work in which perception is centered in awareness of one's surroundings through the senses resulting in guided action, or, decisions to act. Based on the multiple perspectives presented in more depth in the chapter 2 literature review, decision-making was inextricably linked to leadership; therefore, it was assumed an instructional designer with a decision-making role demands competency in leadership.
Finally, and significant to this study, personal leadership has been recognized as central to the practice of online instructional design (Beaudoin, 2007; Kowch, 2009). In response to the gap between what is increasingly considered critical for designing curricula for a virtual learning environment and the level of quality reported in many of those courses, Beaudoin (2007) and Kowch (2009) have called for fresh leadership from their designers. However, their demands assumed a range of competencies that underpin leadership expertise in modern learning—of which Sims and Koszalka (2008) claimed were not anticipated for a new age of technology-driven and supported learning environments.

In answer to the call for leadership in the field of instructional design for online learning, this study will rely on the framework provided by Stein et al. (2009) that self-conceptions and perceptions of personal leadership competency influence work-related decision-making. It was considered important that instructional designers be queried to discover what drives the critical decisions that impact pedagogical quality of online outputs, with implications for significant impact on student learning.

For exploration into hidden meanings and causal explanations, a phenomenological study was undertaken to understand how leadership competencies and roles might translate into quality learning products; as well as to ascertain what was critical to leading in quality design interventions for the 21st century learning paradigm. The results not only confirmed a relationship of leadership to higher quality pedagogies, but also articulated aspects of practice deemed important to its practitioners.
Background of the Study

Historical Perspective

Fundamentally, the same foundations that guide traditional academic course development underpin the design of online course structures and strategies. Epistemologies and philosophical approaches vary from behavioral-to-cognitive-to-constructivist approaches, weaving a rich historical tapestry of learning theory development (Reigeluth & Carr-Chellman, 2009; Schuh & Barab, 2008).

Revolutionaries on human conceptualizations of the nature of reality, origins of truth, the place of knowledge, and complex phenomena of learning informed early foundational theories of instruction (Molenda, 2008; Spector, 2008).

Early 20th century educators witnessed a major shift from how to transfer information into an unruly mind to cognizance of how the human actually learns (Dewey, 1910). From this perspective, learning theory research advanced in the late 20th century, with positions struck on metacognition—strategic thinking practices that convert to knowledge and the learner’s ability to recognize her own knowledge acquisition process (Flavell, 1979; Kolb, 1984) as chronicled in Gagné, Wager, Golas, and Keller (2005).

Divisions in educational philosophy split along the lines of a traditional objectivist paradigm of how one knows and the subjectivist, or constructivist, view of how one learns what there is to know (Vrasidas, 2000). For example, Reigeluth (1983) expounded increased learner control over the learning process; while Jonassen, Davidson, Collins, Campbell, and Haag (1995) conceptualized learning as individual construction of knowledge through meaningful interactions with immediate surroundings.
In opposition, Clark (1994) defended a 1982 claim for direct instruction—teacher designed, implemented, and controlled education—as vital to student cognitive reception. In spite of calls for change (Jonassen, 1991; Reigeluth, 1983), prevailing orientations within an industrialized society viewed school as a standardized environment with a master design and external controls (Reigeluth, 1999; Vrasidas, 2000). Eventually, assumptions that guided traditional educative approaches to classroom strategies were challenged by a paradigmatic shift in the 1990s (Jonassen & Land, 2000; Reigeluth, 1999).

Specifically, the onset of an age of prolific and accessible information ushered in relevant changes in approaches to education (Molenda, 2008). Migration to distance education placed students in a control position over when, where, and how knowledge would be accessed. At the same time, instructional design theory reacted to catalytic variations on a traditional educational approach (Spector, 2008). No longer was the teacher the sole manipulator of content, tasks, and outcomes. Dynamic computer mediation further threw inflexible instructional theory into chaos (Willis, 2009), casting doubt on its effectiveness in any environment (Jonassen, 2009).

Varying Perceptions of Quality

A growing demand for effective online learning designs paralleled ongoing cries for implicit and explicit instructional design practice competency (Spector, Klein, Reiser, Sims, Grabowski, & de la Teja, 2006) as well as leadership in educational roles (Beaudoin, 2007; Fullan & Scott, 2009; Kowch, 2009; Spillane, Halverson, & Diamond, 2004). Indications that curricula were not keeping pace with rapid shifts in computer-
mediated learning needs (Naidu, 2005; Reeves et al., 2004) brought new concerns to the field of instructional design. Compounding the problem, experts in educational technology claimed early research on designs for virtual learning were inadequate (Beaudoin, 2007; Young, Reiser, & Dick, 1998), flawed and misinterpreted (Reeves et al., 2004), or misapplied (Sims, 2006). Rising tensions created diverse perceptions of quality in online course designs and fueled doubts and criticism of the fledgling learning genre.

In spite of recent signs of improvement in online learner outcomes documented by Means et al. (2009), earlier, Allen and Seaman (2006) found only one-in-four academic leaders (27.6%) believed that their faculty “accept[s] the value and legitimacy of online education” (p. 14). That figure had not significantly risen by 2009 (Allen & Seaman, 2010) in spite of results showing a majority of faculty recommended online instruction to students. The push towards alternative educational enhancements contradicted lingering concerns over pedagogical effectiveness. Inherent in the data resides an inference of online pedagogical inferiority, with implications for designers of the courses offered.

In defense of designers, Konings, Brand-Gruwel, and van Merriënboer (2005) posited, “design of a learning environment that is well suited to reach the modern aims of education does not give the guarantee of practical success” (p. 649). The extensive survey study concluded that learners contextually determine quality of learning—not teachers, and not designers. Konings et al.’s (2005) findings may be interpreted through a lens Nimon (2007) provided in a study that revealed Gen Y learners (also known as Millennial and generally categorized as those born in the 1980s or after) expect learning from diverse ways in any environment. Moreover, the students showed that if
dissatisfied they will quickly abandon the learning event. While neither study explicitly pointed to instructional design product deficits, learners were saying something is missing and will exhibit impatience when their needs are not met.

Konings et al. (2005) concluded that, while no guarantee can be made by designers for learner success, good teaching—with learning implications—may indeed rest on effective instructional designs. The researchers reasoned, “[T]eachers, instead of designers, often implement already designed learning environments into practice” (p. 649). Therefore, if teachers do not assign legitimacy, or value, to online education indicated in successive studies by Allen and Seaman (2006, 2009), it is conceivable they do not have faith in the usefulness of online course designs or their intended environments. The data spawned a question: if not environments of learning or teachers, what factors do promote successful designs which will convert to both student and teacher satisfaction with the curricula?

Perspectives from Instructional Design Practice

For this study, an instructional design construct provided a holistic lens through which its practitioners’ artifacts were viewed. A definition of instructional designers in practice states, “those who design instruction and related resources that meet learning needs for defined audiences and settings…includes tasks of management, implementation, and evaluation…all in the service of designing and delivering good instruction” (Wilson, 2005a, p. 238). Summarized from a compendium of scholarly texts, instructional design practice is conceived of as a comprehensive system including: (a) analysis of institutional and learner needs, (b) design of course and program structure
relevant to the environment and delivery mode, (c) development of theory-based strategies for interfacing with content, (d) methodologies of tracking learner success and modern demands toward improving designs, (e) conduction of dynamic revisions that parallel current technology innovations, and (f) response to cultural, political, and socio-economic influences (Dick, Carey & Carey, 2009; Gagné et al., 2005; Gustafson & Branch, 2002; Morrison, Ross, & Kemp, 2007; Silber, 2007; Smith & Ragan, 2004).

Moreover, instructional design is tasked with preparing learners who must be equipped to exist and thrive in a fluid, complex, and chaotic world with emergent ideas of learning and design (Irlbeck, Kays, Jones, & Sims, 2006; Siemens, 2004; Sims, 2009). The future depends on individuals who are competent in critical thinking (Barab & Roth, 2006; Dabbagh & Denisar, 2005), change management (Beabout & Carr-Chellman, 2008; Campbell et al., 2009), global awareness (Reimers, 2009; Rogers, Graham, and Mayes (2007), team collaboration (Durdu, Yalabik, & Cagiltay, 2009), prescience in their respective fields (Howard & Wellins, 2008), and influencing others toward excellence in work and personal practices (Kouzes & Posner, 2007). To meet these demands, specific competencies have been identified for those carrying forward the mission of creating learning products with the rigor and depth needed.

**Instructional Design Competencies**

While an overarching mission of instructional design underpins its guiding theories to implement effective education and training products, a diverse complement of competencies ensures performing the tasks of unique projects. At the turn of the 21st century, the International Board of Standards for Training, Performance and Instruction
(IBSTPI) organization developed a comprehensive list of reasonable and essential competencies for conducting the work of instructional design (IBSTPI Instructional Design Competencies Report, 2000). Situated under four categories—Professional Foundations, Planning and Analysis, Design and Development, Implementation and Management—the list closely follows the system elements of design practice listed above. Specifically, the IBSTPI taxonomy articulates 23 tasks and strategies that must be employed by a qualified instructional designer. It is reasonable to assume that those responsible for educating and mentoring future generations be equipped with equivalent leadership attributes, for which there were no taxonomies found in the literature.

**Instructional Design Leadership Competencies**

After surveying the instructional design literature replete with models, best practices, and how-to lists with an aim to inform educational leadership, this researcher assumed a bias that the more urgent need was to define what leadership competency means to the professional instructional designer. Although a few studies have offered insight to habits and practices (Christensen, 2008), design intentions (Konings et al., 2005), and roles of the practitioner (Campbell et al., 2009), designers studying themselves in the context of their work were found to receive limited exposure in related studies (Beaudoin, 2007). Therefore, this study examined leadership competencies relevant to the field through a cross-disciplinary lens including business, economics, educational leadership, and instructional design. Some examples are listed below.

- Kowch (2009) named abilities “to lead distributed teams, facilitate complex policy and governance systems, imagine instructional-design enhanced learning environments across…education and community systems” (p. 47).
Reigeluth et al. (2008) posited new roles for designing appropriate new-age learning management systems—roles that imply vision for advancing technologies.

Reimers (2009) characterized competence as distributive, collaborative, and participatory leadership on a global scale with new mindsets for education.

Rischard (2010) extended the call for intense global expert, collaborative capabilities for creating solutions to complex and urgent world problems.

Pursuant to instructional design, Sims (2009) prescribed a proactive mindset of collaboration and connectedness with all design stakeholders to ensure quality learning products as outcomes to instructional design efforts for effective modern learning.

The competencies described are typically assigned to leadership as essential to positional roles. However, it was evident in a study of faculty and designers by DeBlois (2005) that individuals in any role benefit from leadership skills. More recently, Kowch (2009) found leadership knowledge essential in a wide range of roles. Likewise, the nonpositional notion was extended by Gressick and Derry (2010) who focused on college student group collaboration skills. In this context, leadership competencies emerged in diverse ways with participants demonstrating distributed leadership roles during asynchronous learning activities. From the issues discussed, it became important to raise awareness in those that function in various instructional designer positions of the need for leadership competencies essential to ensure concomitant quality outputs.

**Instructional Designer Leadership Competencies**

Figure 1 presents a taxonomy of a field-relevant set of competencies derived from the two domains summarized above: instructional design and leadership.
Figure 1. Taxonomy of domain-specific leadership competencies for instructional designers.

The combinatorial effect of instructional design and leadership competencies created a novel classification characterized as *instructional design leadership competencies*. The taxonomy was later integrated with the results of this study—interview data gathered and analyzed from expert designer characterizations of leadership concepts critical to quality
online course designs. From the synthesis, a novel model of leadership was proposed at the conclusion of chapter 5.

Statement of the Problem

The problem explored in this study was an on-going lack of quality in certain online higher education curricula. As was articulated and supported in this introduction, leaders in the educational technology field posited in various ways that new instructional design leadership competencies are needed to advance the practice of its profession—competencies with which to ensure excellence in online course production. However, in question was whether instructional designers possess the self-awareness of competencies required to remedy the problem of low quality course designs (Beaudoin, 2007; Naidu, 2007; Sims & Koszalka, 2008). It was posited that perceptions of leadership skills or competencies and actions—decisions that influence the outcome of instructional designers’ work product—would inform the central phenomenon of quality.

Purpose of the Study

Stemming from the problem, the purpose of this study was to investigate the current status in quality of higher education online curricula through its relationship to instructional designer leadership competencies. Ultimately, the study ascertained value and impact on designers’ work quality through recognition of the leadership influence involved in producing educational materials with subsequent effect on learners. To accomplish this end, themes emerging from a phenomenological study, when analyzed and interpreted through the informing literature, intersected with researcher-rated outcomes of web-based courses of learning toward fresh understanding of unique
leadership competencies required in the new paradigm of online learning. Additionally, completing the purpose of the study required close regard of student assessments of courses designed for their learning benefit.

Underpinning an aim to investigate leadership competency in relationship to quality of online curricula was a position by the research that maintained instructional design leadership was and is in need of advancement. As Fullan and Scott (2009) discovered, “there is often little attention paid to the capabilities and experience necessary to lead change in the position descriptions for leadership roles in higher education” (p. 39). Earlier, Beaudoin (2003) voiced concern over adequate understanding of the type of leadership that is required for the new online phenomenon; in fact, later questioned whether design practitioners even understand “their own capacity to lead” (Beaudoin, 2007, p. 391).

To bring understanding to the issue of leadership’s impact on quality of online course designs, the study included exploration into the instructional designer’s task of engineering complex systems of pedagogy demanding multiple competencies, specifically, leadership skills (Kowch, 2009). In other words, the goals of this study were achieved through mindful exploration into expert instructional design practitioners’ thoughts and beliefs. The approach lent insight into causation of quality when viewed through a lens of actions in use (a theory of causation posited by Argyris & Schön, 1992).

Hence for understanding of causation behind the practices that lead to various discrepancies in the quality of online course designs, a comparison of emergent themes to initial research questions were conducted as discussed in a final report. The dissemination articulated a set of underlying theories derived from close analysis of
instructional designers’ perceptions and experiences. Ultimately, a useful outcome of this research project was for new understanding of the role leadership competency plays in the online instructional design field, toward more effective learning.

In summary, study goals were pursued based on a construct of *instructional design theory* (contextualized for online designs), *pedagogical quality theories* (relevant to online learning designs), *competency theory* (specific to leadership and instructional design), and *leadership theory* (educational and professional). A more thorough definition and rationale for the framework follows in the Nature of the Study section.

**Rationale**

Based on a systematic literature review, it was posited that a perception of poor quality online learning outcomes suggested a need for instructional design leadership in order to advance the practice and products of its profession. Implied was a co-need for theory-based field-relevant competencies found by Dooley et al. (2007) to promote excellence in online course production. Additionally, Beaudoin (2007) articulated a well-researched conceptual work on leadership in which he accentuated the instructional designer’s strategic position in advancing education. From a third perspective, Kowch (2009) and Sims (2009) each implied a relationship exists between instructional designer leadership competencies in use and course designs, with ultimate impact on pedagogical efficacy. Collectively, the disseminations relied on formed the basis for conducting a study on leadership’s impact on quality of online designs.

In support of what was considered an appropriate research design, Kowch (2009) proposed that those concerned with advancing the profession are best positioned to
divulge latent causal factors to learning design production processes and consequences. Moreover, examining professionals in the real world of design percolated problems and issues in context (Lincoln & Guba, 1985; Parry, 1998) and provided a mechanism for illuminating relevant problems.

Grounded in a qualitative design paradigm, a phenomenological inquiry approach sought to understand that which may not have been apparent from theories previously held by practitioners; in other words, from hidden meanings (Creswell, 2009; Crotty, 1998; Gelo, Braakmann, & Benetka, 2008). This study located hidden meanings in theories, beliefs, values, and principles that existed in the daily practices and decisions of instructional design professionals. The approach enabled probing into what ways leadership skills and strategies were applied by practitioners in their respective roles and what undiscovered theories held by designers affected daily design decisions. In this way, a relationship was drawn between design decisions and the quality of concomitant online curricula. Therefore, an exploratory qualitative study was justified for inquiring into the minds and practices of instructional design practitioners, with an intent to extract perceptual data for subsequent analysis.

Finally, the study compared current instructional design literature with new meanings derived from participant perspectives; it added to current knowledge of why instructional designers make decisions that have impact on the quality of the aggregate of online educational products.
**Research Questions**

A study on leadership competencies and quality of concomitant online learning products (to the extent quality is measured by researcher and student assessments) invited the following questions:

1. What instructional design leadership competencies are identified as critical to creating quality online learning designs?

2. What are the characteristics of courses created by participants who have identified critical leadership competencies?

3. How do students evaluate the quality of courses by those using the identified critical leadership competencies?

**Significance of the Study**

What set this study apart from others in the field of instructional design was a focus on leadership competency employed in such a way that its pedagogical influence converts to quality learning. Significant to society’s educational needs, this study informed designers of the impact essentials of leadership can make on a modern learning community. A position assumed by the researcher was that perceptions of instructional designers’ leadership (informed by experience and training) substantially contribute to a collective of online learning products, which are purposed for lasting intellectual pursuits. Findings from this study confirmed the researcher’s bias and added new understanding.

In the last decade, Sims (2006), Beaudoin (2007), and others (Der-Thanq et al., 2007; Naidu, 2007; Sims, Dobbs, & Hand, 2001) have found substantial fault with design practices that applied old classroom strategies to the new paradigm of distributed and computer-mediated learning. Recent online course evaluations indicated not much has changed (Bernard et al., 2009). The quality status issue led Spector (2008) to imply that,
with instructional design theory changing to incorporate evolutions in human thinking, leaders of instructional design must also change or assume responsibility for stagnation. Of note, Smith (in Fullan & Scott, 2009) declared a *quiet crisis* in higher education from dependence on a model that “flies in the face of what we know about how people learn, the opportunities that technology presents to transform the educational enterprise and our historic record of failure with a rapidly diversifying population” (p. 20).

The modern learner can be depicted as demanding of technologically-updated education and minimally guided instruction evident in the sheer numbers migrating to online peer-knowledge portals. The latest Allen and Seaman (2010) report underscored the trend as 4.6 million enrollees and one in four higher education students participated in at least one online course in the fall of 2008. Comparing rates of growth, the survey found a 17 to 1 ratio of online enrollments to overall student population growth. What is more, indications were for continued rapid growth as the current economic downturn increases the pressure for lower cost education. It was the intent of the study to inform the instructional design community of the urgency in demanding leadership from its learning architects (Lang, 2005), while listening to their voices for meaning behind the complexities of practice in their reality. That intention was fulfilled as discussed in chapter 5.

Furthermore, Sims (2006) questioned the modern utility of instructional design, while a professional networking site engaged in a discussion (Olbrish, 2009) on whether the field of instructional design was even a living entity. Sims’s (2006) analysis was more subtle, although challenged the efficacy of a practice that insists on aligning with a traditional, instructivist philosophy of education. Implicating impotency in leading for
change, professional designers debated causal ideas in the article by Olbrish (2009), who declared instructional design potentially impotent,

More than anything, if instructional design is going to survive and thrive as a profession, we need to be leaders—leaders in research, leaders in our organizations, and leaders in our field, not accepting the mediocre. Otherwise, instructional design is dead. (para. 6)

From another perspective, Spector (2009) shared a vision for elevation in the status of instructional design from one of special interest group to main-stream professional. Of import to this study, he evoked leadership as the transforming agent.

In a general sense, a lack of leadership talent contributes negatively to an organization’s overall performance in a modern world (Howard & Wellins, 2008). Howard and Wellins (2008) surveyed nearly 14,000 executives and managers representing 76 countries and a cross-section of industry and positions, who reported a downward trend in leadership competency. The authors noted that, in spite of increased leadership development proposals and programs, the complexities of a globalized society may contribute to its apparent shortfalls. The perceptual study revealed 37% of leaders at a high-level fail, citing the most frequent cause as ineffective leadership skills “such as facilitating change, building a team, and coaching” (Howard & Wellins, 2008, p. 10). In contrast, confidence in low-level leaders by upper management measured at a mere 25%. The figures presented tell a story of a lack of leadership competence and confidence at all levels, in all roles, in all segments of business and education.

A lack of leadership knowledge holds universal implications. Exhorting educators on 20 of the world’s most pressing issues, former World Bank vice-president and economist, Jean-François Rischard, challenged attendees of the International Society for Technology in Education (ISTE) 2010 Conference in Denver, Colorado to instruct in
global leadership. Using charts depicting unmistakable trends toward disaster on many fronts, Rischard predicted a gloomy future (within 20 years) if global leaders fail to collaborate on effective solutions to deforestation, exploitation of fishing waters, fresh water shortages, the AIDS pandemic, and more. Moreover, the prescient leader issued a call for focused deliberations by experts from every country to produce real solutions, sans political agendas. It is reasonable to conclude that dire problem-solving in a complex modern world with competing demands begins with well-educated critical thinkers who will lead in holistic resolutions for, quite literally, saving the planet.

The education industry both employs leaders and trains future leaders for all facets of society. To fulfill a comprehensive mission, designers of curricula shoulder a burden to get it right. However, many lack the theoretical knowledge, or competence, to design effective courses (Dooley et al., 2007). Evidence shows a worldwide paucity of quality online curricula, reported by Daniel (2007) in India and by Uysal and Kuzu (2009) in Turkey. In reaction to these challenges this study unveiled critical leadership competencies which are lacking in many online course designers, although were in use by the sample group. The extent to which instructional designers are aware of those competencies’ importance to practice ranged from not at all to very much so. Finally and most important, the results confirmed how leadership competencies affect learning outcomes for students engaged in any-time, any-place learning in satisfactory ways. It was assumed the findings will transfer to a global community of designers.

Lastly, the study conclusions are important to the instructional design field as it revealed, directly from designers’ voices, novel issues that added to understanding of how online learning design decisions are made; how leadership competencies and roles
affect educational change; and, what power instructional designers hold for meeting demands for global transformation through excellent educational offerings.

**Definition of Terms**

A list of less commonly used terms for concepts operationalized in the study is offered for the reader’s benefit:

*Codebook*. An organizational scheme developed for framing the analysis of data with the research questions (MacQueen, McLellan, Kay, & Milstein, 1998) by assigning unique identifiers to themes and categories.

*Competency*. A behavioral demonstration of knowledge, skill, ability (Dooley et al., 2007), attitude, (Richey, Fields, & Foxon, 2001), and experience (Kruger & Dunning, 1999).

*Constant comparison analysis*. A data analysis method that locates the differences and similarities among the data (Glaser & Strauss, 1977).

*Constructivism*. A philosophy of learning that generally believes individuals interpret meaning “in the context of their own experiences” in which outcomes are achieved through authentic tasks and knowledge construction, rather than knowledge transmission from a teacher (Duffy & Jonassen, 1992).

*Distance learning*. A formal education process in which the student and instructor are not in the same place. Thus, instruction may be synchronous or asynchronous…may involve communication through the use of video, audio, or computer technologies, or by correspondence [which may include both written correspondence and the use of technology such as CD-ROM] (Parsad & Lewis, 2008).
Face-to-face learning. Learning venue in which learner and instructor are both physically present (Wuensch et al., 2008)

Idiographic inquiry. Research strategy in which the researcher seeks to uncover profound, complex truth as exampled in the individual experience, which may rarely juxtapose onto a logical matrix (Gelo et al., 2008).

In-depth interview. A qualitative method of collecting data in which participants lend personal perspectives on issues and phenomenon (Seidman, 2006).

Inductive analysis. A method of data analysis in which researchers locate theories that emerge directly from and are grounded in the research data; hypotheses are not proven or disproven, rather more questions emerge from the descriptive data (Bogdan & Biklen, 1998).

Instructional design. A process to devise learning designs with systems, methods, and strategies to ensure desired learning within certain situations (Morrison, Ross, & Kemp, 2007; Reigeluth, 1999; Wilson, 2005a), with intent to provide learning packages consistent with the instructional goals of its clients (Smith & Ragan, 1999).

Instructional designer. One who designs instruction and related resources that meet learning needs for defined audiences and settings…includes tasks of management, implementation, and evaluation…all in the service of designing and delivering good instruction (Wilson, 2005a, p. 238).

Leadership. Represents quality of key attributes, behaviors, and skills (Dooley et al., 2007; Drucker, 1981; Fullan & Scott, 2009; Kowch, 2009); direction and influence on both tasks and people (Howard & Wellins, 2008); positional and nonpositional roles (Gressick & Derry, 2010).
Online learning. Acquisition of new skills, knowledge, ability, and attitudes; which takes place entirely over the internet (Means et al., 2009).

Perception. An awareness or understanding of one's surroundings through the senses; essential for understanding how things work (Gibson, 1966).

Phenomenological research. A qualitative method of exploration into common understandings and practices to discover meaning of and into prevailing cultural understandings (Crotty, 1998).

Assumptions and Limitations

Underpinning this study were certain assumptions, followed by several limitations that emerged during the process. The first assumption rested on a brief history of instructional design, its formational theories, and indigenous practices (Reigeluth, 1999; Reiser, 2001; Wilson, 2005a) to suffice for background to the study; instead, a more complete view of its finished products was deemed needed to analyze the effects of design practitioners’ critical competencies.

In the same vein, the study did not analyze learning theories at length for understanding what constitutes quality of learning; rather, the researcher assumed a reader of educational topics would not require an extensive exposé on learning theory to grasp the topic and themes under exploration.

While several predictors of effective learning were explored in chapter 2, quality of learning instigation was viewed more closely through a lens of human perceptions, epistemic practices of research, and heuristic evaluations. To this end, the research examined practitioners’ self-conceptions and perceptions, theorized by Pratt (as cited in
Konings et al., 2005) as meanings and interpretations attached to the world in which one operates; although, it fell short of exploring self-efficacy (Bandura, 1997), which is belief in one’s capability to master a task.

Another assumption foundational to the research design was that participants would be willing and capable of assessing personal strengths, weaknesses, and attitudes that affect work outcomes and potential as concluded in a study by Dooley et al. (2007). At the same time, the assumption was limited in this approach by participants selected from one homogenous professional group, the Association for Educational Communications and Technology (AECT), who shared commonly-held beliefs (Wenger, 1998), which may have created unusual bias. For instance, nearly identical descriptions were offered on concepts of authentic, real-world tasks, interaction, and collaboration. Without intention of devaluing the concepts, the data did not add qualitatively to the study, rather validated other research. Toward mitigating such limitation, the research design protocol followed thematic analysis and triangulation of data, through course structure evaluation and student assessments, and extended the value of the findings (Taylor & Bogdan, 1998).

Further limiting the study sample was a participant selection strategy based on the notion of, and desire for, experience. Therefore, a participant qualifier of expert status effectively eliminated the views of novice instructional designers. The strategy was supported by an empirical study of instructional designers in which Verstegen, Barnard, and Pilot (2008) documented the limitations of a novice’s knowledge of daily practice. The study showed that while novice instructional designers (teachers, instructors, SME’s)
were close to the subject, they did not utilize proven systems to support their creations, but relied heavily on intuition, and often resulted in poor outcomes.

An additional assumption was that leadership skills would be evident in the academic courses participants designed in terms of contextual, theory-driven standards; and, that correspondent quality would be confirmed by students of overall course quality.

Finally, a limitation occurred during analysis of personal documents when an important component of course design, a list of unit objectives, was not included in the submission of two samples. An initial assessment returned a skewed score for that element, therefore, was nullified in the final analysis of findings.

Nature of the Study

Theoretical/Conceptual Framework

Providing a conceptual framework for the proposed research study were four theories grounded in instructional design and leadership literature: instructional design, pedagogical quality, competency, and leadership theories. Instructional design as a field encompasses a wide range of design, instructional, and learning theories previously noted in this chapter. It achieved its primacy in this study’s theoretical construct as the focus centered on the field of design, its practices, and its products. Therefore, the literature review devoted ample space to its underlying theories.

Second, to better understand its impact on instructional design, multiple theoretical notions of quality under one general umbrella underpinned this study. Numerous studies reviewed by Menchaca and Bekele (2008) provided substantially for examining the foundations of quality development measured by faculty and learner
expectations, optimization of technologies, and prerequisites for success. At the same time, certain research methodologists called much of the last several decades’ findings into question with new notions of how to better assess quality of learning within an online environment (Artino, 2008; Bernard et al., 2009; Hannum, 2009). With this contradiction in mind, a more accurate and effective measurement of quality was urged for others to explore through on-going research, toward improvement. However, the literature analyzed for this study provided lively discussion from various theories on the issue of online curricula quality.

Third, whether in political, financial, spiritual, or family sectors, leadership seems to have lost its way in a chaotic world to the extent that confidence in leaders is declining (Howard & Wellins, 2008). Relevant to this study, Beaudoin (2007) posited instructional designers do not possess adequate self-knowledge and perception of the competencies required for converting leadership skills to quality products. An analysis of relevant literature confirmed a lack of understanding by instructional designers of in-practice competencies for leading the challenges of a new age of learning. For education, leadership in preparing the modern learner for unprecedented global challenges will take on new meaning and require requisite competencies (Sims & Koszalka, 2008). With this in mind, a study underpinned by competency theory informed inquiry into current practitioner skillsets for developing high quality learning designs.

Finally, analyzing theories of leadership followed a path crossing disciplines forming a rich background for the study. At the same time, the bulk of work in this area was comprised of academic positions on leadership in education. For example, in an assessment of instructional designers’ online outputs, Reeves et al. (2004) placed the fault
of poor quality squarely on the designer and claimed, “There is little evidence that the developers of most online collaborative learning environments in postsecondary contexts have tried to reach, much less attained, the vision…” (p. 54), referring to earlier predictions of a catalytic role in advancing the field. At the same time, Webber and Robertson (2004) promoted international leadership and passed on their notions to current scholars of education (Beaudoin, 2007; Fullan & Scott, 2009; Kowch, 2009), who each articulated nuances of a need for concerted change through leadership.

Clearly, remedying perceptions of quality online learning products demanded addressing enormous challenges in the world’s state of global and economic crisis, with visionary perspective typically assigned to leaders (Kouzes & Posner, 2007). A study built on leadership theory in this context recognized the urgency of modern times, ripe for well-trained professionals to assume a leadership role in delivering holistic remedies for a growing cyber population (Kowch, 2009).

In summary, this study was framed by a four-fold theoretical construct of instructional design theory and purpose, elements of online pedagogical quality theory, competency theories that inform educational products, and leadership theories toward the designer’s role in online learning interventions’ quality.

Methodology
Qualitative inquiry into designers’ situational experiences informed the field of underlying causes and remedies for improving online products in higher education. A phenomenological research design framed a study to (a) interview instructional designers for definitions of leadership competencies considered critical in producing online
learning designs, (b) use course design heuristics to evaluate participant-designed courses, and (c) assess student evaluations of participant-designed courses. Modern social research affords exploration of mindful behavior through carefully mapped strategies, of which qualitative inquiry specifically seeks to probe the causes and meanings behind human phenomena (Crotty, 1998).

To gather evidence of which factors impacted learning designs, the researcher employed an in-depth interview approach during which themes of practical decisions were produced from instructional designers’ narratives. Gelo et al. (2008) posited the approach as effective for studying a central phenomenon through a lens of participants within a defined social setting; in this case, a small community of instructional designers. Additionally, assuming change would be implicated from data collected and analyzed, Hill (in Schwier, Hill, Wager, & Spector, 2006) contended that change comes “within the parameters of that person’s culture” (p. 89). The approach elements underpinned a study during which data collected informally and contextually were transformed into meaningful interpretations through a subject-relevant lens (Creswell, 2009). Moreover, the phenomenological research technique effectively extracted meanings inherent in the practical decisions made by instructional designers through exploration of experience, expressed through practitioners’ voices (Wertsch, 1998).

Ultimately, the research linked emergent themes to the questions guiding the study through rich, thick descriptions of in-context experiences of the participants, with implications for solutions to improve instructional design leadership in online course designs. The goal for a holistic, coherent, and transferable study outcome to the instructional design field at large was met.
Organization of the Remainder of the Study

A systematic progression through the research study followed a book and chapter method starting with the current section, chapter 1. With intent to ground the study in current and historical theories and concepts, chapter 2 represents an extensive review and analysis of cross-disciplinary literature with an emphasis on peer-reviewed journal articles and research studies. Chapter 3 focuses on an epistemological and philosophical rationale for conducting a qualitative research study. Following the methodology support, chapter 4 reports the specific and general findings from data collection and analysis. Finally, chapter 5 summarizes the study, discusses the findings, notes application and importance to the instructional design field with suggestions of future research, and offers a novel model of leadership for practical consideration by the reader.

Conclusion

For the virtual academy struggling to survive escalating enrollments while providing excellent educational opportunities, the outcome of this study informed instructional designers as to what impact critical leadership attributes of practitioners has on quality pedagogy. The positive findings offered encouragement to the instructional design professional struggling to meet learner needs while holding to excellent personal standards for quality work outputs. Moreover, the study informed the field of instructional design in broad ways as the research produced support for leading in the critical issues facing the future of quality cyber-education.
Research results were not interpreted independently, rather through a substantial theoretical framework. Therefore, impetus and underpinning for the study stemmed from a thorough analysis of the relevant literature discussed in the following chapter.
CHAPTER 2. LITERATURE REVIEW

A comprehensive review of both instructional design and leadership literature identified key issues underpinning a current problem of quality degradation in selected online higher education courses. Two overarching elements derived from the study included: (a) varying perspectives on web-based course and program pedagogical quality and (b) instructional designers’ leadership competencies and the impact of their decisions on cyber learning. In addition, an underlying issue was identified in which traditional research methods were called into question. Through analysis of cross-disciplinary studies, discrepancies were found in how online course quality is perceived—how it is interpreted in existing research studies. Moreover, contradictions were identified in who is responsible for online course quality as well as whether a correlation exists to the more critical issue of instructional designer competencies critical to leading in the field.

At the conclusion of the review is a brief analysis of social inquiry through phenomenological research. The planned design prompted answers to the research questions:

1. What instructional design leadership competencies are identified as critical to creating quality online learning designs?

2. What are the characteristics of courses created by participants who have identified critical leadership competencies?

3. How do students evaluate the quality of courses created by those using the identified critical leadership competencies?
Framing the Study

Reeves, Herrington, and Oliver (2004) and Naidu (2003) began to alert the instructional design field that reports of degradation in online courses demanded attention. Supporting a concern for quality, recent studies by Means, Toyama, Murphy, Bakia, and Jones (2009) revealed slow progress toward improvement. Embedded in relevant literature, several theoretical issues coalesced into potential causal themes. For example, Sims and Koszalka (2008) expressed doubt over adequate designer competencies vital to excellent designs for a modern learner. Likewise, Dooley, Lindner, Telg, Irani, Moore, and Lundy (2007) questioned the competencies in use by instructional designers and found a dearth of theoretically-based decisions. Consequently, various factors of instructional design competencies were explored in the literature and informed the novel research study.

In addition, the literature review highlighted a significant influence on learning design: its creators’ competencies to design with leadership. Beaudoin (2007) questioned whether instructional designers understand the dimensions of leadership available to them. However, critical to Kowch (2009) was the role of leadership in modern education: He called for integration of leadership knowledge and educational technology. In the same vein, Beaudoin (2007) conceptualized that leadership is essential to the practice of contemporary instructional design. Therefore, a fresh look into quality online education assumed a multifaceted leadership factor.

Moreover, the analysis offered showed that research has not always adhered to scientific standards when assessing an online genre of learning, creating confusion as to the accuracy of its evaluations (Masterman, Jameson, & Walker, 2009). Ostensibly, how
learning designs are evaluated impacts perception of quality; as in, whether its measurements produce trustworthy and credible results. In the interest of reducing bias, citations were selected that reflected on competing notions of accuracy in online design research methods.

Finally, it has been suggested that a paucity of literature existed on instructional designers studying themselves through a lens of the quality of their outputs (Spillane, Halverson, & Diamond, 2004). Confirming this perception, the review highlighted a gap between perceived quality of online products by others and what is examined and understood by instructional designers. Therefore, an investigation ensued into what is known by practitioners of the critical leadership competencies and roles impacting the field’s achievements in providing quality education to a new community of learners through design.

**Background and Context of the Study**

Instructional designers, the architects of academic training courses and programs (Kays, 2003; Lang, 2005), inform educational initiatives around the world in an attempt to keep pace with racing advances in 21st century technology. Significant growth in distance education programming, confirmed by increases in enrollments for K–12 at 65% from 2002-03 to 2004-05 (Means et al., 2009) and 43% from 2005-06 to 2007-08 (Allen & Seaman, 2008), is paralleled in higher education rosters, which doubled from 2003 to 2007 (Allen & Seaman, 2008). Moreover, in 2008 75% of postsecondary education reflected an online component (NSEE, 2009). The online curriculum was minimally defined as “a course where the vast bulk of the content is delivered online. Typically
[they] have no face-to-face meetings” (Allen & Seaman, 2010, p. 4, Table). The limited definition assumes learning through multiple technologies and related instructional strategies inherent in modern learning designs.

Rapid growth in online higher education creates opportunity, as well as increased responsibility for instructional designers charged with providing relevant and effective content in light of shifting notions of learning. For example, Bernard et al. (2009) found that, in distance education courses, pedagogical excellence is achieved through congruence between strategies and learning context. One strategy named pertinent to a strong course design was interaction-focused activities. The study also found that a strong relationship exists between enhanced interactive treatments for asynchronous courses—whether student-to-student, student-to-instructor, or student-to-content—and achievement; although, the reason for this phenomenon was not as clear. Confounding the researchers, it was noted that in some cases students did not avail themselves to interaction opportunities. For those learners who did interact on various levels, achievement was shown to be substantially better than from a weaker design with less interactivity design features, such as assistance with engagement.

Through another lens, Dede, Dieterle, Clarke, Jass-Ketelhut, and Nelson (2007) posited student perceptions of learning are changed when confronted with new patterns of “information-seeking, communication, expression, and meaning-making” (p. 339). The research on social media for learning supports Dede et al.’s (2007) claims of immersive learning through emergent, distributed technologies with life-changing outcomes. Strategies involved with immersive learning are counter-intuitive to the more traditional instruction-led approaches of face-to-face classrooms. Sims (2006) maintained that low
quality online designs are the result when steeped in instructivist methods and theories of learning. Emphasizing dissimilarities in learning when in a constructivist environment, Sims’s notion invoked new conceptions of acquiring knowledge when learners are confronted with distance between instructor and learner, unaided access to boundless information, and new learning technologies.

In spite of emerging theories of learner needs, Der-Thanq, Hung, and Wang (2007) showed that online pedagogical approaches were not reflective of modern learning concepts with many attempting to apply traditional methods to current needs. Based on many years of experience in the field, Naidu (2007), Sims (2006), and Wilson (2005b) voiced similar concerns of incompatible design strategies. More recent observations by Artino (2008) and Hannum (2009) suggested an on-going detachment with research that shows significant differences continues to exist in design needs for online learning (Bernard et al., 2009).

Meanwhile, researchers have recently shown marginal online course quality improvement (Means et al., 2009) in the United States, United Kingdom, and Australia. However, the assessment is not universal. Daniel (2007) illuminated a pedagogical problem in India, declaring its effort at online course design as “mostly rubbish” (Affordability, Accessibility, Appropriateness and Accreditation section, para. 15). Another startling report by Uysal and Kuzu (2009) implied that no standards exist for online education in Turkey. Moreover, perception of quality improvement is not shared by all United States reviewers. A large study of 10,700 higher education faculty found 70% view online curricula inferior to traditional (Seaman, 2009) affordances. There is, at best, a lingering question of quality in online course designs throughout academia.
Confounding the quality issue, findings from two separate meta-analyses (Allen and Seaman, 2008; Means et al., 2009) resulted from comparisons made between online, hybrid, and face-to-face classroom genres, rather than from issues of strategic effectiveness within unique domains. Artino (2008) and Bernard et al., (2009) conceptualized the more accurate methods needed for good research as homogeneous, investigating like-kind variables within the online environment.

From this synopsis, questions arose as to what standards are being applied to quality development. Should they be different for online? Are perceptions of inferior quality justified, and are the critics credible? Is poor or confusing research being reported? What, then, are the determining factors behind quality levels in learning designs? More importantly, what critical qualifications are needed to design effectively for a modern learner? The following analysis explicated the issues and questions raised in light of credible research and dissemination.

**Theoretical Analysis**

**Theoretical Framework Introduction**

Framing a phenomenological study of instructional designers and concomitant work products, a theoretical construct was built on instructional design theory, quality of online pedagogy theories, competency theory, and leadership theory. The review built on perceptions, such as offered by Reeves, Herrington, and Oliver (2004), that instructional design quality suffers from “an inability of academic staff and instructional designers to think ‘outside of the box’ when it comes to developing online courses” (p. 55). By this, Reeves et al. (2004) challenged those threatening the reputation of instructional design.
Founded on noble purposes and a high calling, theories underpinning the field informed a study of its developers. Therefore, a literature review commenced by elucidating the premises of instructional design.

Second, the review inculcated causes of varying pedagogical quality, with conflicting notions of influencing factors. Among them were theories of poor research methods (Masterman et al., 2009), various stakeholder perceptions as measurements (Konings, Brand-Gruwel, & van Merriënboer, 2005), as well as, documented client epistemological differences and institutional pressures (Campbell, Schwier, & Kenny, 2009). However, resonating the strongest were numerous prominent instructional design leaders who expounded on competency (and leadership) factors as essential for developing quality products for a changing learning environment (Beaudoin, 2007; Dooley et al., 2007; Kowch, 2009; Larson & Lockee, 2009; Naidu, 2007; Reimers, 2009; Sims, 2006, 2008, 2009; Sims & Koszalka, 2008).

Third, capabilities and skills were examined under the concept of competence. Competency theory crosses multiple disciplines, including cognitive and social psychology. In particular, the review looked into how competencies are perceived and applied in a work situation (Dooley et al., 2007; Stein et al., 2009) and how instructional designers may or may not perceive the skills and leadership attributes required for producing high quality online learning designs. The context-relevant perspective confirmed value in eliciting designer perceptions of competency.

Fourth, Fullan and Scott (2009) posited that “there is often little attention paid to the capabilities and experience necessary to lead change in the position descriptions for leadership roles in higher education” (p. 39); their concepts closely informed the
leadership theory and its inherent competencies explored in this study. In summary, a four-fold conceptual framework supported a study of instructional designers’ leadership competencies in action toward improving quality learning designs, with effective learning outcomes. The intent was to pay attention to the demands for leadership in online higher education, designer practices and role definitions, and perceptions of quality in the designs created by the architects of online learning.

Theory of Instructional Design

Definition and history. Instructional design was summarized as a theoretical premise of how to devise learning designs with systems, methods, and strategies to ensure desired learning within certain situations (Morrison, Ross, & Kemp, 2007; Reigeluth, 1999; Wilson, 2005b). From this definition the principals of design have sought to provide learning packages consistent with the instructional goals of its clients (Smith & Ragan, 1999), which vary depending on prevailing socio-psychological thought. For example, an early behavioral approach of reacting to content presentation with predicted outcomes remained a part of pedagogy until more research in the 1970s refuted the effectiveness of its principles (Tennyson, 2005), paving the way for a more learner-involved task mastery and assessment process within a specific domain.

However, early philosophers, such as Aristotle, Socrates, and Plato, considered the external nature of things through the internal—the mind of humans (Cooney, Cross, & Trunk, 1993), following centuries of focusing on learning through and from nature. Cooney et al. (1993) captured Plato’s rationalistic view of knowledge acquisition, “Education is not about putting information into empty heads, like sight into blind eyes!”
Rather, Cooney et al. (1993) asserted that Plato believed meaning resides within the immature mind and needs education to extract it for integration with the natural world. Similarly, early American educator Noah Webster (1758-1843) offered a definition: “Education comprehends all that series of instruction and discipline, which is intended to enlighten the understanding, correct the temper, and form the manners and habits of youth, and fit them for usefulness in their future stations” (“Education”, Webster’s 1828 dictionary). Clearly, early traditionalists regarded the student in need of training for useful purposes, albeit, by rigid external measures and formalized instructional strategies.

Dewey (1938) began to question the rigid practices of drill and practice and rote memory as effective instructional strategies and promoted what Tennyson (2005) considered to be the only stated United States educational philosophy: Improved education lies, he believed, in freeing the student to explore and experience concepts, facts, and the purpose of life through meaningful interactions (Dewey, 1910). Championing a progressive movement in United States education, Dewey is credited with being the first to posit a link between learning theory and instruction (Tennyson, 2005). Ultimately, he viewed the purpose of education through a student lens and how the human mind actually learns (Dewey, 2010).

New psychological beliefs in how the brain functions and processes information (Gagné, 1985; Piaget, in Cooney, Cross, & Trunk, 1993) paralleled a rise in technology. Ostensibly, B.F. Skinner’s radical behaviorism, which culminated in a teaching machine for organizing instruction (Skinner, 1958/1996), marked the onset of a major learning theory shift toward student ownership of cognitive outcomes (Hannafin, 1984; Jonassen
et al., 1995). In this regard, Brown, Collins, and Duguid (1989) and Clancey (1993, 1997) suggested that problems may only be solved in the situations in which they exist, resonating Dewey’s (1916/2007) early notion of transactional learning. This notion was later extended by Merrill’s transaction theory (Merrill, Li, & Jones, 1991; Jonassen, 2005), by which learners engage and construct meaning, or knowledge, during computer-mediated learning.

The notion of learning with machines spawned research into metacognition—the ability to think about one’s thinking processes and convert that knowledge to acquisition strategies. The recognition of where to go for information, how to access it, and how to reflect on one’s process while engaged with a computer was became a new learning theory (Flavell, 1979; Gagne, Wager, Golas, & Keller, 2005; Kolb, 1984). Recent studies (Dixon & Dixon, 2010) have refined and narrowed the focus to including interventions for collaborative metacognitive support systems in designing effective online learning.

With instructional design trending toward co-constitution of instructional strategies in digital environments, new questions of compromise arose in basic philosophical and scientific foundations of design (Dinter, 2009). Rationalizing from common sense, Dinter (2009) examined fine epistemological points to argue that constructivist instructional design theory supplies the only sound view of education. Sympathetic with the bounded philosophical argument, Spiro and DeSchryver (2009) divided the constructivist issue along the lines of problem domains with suggestions of how instructional design may afford both well-structured and ill-structured problem-solving. Rather than combine direct instruction (teacher-imparted and content-
controlled) with learner-controlled methodologies, the theorists (Spiro & DeSchryver, 2009) suggested separate approaches for the two very different domains. With documented empirical evidence, Spiro and DeSchryver abandoned a unifying theory of instruction for all learning; although, they advocated constructivism for most modern contexts. In doing so, the group underscored the urgency for repurposing current models, as well as developing new constructs, with which to inform the complexities of nonlinear learning from the World Wide Web.

**A modern instructional design theory.** Jonassen (1991) extended the notion that learning occurs, not merely from direct instruction, but during engagement with authentic tasks in and out of the school. From this perspective, he and others led a paradigm shift in instructional design theory, which called for a change from designing for an industrial age mindset (Reigeluth, 1999) to one centered in technology. Eventually, invention and wide distribution of the personal computer proliferated attention to a learner-initiated philosophy and a new way of thinking about instruction (in Molenda, 2008).

Consequently, an array of instructional design models conducive to computer-mediation appeared (Gustafson & Branch, 2002). Morrison, Ross, and Kemp (2007) developed a classroom-oriented model frequently adapted to online or hybrid (part classroom-part online) environments. The earlier 3PD model proposed by Sims, Dobbs, and Hand (2001) reflected a three-phase interactive design process tailored for a constructivist online learning opportunity. It has recently been updated (Sims, 2009) to incorporate multiple peripheral process functions. In contrast, a third model endorsed widely by designers, the 4C/ID-Model conceptualized by van Merriënboer, Clark, and
deCroock (2002), assured its application to online affordances while at the same time drawing on objectivist—instructivist—strategies. An epistemological conflict is evident when one attempts to match learning outcomes with activities in the context-relevant design model.

Meanwhile, various studies cited significant predictors of quality learning such as organization and planning (Dykman & Davis, 2008; Zsohar & Smith, 2008), interaction and feedback (Anderson, 2003; Cornelius & Glasgow, 2007; Dunlap, Sobel, & Sands, 2007; Gallien & Oomen-Early, 2008; Keegan, 1996; Li & Irby, 2008; Magnussen, 2008; Sims, 2003), course structure (Ostlund, 2008; Seok, 2009), ongoing evaluation (Dykman & Davis, 2008), collaboration (Ostlund, 2008; Weaver, 2008), personalized learning (Barbour & Reeves, 2009; Sims & Stork, 2007), as well as, the design process and pedagogy (Naidu, 2007; Sims, 2009).

During this time, theories emerged of a different type of learning when online. Sims (2006) suggested instructivist methods infused in online designs denied emerging theories of dissimilar learning when engaged in a constructivist environment. Beaudoin (2007) considered the phenomenon a new mode of learning, suggesting a shift in typology of knowledge acquisition. Moreover, Dede et al. (2007) inferred a new learning theory from results of widespread studies showing students connecting in novel ways through multi-user virtual environments (MUVEs), online communities of learning such as Second Life™.

However, based on entrenched ideas of learning borne from a positivistic view of acquiring knowledge, Clark (1994) and Merrill (in Tennyson, 2005) challenged the veracity of learning from a design produced for instruction with an emphasis on machine
intervention as a pedagogical agent—a debate with numerous philosophical and psychological tentacles that rages on (Fox, 2008; Spector, 2008). Noticeably, current conversation is taking a path beyond distance delivery versus face-to-face technology comparisons, to questions on what can be utilized and improved in current instructional design practices to ensure quality of online learning (Sims, 2009; Spector & Merrill, 2008; Willis, 2009). What are the known predictors of quality? What role will instructional designers play in ensuring relevant strategies exist in modern designs? What competencies will be required for instructional designers to lead the impending changes in modern educational affordances?

**Theories of Online Pedagogical Quality**

**Definition and measurements.** Quality of online learning was defined in terms of meeting research-based pedagogical (and andragogical) standards that, when applied to a learning design, meets learner needs with effective outcomes, irrespective of delivery methods (Quality Matters™, 2006). Intent on promoting quality in online designs, some proposed keeping the unique web-based environment at the forefront of development (Chao, Saj, & Tessler, 2006). The Chao et al. (2006) framework specified six elements for measuring quality in designs developed for online environments: curriculum design, teaching and facilitation, learning experience, instructional design, web design, and course presentation. Of the six, the latter three were developed and tested as a means of establishing quality standards that would identify strengths and weaknesses of course designs and provide impetus for improvements. Although well-documented studies underpinned its development, the Chao et al. (2006) instrument included limitations in
testing represented by one small team headed by one instructional designer with testing on just one course. Therefore, favorable results for its use are viewed by this researcher with skepticism.

In contrast, the most recent version of the Quality Matters™ (QM™) Project standards (2010) resulted from an extensive, longitudinal study with multiple field experts involved. The work culminated in an updated 40-item rubric for evaluating eight components: course overview and introduction, learning objectives (competencies), assessment and measurement, resources and materials, learner engagement, course technology, learner support, and accessibility. In 2010 the original evaluation tool had been used for over 7 years by over 120 accredited United States universities and finds its strength in incorporating a team of reviewers for each design rather than one course developer or faculty.

Likewise, the Online Course Evaluation Project (OCEP, 2010), out of the Monterey Institute of Technology and Education, developed a 52-item evaluator with a team-rater perspective. Developed under a consortium of professionals from all aspects of online higher education, the instrument represented a move toward assessing the viability of a course within the context of its intended delivery environment rather than in content comparison to its face-to-face counterpart.

A more recent example of an in-context evaluation method that concentrates on course structure for online, irrespective of content, is the Outcomes/Assessments/Strategies/Activities (O/A/S/A) evaluator, a tool relevant to this study in terms of evaluating the instructional designer’s thinking; a “design for a learning mind-set rather than presenting content”, more typical to the traditional approach (R.
Sims, personal communication, August 26, 2010). The components align intended outcomes with corresponding assessments followed by strategies and activities designed to enable personalized, or contextual, learning. In this way, quality of learning is represented by the ability of students to incorporate individual experience and culture into their construction of knowledge.

The phenomenon of contextualized learning was confirmed in a Sims and Stork (2007) case study of a structurally well-designed online course. From the results, the researchers confirmed a position that “instructional designers must create course plans that allow learners to impose their own socio-cultural contexts to the course strategies and content” (Introduction section, para. 4). In other words, quality takes on meaning through relevance to a learner’s experience and situation or context. Therefore, the metric provided an effective measurement of online course quality for evaluating those elements inherent to and specified for the online learning genre.

**Perceptions of online quality.** As a prelude to exploring instructional designers’ perceptions of their own learning design quality, a search of the literature returned interesting perceptions by others. For example, Konings et al. (2005) revealed evidence of conflicting conceptions and perceptions in three distinct areas:

- Purposes and instructional goals of course designers.
- Teacher conceptions and perceptions of implementing the design.
- Perceptions and expectations of students situated in the learning environment.

Their findings implied that student perception is the only influence on quality of learning, with a caveat that maximization may be achieved through collaboration of
designer, teacher, and student. Limitations of the study, including a lack of documented original research, lent skepticism to the generalizability of the researchers’ conclusions.

On the other hand, Bolliger and Wasilik (2009) recently identified, from faculty perceptions, various factors of online learning which related positively to design affordances. Instructor observations were considered significant based on the assumption that faculty satisfaction directly influences student motivation and success. Meanwhile, Masterman et al. (2009) examined novice teachers for their views on the value of online learning designs and found that, although performance was enhanced by instructional design, the value was in “increased confidence and a new pedagogic perspective on the teacher’s part” (p. 237), rather than in design quality. Whether for the student or for the teacher, value is shown to be relevant to the end user, as confirmed by Konings et al. (2005), leaving design quality assessment in a quandary.

**Recent findings.** Recent activity toward improvement in quality was represented by a longitudinal study of online adult learners in which Dixon and Dixon (2010) confirmed a diminishing role for teachers in lieu of collaborative metacognitive support. However one researcher, Clark (2010), reiterated a long-held position that “cyber learning theories and models fail to account for the influence of nonconscious cognitive processes” (2010, Abstract section) and rendered most current strategies inadequate for the complex learning ascribed to online environments. It has also been shown that organizations are making an attempt to standardize quality in distance programs with varying results as analyzed recently by Lockee, Burton, and Potter (2010), including through an instructional design perspective in a study reported by Spector (2010).
A problem with research. However, casting doubt on what is considered quality for learning maximization, Masterman et al. (2009) brought previous studies into question with suggestions of flaws in how online course designs were assessed. Earlier, Bernard et al. (2004) argued against most of past and current research findings based on questionable and outdated methodology. The researchers’ (Bernard et al., 2004; Masterman et al., 2009) indictments of the literature included the following: generally low quality research, paucity in sampling, flawed methods, lack of internal validity, and homogeneity where incongruity existed. In response, Bernard et al. (2004) chose to broaden the base of their research questions and data, and suggested that “effective DE [distance education] depends on the provision of pedagogical excellence” (p. 39), as substantiated by sound scientific research.

While online learning acceptance indicated a measure of improvement over face-to-face learning in the 21st century (Allen & Seaman, 2010; Means et al., 2009), earlier findings of marginal improvement in quality (Naidu, 2007) had not significantly advanced for online learning success (Allen & Seaman, 2010). In light of these claims, it is important to note that Spector (2009) found distance education being held to a higher standard than face-to-face, which may bias the findings of researchers. Meanwhile, others simply found most research in online outcomes and effectiveness to be flawed (Reeves et al., 2004), inadequately designed (Seok, 2009), or lacking rigor and relevance (Hannum, 2009).

To reiterate, how quality is measured directly influences pedagogical evaluation. Attempts in the last decade to assess online learning events have produced controversial results. Numerous studies, including Russell’s (2001) meta-analysis of 355 comparative
studies, have reported no significant differences existed between achievements online over those measured in a traditional course. While finding evidence for advanced student educational opportunities from online interventions, Cavanaugh (1999) concluded no difference in student performance during distance education to that of face-to-face instruction. Likewise, from a meta-analysis of distance education studies, Phipps and Merisotis (1999) struck a no-significant-difference position on the quality of learning from traditional or distance education courses. Of some import, the Phipps and Merisotis study included a typically flawed limitation of comparing a mixture of various genres of distance education—correspondence courses, video enhancements, and others—to traditional classroom instruction. Hence, generalizability to online courses, per se, was effectively prevented. Further, the researchers admitted to numerous departures from acceptable research practices, calling into question the accuracy of the studies.

Yet, the no significant difference perception persisted. Smaller studies included Warren and Holloman’s (2005) comparison of outcomes for a graduate course in teacher education; one was delivered online and one face-to-face with comparable participant demographics, assignments, and assessments. Postcourse competencies rated slightly higher for online students, however, statistically showed no significant difference.

**Evolutions in research.** From a new perspective, recent studies by Artino (2008) and Bernard et al. (2009) have focused on what optimizes learning within the environment, rather than on group comparisons—face-to-face with distance, mixed distance with online—with an aim toward isolating relevant variables. Underpinning more recent avenues of research were assumptions that previous studies on quality outcomes of distance education versus traditional were lacking in accurate design and
reporting (Bernard et al., 2009); therefore, they demonstrate no scientific basis for
evaluation of online instruction (Seok, 2009). The Seok (2009) study cited a lack of
appropriate evaluative instruments and processes to confirm quality based on the unique
conditions of online learning, thus, its learning designs. Further, the researchers
postulated that, historically, student perceptions and biases have driven evaluations; that a
lack of research was evident in pedagogical measurements; that online research
terminology remained ill-defined; and, that there existed a lack of assessment guidelines
with theoretical basis for online interventions.

Moreover, Bernard et al. (2009) contended that good scientific inquiry demands
that findings cannot make causal inferences using different conditions across all elements
of vastly different learning environments. The researchers claimed a sound study should
compare the distance genre with distance issues. Artino (2008) agreed that issues in the
face-to-face environment are different from those encountered in online learning.
Extending these thoughts, Hannum (2009) posited instructional design research lacks
homogenous, controlled studies that "explore effects of variables in DE" (p. 172) which
influence outcomes of learning events. With further reflection, the scholars admonished
that the field needs to go beyond current variables-in-use toward probing for influences
on distance education practice; and that researchers should seek to improve outcomes of
various technologies and approaches. For instance, it was suggested to use both
quantitative and qualitative methodologies, but increase rigor in order to "look to those
variables that directly influence outcomes" (p. 173).

**Better research designs.** The Seok (2009) research design represented a rigorous
validation study which, rather than rely on student self-reports with incomplete
assessments of all vital elements of a design, introduced a multi-dimensional scaling (MDS) instrument for assessing structural and design components. The MDS study was validated as a broader, more effective instrument toward improving online courses.

Using a case study, the inventory identified three success factor categories: accessibility, adaptability, and clarity of communication; as well as, underlying clusters of contextual accommodation, instructional access, guided learning, and organizational clarity. Although not particularly revelatory in what comprises good online learning strategy, the research-based instrument provided an emerging method of uniquely assessing online course quality as opposed to conducting a comparison group study.

At the same time, from a meta-analysis of distance education studies, Bernard et al. (2009) found that studies tended to point to better results in achievement when not comparing distance education to traditional courses in that they are incomparable in environmental variables, conditions, and so forth. The researchers urged colleagues to follow their lead and move to testing diverse strategies within the distance education genre toward strengthening its unique requirements. For example, the Bernard et al. (2009) study emphasized the variable: interactions, a proven predictor of achievement in any environment, which they found positively affected online student learning. With a significant effect of .38 over alternative treatments, when an interaction treatment was included in the curricula, cognitive engagement and meaning-making were evoked. The research moved discussion beyond which environment effected the best learning to which strategies are best situated within an online education learning design. Ultimately, the study implied instructional designers of online products should concentrate on quality of student interactions.
Another example of conducting within a domain research was found in Artino’s (2008) investigation of the relationship between student motivation and perceptions of online learning as predictors of satisfaction. Regression analysis confirmed task value and self-efficacy predicted satisfactory outcomes. More importantly, instructional quality as perceived by students affected a positive outcome. Conclusions reached by the researcher implicated designs need to provide motivation through task value and self-efficacy support, as well as give a perception of instructional quality. The analysis did not state how this may be achieved, however, provided confirmation of valid and trustworthy information produced from good research designs.

**Better learning designs.** In tracing the history of the journal *Distance Education* and what has transpired over three decades, Spector (2009) unpacked Keegan's (1980/1996) dimensions of instructional design practice and research formulated in 1980. Through expansion on the definition of instructional design with its original visions of quality and how practices have evolved, Spector claimed current distance education standards are higher than when Keegan drew up his model of excellence. In particular, inconsistencies in comparing standards-based conventional instruction with a different mode of learning began to give way to new ways of conceptualizing content. For example, Spector reflected on the state of instructional design as new standards emerged in the literature such as the E³—engaging, effective, efficient—model (Spector & Merrill, 2008), and Sims’ (2009) Proactive Design for Learning (PD4L) model. These models more closely aligned to the modern instructional design paradigm.

Providing further support, a case study by Xu and Morris (2007) emerged significant to this research study. From observations of an instructional designer in
context, a framework of decisions made in a learning design process conveyed team roles, perceptions, and curricular decisions. It was found that the processes for face-to-face and online designs were similar when based on established models; however, there was a perceived need for more relevant evaluations. To a point made earlier in this report, Xu and Morris (2007) showed that providing support for online learning is different than for a traditional event based on a difference in environments. The analysis concluded that in learning design creations, courses should reflect a transformational process rather than a mere translation of lecture to a different medium. This notion resonated with and substantiated an earlier Torrisi-Steele and Davis (2000) study on instructional design teams. Although Xu and Morris limited their study to one instructional designer (all others on the design team being faculty with varying degrees of design experience), the research adds to a growing consensus for differentiating the online educational design model from previous traditional constructs in design and evaluation.

Finally, learning design structures predict quality outcomes (NSSE, 2008). For example, designs with engagement at their core were based on benchmarks of effective education validated by a decade of extensive NSSE studies. The 2008 report revealed that online courses provided engagement by stimulating intellectual challenge; its students approached learning on a deeper level than face-to-face counterparts; learners entered into collaborative tasks more readily; and, technology increased engaging experiences and produced deeper learning. One example, Sims’ (2009) PD4L model, relies on research-based strategies for the design process while following a dynamic trajectory for holist team-based creations. The model is based on a proactive learning
design structure involving students in the design process itself, increasing engagement with the content as well as with the learning architecture.

**Instructional designers’ perceptions.** From the design perspective, a more significant predictor of quality learning products lies in perceptions of instructional designers on their practices. Stein, Shephard, and Harris (2009) posited that perceptions (and conceptions) influence one’s work decisions. This was found to be the case, even though various individuals, on a team or within an organization, did not share common perceptions. In contrast, a problem with the notion of instructional designers perceiving the quality of their work resonated in an international study by Simsek (2005). While exploring perceptions of instructional designers on their craft and its problems, with diverse applications in participants’ unique countries, the researcher found a “perceptual scatter” (p. 189) from its agents. Defining and explaining what one does—self-reported perceptions and conceptions within the larger instructional technology process—was considered difficult to impossible for consensual agreement.

Likewise, Kruger and Dunning (1999) conducted a series of studies in which perception of competence was compared to actual skill in several domains of intelligence and ability. Results showed over-confidence and a wide disconnect from reality in those lacking domain skills. Further, metacognitive skills were questioned as participants failed to recognize their own disparity in accuracy and error. The researchers linked the deficits in self-perceptions to incompetence, which translated to poor choices in their work. More alarming, there was an inability to correct errors in judgment from an apparent unawareness of the incompetence that prompted erroneous choices.
In spite of concerns of inaccuracy in self-reported findings, perceptions of instructional designers may yet be a key to unraveling the mystery of discrepancies between the need for quality online educational inventions and, what is perceived by others as, inferior course offerings. This assumption rested on Gibson’s (1966) work in which perception is centered in awareness of one's surroundings through the senses; sensory perception is essential for understanding how things work. It was thought that without perception action would be chaotic. Guided action, therefore, requires a perceptual thought process by which a product (such as a learning design) may move from idea to plan to production according to how a designer believes, or thinks, it should work. In this way, humans conceive of how and why things occur in their domain—as a direct result of guided actions.

In strong support of perceptual value, an investigative study by Dooley et al. (2007) found instructional designers were able to perceive an improvement in design-related competencies in 12 categories following participation in a training intervention. In another study of instructional designers and their craft, Schwier (2005) discovered clarity in the perceptions of instructional designers when discussing practices and philosophies of educational impact; although, novices were less lucent as to the impact of their designs on the field or society. In essence, perceptions are personally-derived and supply fuel for skepticism in a human perspective study. However, for the sake of this study, value was assumed based on researcher trust in the findings and views of scholars and expert practitioners represented in the results and summations reported by Verstegen, Barnard, and Pilot (2008).
Competency Theory

In spite of concerted work done on developing standards of evaluation and research, a lack of quality in online learning continued to resonate with those who questioned the value of instructional design online outputs and the competencies of its creators. In 2005 only one-in-four academic leaders (27.6%) believed that their faculty “accept[ed] the value and legitimacy of online education” (Allen & Seaman, 2006, p. 14). That figure had not significantly risen by 2009 (Allen & Seaman, 2010) in spite of results showing a majority of faculty recommended online instruction to students, regardless of instructors’ lingering concerns over effectiveness. The contradiction was explained as instructors merely attempting to meet the needs of students, with little justification offered as to why teachers would advise learning from what they considered an inferior source.

New competencies for a new paradigm. Competency is an effective theory grounded in literature by which attributes of leadership and core competencies (Sims & Koszalka, 2008) may be assessed in relation to quality of work. According to Dooley et al. (2007), competency incorporates knowledge, skill, and ability resulting in operational behavior. Therefore, competencies “establish the behavior requirements needed to be successful” (p. 153). In a qualitative study using a particular instructional design development model, participants demonstrated increased core competencies, including an ability to perceive self-improvement. The contradiction with Kruger and Dunning’s (1999) challenge to value and accuracy in perceptual studies is noteworthy.

In recognition of a need to specify skills for instructional designers, a team of leaders in the field garnered expert thinking in developing 23 essential competencies for
the multifarious designer responsibilities (IBSTPI Instructional Design Competencies
Report, 2000). In a subsequent report (Spector et al., 2006), the International Board of
Standards for Training, Performance and Instruction (IBSTPI) defined competence as “an
integrated set of skills, knowledge, and attitudes that enables one to effectively perform
the activities of a given occupation or function to the standards expected” (p. 3).
Relevant to this study, the IBSTPI report lists 10 of 23 elements in which leadership (also
called management) skills are prescribed as essentials of modern practice.

Later, Beaudoin (2007) offered a solution to poor learning designs with the notion
of multiple leadership roles as effective to the future of instructional technology (p. 520).
In other words, he theorized that possessing the competency to assume numerous and
diverse functions during the design process promotes a new mode of learning. From a
kindred perspective, Sims (2008) stated, “[W]ith the continued growth of e-learning these
roles have not only blurred but also created the need for new competencies” (p. 1),
inferring leadership is needed for a new era of learning designs. More to the point of this
study, Sims and Koszalka (2008) followed up with a treatise on competencies expected of
designers to keep pace with a modern age of technology-driven learning environments.
In their analysis, Sims and Koszalka suggested that there was a lack of explicit leadership
competencies in the literature for the instructional designer.

Moreover, a Scott, Coates, and Anderson (2008) longitudinal survey study
captured the views of 513 leaders from 20 Australian universities, as well as 600 senior
university staff in internationally held workshops, in which the participants stressed the
importance of competency understanding through shared meaning. What is it to be
competent in various settings and situations? Additionally, the researchers concluded
that leadership and its attributes “remain poorly understood” (Scott et al., 2008, p. 9), and demanded a common understanding before strategic success in higher education leadership pursuits may be realized. From a theoretical perspective, Fullan and Scott (2009) observed a lack of leadership competency and experience in those expected to be change agents of education; however, their reported findings were limited to anecdotal observations, begging further empirical research.

From the diverse sources offered, it was apparent that competency underpins quality work and must be continually upgraded; however, many in the online curricula development field are struggling to find the meaning behind what constitutes leading in a modern learning paradigm.

A shift in focus. A search of more current literature found valid research contributions from a recent study of practitioners’ voices. Campbell et al. (2009) challenged instructional designers to ask of themselves, “Who am I, why am I practicing this way, and what effect does this have on others? … [on] the curriculum in graduate programs of instructional design” (p. 661). As a result of the longitudinal study, Campbell et al. (2009) situated instructional designers in an “active, moral, political, and influential role” (p. 645). The conclusion supported earlier findings that instructional designers believe they are moral change agents (Campbell, Schwier, & Kenny, 2005) who will lead in changing their culture, the institution, and society.

From contradictory evidence, Schwier, Hill, Wager, and Spector (2006) suggested instructional designers appeared to lack an overall grand purpose. Their research mimicked that of Visscher-Voerman and Gustafson (2004) in finding most instructional designers are aware of what to do, but not why they do it. A need was implied for
graduate programs to redirect training in instructional design theory from emphases on design model implementation to “the epistemology of practice” (Visscher-Voerman & Gustafson, 2004, p. 79). The researchers invited others to explore instructional designers’ awareness of lived-out motivations and values. Subsequent studies have been sparse, prompting new research in meaning behind instructional designers’ decisions for online learning designs.

Campbell et al. (2009) documented another influential element of decision-making and leadership in what others (Olbrish, 2009) anecdotally expressed—that instructional designers often act under the client’s power, which could affect value of outcomes. In the Campbell et al. (2009) example, the employing organization held a conflicting set of beliefs to those of instructional designers, prompting a challenge to participants’ moral identities. The researchers contended instructional designers “think deeply about their practice” (p. 660) and showed a preference for practicing within the bounds of moral purpose (Fullan, 2001). The study inspired further exploration into the extent by which instructional designers align their leadership competencies, personal convictions, and epistemologies with daily practices. Results will show a low response rate from this study group; however, those that articulated moral views did so with depth.

**Competency acquisition and training.** Professional-level competencies are learned skills and attributes, typically during a formal educational process. Larson and Lockee (2009) posited that instructional design competency expectations vary significantly in work settings from what is measured in the academic training ground. The findings from a practitioner survey and one case study found student customization of an instructional design program for a specific work context became a significant
predictor for job placement and success—a demonstration of competency acquisition. However, the study revealed a paucity of programs fitted for a high-level of training in instructional design. From a previous analogous view, Nimon (2007) suggested more training was needed in higher education’s approach to instruction for the Millennial Generation—current and future learners—as it explored “how to talk the talk, walk the walk and forge effective relationships” (p. 24).

On the other hand, an inference from Sullivan and Rosin (2008) was that modern instructional designer training may not convert to competent and moral decisions in subsequent careers. Similar implications were vocalized in an earlier study (Christensen & Osguthorpe, 2004) in which one reason for incompetent actions may be found in some organizations’ underlying assumptions that design practitioners operate with certain skills intact. The study questioned skills and strategies of 113 instructional designers from higher education and found decisions are often made contextually based on eclectic epistemologies. Further, that decisions were made from peer consult, rather than concrete skills and knowledge, implied instructional designers were not receiving adequate training in the academy.

Finally, what was posited by Beaudoin (2007)—that designers studying themselves in the context of their work found limited exposure in research studies—unveiled a fertile field of exploration through research and dissemination. While Fullan and Scott (2009) differentiated capability from competency, the latter is an effective theory grounded in literature by which attributes of leadership may be assessed. Therefore, self-perceptions of instructional design leadership competencies and roles in practice will be examined as factors in producing quality online learning interventions.
While underscoring the importance of this research, the literature of competency elicited more questions. Are most designers aware of online higher education design competency expectations? What is their concept of leadership skills in daily practice? How are those converted to quality learning? If online instruction is to advance with legitimacy (Allen & Seaman, 2008), these questions underscored an important analysis offered in this study, namely, leadership competence followed by concomitant actions.

**Leadership Theory**

Leadership is a state of being and, according to the Oxford dictionary, denotes “a quality or condition; status, office or honour, or; a skill in a certain capacity” (“Leadership”, Oxford Dictionary). As such, leadership may be understood through a behavioral perspective, together with all the inherent complexities of human thought and actions. In this section, cross-disciplinary research and theory spanning several decades linked leadership to capabilities, skills, and attitudes that support and influence the work of an instructional designer.


Stogdill (1974) observed the leadership scholarship as a “bewildering mass of findings…[an] endless accumulation of empirical evidence” (p. 14). A quarter of a century later, research reported by Goleman (2000) in the Harvard Business Review summed up the surfeit of rhetoric on leadership and noted a pattern, a “collection of distinct leadership styles—each in the right measure, at just the right time” (p. 2). Significant in the analysis to this study was a demystification of the predictors of leadership-in-use and their effect on concomitant outputs when matching persons to psychology to action. In other words, as a result of prolific leadership research over
decades in modern times, it was argued that successful products can be determined through application of relevant skills and attributes.

In spite of theoretical abundance on the subject, Fullan and Scott (2009) observed a lack of leadership competency and experience in those expected to be change agents of education. The observation dovetails with Beaudoin’s (2007) question of whether instructional design practitioners understand “their own capacity to lead” (p. 391). The gap between prolific opportunity to garner leadership acumen and an observed lack of mastery invited investigation into a broader understanding of instructional design theory, standards for practice, and implications for the designer’s awareness of power and influence over the design process.

Consequently, a more in-depth review and analysis of leadership was undertaken and is summarized in the following section under three critical categories. Leadership may be conceptualized as consisting of competencies, attributes, and roles with direct effect on its work goals. Each of these elements are discussed and supported below as critical to framing and interpreting results obtained in a research study on quality of online courses.

**Competencies.** A major predictor of work performance is competency, which enables the accomplishment of a desired or prescribed task (Dooley et al., 2007). Competency is a category characterized by multiple components, of which vision, productivity, strategy, and focus were documented in and reported from cross-disciplinary literature.

**Vision.** A leader has been called a visionary (Howard & Wellins, 2008), change agent (Campbell et al., 2009; Beabout & Carr-Chellman, 2008), or global thinker
Leaders as visionaries recognize innovation, forward-thinking, uniqueness, and “respond creatively to world conditions and the current state of their own society” (Greenleaf, 1977, p. 321). Scott et al. (2008) regarded this skill, not as a competency, rather as a capacity to see the big picture and to “read and respond to a continuously and
rapidly changing external environment” (p. 11). Today this may be interpreted as global competency (Reimers, 2009). Reimers (2009) contended global competency is essential for designers of online initiatives privileged with the responsibility of training the world’s learners in respectful awareness of and value for other cultures.

Rogers, Graham, and Mayes (2007) studied cultural competencies of instructional designers through perceptions of impact on their practice. The study revealed flaws which included a lack of lingual and symbolic understanding. Researcher suggestions called for a deeper understanding of basic instructional design principles, and how they may be applied to a wider cultural audience. Conducting a perceptual study of Canadian graduate students, Webber and Robertson (2004) found a need for greater cross-cultural understanding of the learner’s educational contexts, as well as a need for international thinking about leadership. A reflection from the study captured the essence of educational global competency and leadership, “I have been an architect of my own learning, my own meaning making. How can I set up conditions in my own context for others to have the same interactions and learning? This is my challenge” (Webber & Robertson, 2004, p. 8). Both studies can be summed up by Reimers (2009) who promulgated the demise of industrialized mindsets bent on a mass production of narrow lists of competencies. With vision in mind, the scholar promoted emergence of grassroots efforts to organize, define, and promote global competency throughout curricula—a challenge for leaders in instructional design.

Contemporarily, disseminators assumed that instructional designers lead with vision by designing for future trends in delivering education, such as social networking, mobile technologies, and intelligent pedagogical agents (Kim, Baylor, & Group, 2006;
Velltsianos & Miller, 2008). In addition, leaders will seek out and rely on new theories and innovation-oriented designs in support of knowledge creation (Hong & Sullivan, 2009); will design new tools for integrating epistemologies with nontraditional pedagogies (Der-Thanq et al., 2007); and, will implement transformational ways to infuse ethical knowledge in designs (Campbell et al., 2009). Moreover, instructional designers show leadership vision by specifying nontraditional resources as in open source learning objects (Caswell, Henson, Jensen, & Wiley, 2008), wikis (Baggio, 2008), and informed blogs (Carmean, 2008). In spite of research that concluded instructional designers feel a lack of power in changing the institution or society (Campbell et al., 2009), the literature increasingly called for a response to the demands of a new paradigm of learners for an instructional design vision that will encourage global collaboration among institutions (Durdu, Yalabik, & Cagiltay, 2009) and cultures (Reimers, 2009), through best-fit models and relevant curricula for quality online learning.

**Productivity.** Leaders have been described as those who understand how to work hard to achieve results; in other words, are productive. A study of leadership roles in virtual teams showed that learners preferred a producer (Chen et al., 2008), a leader who gets things done, over a visionary. Rather than researchers’ initial assertion that a visionary, change agent aspect of leadership was paramount, the top essential characteristic named was a constructive role—a *producer*. For the instructional designer, the range of tasks involved in developing academic courses within client time and budget constraints (Moore & Kearsley, 2005) demands leading in hard work as well as finishing the job, in spite of limitations by institutions bent on following what Campbell et al. (2005) deemed cost-recovery models.
Others described leaders as those who know how to assume responsibility, exemplified by United States President Harry S. Truman (1884-1972) who displayed a motto on his desk: The Buck Stops Here. Additionally, leaders are expected to do what they say (Argyris & Schön, 1992) by converting words to action. For instance, General MacArthur (1880-1964) declared and fulfilled a promise to return to liberate the Philippine people (James, 1975). Hence, results are produced by skillful leaders who have been trained in specific capacities and work until the job is done.

**Strategy.** Leaders are competent in developing strategic, proactive plans for the future (Scott et al., 2008). In other words, they reflect on methods to prevent problems rather than wait for them to happen. The Scott et al. (2008) study revealed that participants perceived leaders as engaging others in the process as well as collaborating for best possible solutions to, not only current but, unforeseen problems and challenges. Furthermore, leaders know where to go for the answers or knowledge to create the answers. In other words, they make the right connections in a network of colleagues and technology (Siemens, 2004; Sims, 2006) for the task at hand or that anticipated. Examples from the literature and research studies of leading in design strategy included the following:

- Acting from a global view of what is needed for instructional design in a technology-driven world, exemplifying thinking in concert with others for innovation. This represents prevention as a way of planning for the future and avoiding the pitfalls of degradation in (Reeves et al., 2004) as migration to online learning proceeds.

- Knowing which instructional design construct best provides for ill-structured problem-solving (Dabbagh & Denisar, 2005) and understanding that context is most important (Barab & Roth, 2006; Sims & Stork, 2007).
• Demonstrating how to sustain engagement by increasing complexity, inserting the unexpected, and introducing new struggles (Parrish, 2009).

• Continuing contextual research on synchronous versus asynchronous communications, as studied by Harvard researchers Bollettino and Bruderlein (2008), when comparing traditional versus online training in humanitarian law. Live lectures captured in videos as well as converted paper quizzes were offered to one classroom and one online course room with results that showed it was “not essential for participants to be physically present to benefit from course instruction” (p. 280).

• Incorporating and disseminating high ethical standards. Researchers from IBSTPI (Spector et al., 2006) suggested most instructional designers have little awareness of morally-based principles of design.

• Affording online learning communities concerted technical support for future technology-rich higher education venues (Menchaca & Bekele, 2008).

• Adopting a perspective of learning architect by foregoing instructional prescriptions and providing learning environments and spaces (Sims, 2009).

• Having a proactive mindset of collaboration and connectedness with a team of designers, instructors, and students (Sims, 2009).

**Focused attention.** It may also be conceptualized that leaders endure, don’t give up, bounce back from adversity, and have provisions in place for the economic downturns, legal challenges, key employee turnover, and other catastrophic events (Sonnenfeld & Ward, 2007). Historical literature recorded examples of leaders who kept focus on the goal while planning for the unexpected, who knew how to convert disaster to victory—e.g., George Washington’s Christmas, 1776 defeat of the Hessians (Middlekauf, 2007).

Leaders encourage others to finish the task. An infamous example is found in Adolf Hitler’s (1889-1945) treatise leading up to his charge to overtake the world, “The art of leadership…consists in consolidating the attention of the people against a single adversary and taking care that nothing will split up that attention” (as cited in All Great
Quotes website, 2010, para. 4). Finishing in the face of obstacles took on an evil meaning in this case, however, exemplified the tenacity and single-mindedness to a cause expected of a leader. More positive models of focus and perseverance were Sam Walton (WalMart™), Walt Disney (Disney Productions™), and Ray Kroc (McDonald’s™), all of whom Kirkpatrick and Locke (1991) considered relentless.

For the instructional designer, overcoming setbacks in the course of development included keeping focus on the end result. Ertmer et al. (2008) found expert instructional designers drew on experience and varying mental models of the process when planning an instructional event, rather than adhering to a plan. Similarly, Campbell et al. (2005) discovered instructional designers frequently abandoned planned instructional design processes when in contextual situations. These findings called into question the methodology of instructional design, however, they emphasized the professional’s leaderly commitment to an effective end result by whatever means is reasonable.

**Attributes.** Complementing the competencies summarized, attributes of values, personality characteristics, and emotional/psychological strength additionally influence and determine leadership.

**Values.** Supported by recent scholars of educational leadership (Beaudoin, 2007; Fullan, 2001; Fullan & Scott, 2009; Kouzes & Posner, 2007; Kowch, 2009), moral and ethical principles trumped organizational management skills assessed in most leadership literature (Covey, 1989; Maxwell, 2007; Senge, 2006). Leaders operate from conscience (Wolumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) and personal convictions (Campbell et al., 2009). They will consider the higher good of a matter at the risk of bending an inflexible rule (Goleman, 2000) and outdated paradigms. As an example,
Jesus Christ (0 – 33) demonstrated flexibility by his constant confrontation with the religious leaders of His day; all the while promoting a message of obedience to authority. He demonstrated boldness and an “uncommon knowledge” (Jones, 1995, p. 100). Likewise, Socrates was known for living out, and ultimately dying for, convictions (West & West, 1998) that transcended his era’s knowledge of the ethical composition of a leader.

One influence on designer practice located repeatedly in the literature was an inherent moral purpose (Fullan, 2001). For example, in a more general study of leadership Wolumbwa et al. (2008) supported the notion that authentic, or moral, leadership is a predictor of “relevant organization outcomes” (p. 91). Likewise, the Campbell et al. (2009) investigation revealed deeply-held values in instructional designers who considered their practice a moral one with important social responsibility and influence, who “prefer[ed] to practice within a zone of moral coherence” (p. 660). The research provided predictors of leadership values on work product quality.

**Personality.** Leaders convey confidence and strength (Kirkpatrick & Locke, 1991) in diverse ways. Sergiovanni and Corbally (1984) categorized these traits under the label *human engineer* while defining interpersonal competence as an essential force of leadership. Larson and Lockee (2009) named interpersonal communication within diverse settings as vital; however, it is the most difficult notion to transfer to learners. At the same time, Kouzes and Posner (2007) evaluated leaders as caring, confident, and respectful. Mother Teresa (1910-1997) is an example of this category with a reputation for strong leadership in bringing relief to the world’s poor with compassion, as well as, confidence in asserting her influence on others to do the same (in Spink, 1998).
In this respect, Campbell et al. (2009) articulated on the instructional designer’s perception of duty as surpassing imposed authority, resulting in intentional decisions made from self-confidence and strength of purpose. At the same time, relationships within and without the institution must be maintained for a “more coherent community of practice” (Campbell et al., 2009, p. 661) with impact on the work of the designer.

**Emotional/psychological.** Leaders are logical, make good choices, and think rationally according to Kepner and Tregoe (1997). In other words, emotional strength and psychological depth are measured in how one thinks through and responds to challenges. Scott et al. (2008) identified emotional capacity as a gift with which to comprehend and respond to specific situations by selecting and using certain competencies, especially in a rapidly changing environment. Sergiovanni (2003) identified a cognitive approach to leadership based *not* on rules or personality, but on ideas as underpinning decisions with purpose. It was assumed for this study that instructional designers are called upon to make complex, emotional decisions within a shifting learning environment while maintaining an intellectual, rational approach.

**Roles.** A perception of diminished status by instructional designers in a Rogers et al. (2007) study implicated a field tasked with educating the world from a powerless position. Campbell et al. (2009) described study subjects’ views on the designer’s status as a “technician that primarily implements techniques and principles” (p. 661). Participants described feelings of low respect and perceptions of negative impact on their professional status and influence. It was argued that instructional designers suffered from an historical view of leadership as one of a positional role. However, it is increasingly evident that individuals in any role benefit from leadership skills as shown by Kowch
(2009) and extended by Gressick and Derry (2010). Whereas Kowch found a place for educational leadership in all roles pursuant to the cyber charter school, Gressick and Derry focused on college student group collaboration skills. In this context, leadership competencies emerged in diverse ways with participants demonstrating distributed leadership roles during asynchronous learning activities. In agreement, Chen et al. (2008) found that the ability to vacillate between multiple leadership roles upon demand—distributed leadership—resulted in the most effectiveness during online collaborative learning exercises.

To the extent that distribution of roles increases instructional design competencies, Beaudoin (2007) supported the notion of multiple leadership roles as effective to the future of instructional technology (p. 520). Meanwhile Sims (2008) stated this about various roles in the e-academy: “[W]ith the continued growth of e-learning these roles have not only blurred but also created the need for new competencies” (p. 158). Implications from the literature were that an online instructional designer must possess the skills (competencies) to see what needs to be done (envision), as well as work collaboratively in multiple capacities (roles) to assure a finished, quality product.

More than this, the instructional designer demands regard for the earned role of leader (DeBlois, 2005). In an interview study of faculty and practicing instructional designers DeBlois (2005) found a majority shared a perspective that includes a change agent and visionary role for leading the academy on what and how to change for a fluid educational world. Understanding technology and its place in course designs, the participants linked success with embracing the leadership attributes needed for advancing
the field. While the study lent crucial instructional designer perceptions on the topic, there remained a need for methodical research to confirm current views on what role leadership plays in the product quality of instructional designers.

**Paucity of relevant studies.** Meanwhile, this researcher argued that educational literature delivers an incomplete view of leadership evaluations for instructional design practices. While developing a distributed leadership perspective for schools, Spillane et al. (2004), complained of a paucity of relevant dissemination. However, he concluded three things that influenced this study, as follows:

- Leadership practice is best studied in action.
- Leadership practice is defined within the situation.
- A more complex approach is needed to study the expertise of leaders.

Likewise, Kowch (2009) claimed this about the state of research for instructional design,

> New leaders need new ways to address these issues beyond the instructional leadership literature, which was found lacking due to a classical focus on the supervision of instructors/teachers more than with the leading of the instructional process (design and development, as we know it). (p. 45)

Finally, the literature on leadership surveyed in this review provided a plethora of academic prescriptive material from which to increase understanding in the process of personal and organizational development. However, researchers and theorists fell short in describing individual competencies of designers leading for pedagogic change in an advancing digital environment (Fullan, 2001; Sims & Koszalka, 2008) with competing recommendations. Notwithstanding, the literature summarized provided a context and foundational framework for a study embedded in established theory. It is the position of this study that leadership competency in the architects of learning designs is an important
variable, which Sims and Koszalka (2008) contended may directly influence learning outcomes; it was, therefore, a candidate for rigorous exploration as a predictor of quality products. Therefore, firmly grounded in scholarly literature, inquiry into the dimensions of the study proceeded and assumed a qualitative, phenomenological approach.

**Social Research and Qualitative Inquiry**

Qualitative inquiry offered a more complete understanding of the meaning behind instructional designer practices while constructing educative products. Furthermore, a phenomenological research approach, promoted by Giorgi (1985), Moustakas (1994), and Sokolowski (2000), informed the field through meanings extracted during analysis of in-depth participant interviews, a technique explicated by Seidman (2006).

**Historical Foundations**

Inherent in a typical modern research approach are guiding theories formulated from centuries of propositions on how humans apprehend and interpret reality. At the same time, researchers are also concerned with how to approach their subjects through untainted inquiry. For example, ancient Greek philosopher Socrates’ practice of subject observations and interactions portrays a form of inquiry consistent with a modern day constructivist approach to perceptual research (West & West, 1998). Considered a rationalist (*reason* as a guiding worldview), Socrates was a staunch believer in confirming truth through dialogue and debate. West and West (1998) portrayed him in relentless pursuit of reasonable discourse: “He never stopped conversing and examining ‘both myself and others’ on the topic of human excellence or virtue (*Apology 38A*)” (emphasis in original; p. 10). Although, the supposed tainting of data acquired in this
personal way conflicted with Descartes’ position on scientific inquiry as being separate and objective from the subjective realm in which people exist and think (Guba & Lincoln, 2005).

In keeping with Socrates’ position, negotiation of meaning through human interaction appeared in the work of Johann Pestalozzi (1746-1827) who contributed to the notion of human interchanges of ideas, opinions, and perceptions as influential on resultant actions (in Gutek, 2002). Later, others (Bruner, 1960; Mead, 1938/1964; Piaget, in Bruner, 1960; Vygotsky, 1978) would advance the notion of the mind expressing itself through meaningful actions as it develops within a societal context—a social constructivist philosophy of understanding the world. Therefore, an exchange between researcher and subject regarding decisions made while designing online products was effective for evaluating its ultimate products.

Creswell (2008) has traced the evolution of research theory informed by anthropology and sociology in the 1800s. From the early 1900s to major changes in the 1960s through the 1990s revolutionary paradigm shifts researchers such as Guba, Smith, Denzin, Lincoln, Huberman, Rossmann, Creswell and others answered a call for alternatives to the unsatisfying traditional approaches equated with a logical-objectivist epistemology. Consequently, prolific educational scholarship resulted from rapid advancements in qualitative research methodology (for example, see Duffy & Cunningham, 1996; Duffy & Jonassen, 1992).

From a constructivist-interpretivist position, exploration into human behavior was considered optimal using dialogic inquiry (Wells, 1999). Criticizing the limitations of classical experimentalism, Wells (1999) posited dialogic inquiry should be respected as a
way of knowing the mind; by this he elevated the value of a subject-perspective, particularly in a classroom setting. Later, other mid-20th century defenders of rigid research methods modified the experimental theory with a nod toward qualitative research and its value in “cross-check[ing] one another” (Wells, 1999, p. 341). Meanwhile, objections to the value of gaining truthful data through subjective narratives endure. Researchers positioned on either side of the quantitative versus qualitative debate (Freeman, deMarrais, Preissle, Roulston, & St Pierre, 2007; Gelo, Braakmann, & Benetka, 2008) find logic and value in proprietary views of how human behavior may be understood.

While qualitative inquiry specifically seeks to probe the causes and meanings behind human phenomena (Crotty, 1998), the traditionalist quantitative researcher explains life’s dilemmas by comparing or correlating various perceived influences (variables) on the problem (Creswell, 2008) through controlled experimentation with verifiable results; the method was recently described as the deductive scientific method (Gelo et al., 2008). Gelo et al.’s (2008) views were consistent with earlier social scientists (Crotty, 1998; Lincoln & Guba, 1985) who questioned the significance and depth of mathematically-derived findings, giving rise to qualitative exploration into the meaning behind human activities, particularly in various settings. Implicit in the approach was a view of knowledge as constructed by individuals interacting with one another and the surrounding social environment (Bandura, 1997; Mead, 1938/1964; Merriam, 1998; Vygotsky, 1978; Wenger, 1998).
Philosophical Foundations

Epistemologies, psychologies, and philosophies of knowing drive any given research approach (Creswell, 2009; Gelo et al., 2008). Of the two most common approaches to social or educational research—qualitative and quantitative—qualitative inquiry, grounded in the epistemological orientations of constructivism and interpretivism, affords a more comprehensive lens for peering into the often hidden cognitive and emotional processes involved in the complexity of meaning-making (Guba & Lincoln, 1994). A founder of modern sociology, Weber (1864-1920) believed research in the social sciences transcends its abstract limitations through “striving for the highest possible degree of adequacy on the level of meaning” (Weber, 1978, p. 20) by integrating multiple irrational, as well as rational, explanations of action. Likewise, Gelo et al. (2008) conceptualized qualitative paradigms as viewing “reality as a multiple, socially and psychologically constructed phenomenon, where the knower and the known are inextricably connected to each other” (p. 270). In other words, by combining beliefs, feelings, and predictions with actions within context, meaning behind instructional design decisions in practice was apprehended and comprehended by this researcher.

Furthermore, a qualitative method of study that seeks to ascertain perceptions of underlying motivations, values, habits, and other behaviors of practitioners was viewed through a lens of emergence theory. A philosophical understanding of emergence dates back to early 1900s when Pepper (1926) refined the meaning for a behavioral connotation, contending emergence is epiphenomenal, or central to a given human phenomenon. For simplification, the theory described an action of integrating new ideas
with former ones, reshaping behavior. Making its way into educational design considerations, emergence theory has been described as the following: “For a system to be considered emergent, the interaction must create a macro behaviour, while a high-level pattern arises out of complex interaction between the agents” (Irlbeck, Kays, Jones, & Sims, 2006, p. 177). Ultimately, qualitative inquiry seeks to identify patterns from themes derived through interactions between researcher and participants (Creswell, 2008) through which meanings of instructional designer behavior did, in fact, emerge.

In addition, the social, interactive aspect of interviewing a practitioner *in situ* provides a lens directly into his/her context (Gelo et al., 2008). Issues not yet known may only be discovered through a process of in-depth interviews using directed, inquisitive questioning (Creswell, 2008; Seidman, 2006) through a subjective perspective. According to Gelo et al. (2008), theory generation is one desirable outcome of the qualitative research process, further supporting its emergent categorization. For example, Yanchar, South, Williams, Allen, and Wilson (2010) exemplified this method of perceptual research in which intensive interviews categorized instructional designers’ views on the use of theory in their work outputs and developed new theories as a result.

**Qualitative Versus Quantitative Perspectives**

Historical chronologies of research in the social sciences find criticism of qualitative methods from the so-called hard sciences community according to Gelo et al. (2008) and Teddlie and Tashakkori (2009). The researchers collectively cited fundamental differences in ontologies (what is reality), epistemologies (location of knowledge), and methodologies (how to investigate phenomenon). Literature informing
the studies claimed a conceptual difference separates what information is encoded in a variable, and whether numbers may fairly or adequately represent meaning embedded in a measurement.

In contrast, a qualitative lens socially constructs understanding (Bandura, 1997; Wenger, 1998) from participants’ views. Gelo et al. (2008) conceived qualitative paradigms in terms of, “reality as a multiple, socially and psychologically constructed phenomenon, where the knower and the known are inextricably connected to each other” (p. 270). For that reason, this study measured the conceptions and perceptions of professional designers for comprehension of leadership competencies in use from a perspective of their realities, framed by a qualitative research design.

Modern Assumptions of Meaning-Making

Educational researchers differ in their notions of how reality is apprehended, how or whether mind activity and behavior are related, and question the value of ascertaining underlying meanings (Driscoll, 2005; Onwuegbuzie, 2002). Socrates sought to understand basic human value expressed through actions (West & West, 1998), theorizing self-examination of motives creates worthwhileness. A similar mindset spurred modern researchers to capture what lies within a hidden mind (Toomela, 2008). Toomela (2008) argued that qualitative methodology is the only theoretical basis for investigations defined as cultural psychology, which implies human action and interaction. For a complete understanding of how meaning behind instructional design decisions was viewed in this study, some contrasting views of research assumptions should not be overlooked.
**Positivism-objectivism.** Underpinning a quantitative rationale, conception of the world through an objectivist or positivist perspective situates reality and knowledge outside the reach of the researcher (Crotty, 1998; Onwuegbuzie et al., 2008). The knower is independent from the known (Guba & Lincoln, 2005; Lincoln & Guba, 1985) therefore, reality may only be known through confirmed or disproven predictions from empirical findings (Gelo et al., 2008). Consistent with the notion, Driscoll (2005) categorized empiricism—the belief that experience alone validates knowledge—with an objectivist view. Onwuegbuzie and Leech (2005) centered the discord in an academic challenge to the logical-positivists’ assumption that the only means of comprehending human phenomenon is through quantifiable, systematic data analysis.

In the quantitative method, mathematical logic tests provide empirical evidence of relationships in the data collected from people and their activities, attitudes, and performance outcomes. A researcher’s theory is posited, culminating in truth as confirmed through repetitious mathematical testing (Crotty, 1998; Teddlie & Tashakkori, 2009). Consequently, meaning is ascertained through logical implications and generalizations of the data collected and measured. In this way, the subject of its study is indirectly expressing explanation of action, whereas in-depth inquiry seeks to mine firsthand perceptions for meaningful causation. Noted early researchers in behavioral research, Skinner, Thorndike, Maslow, and Piaget (in Driscoll, 2005) valued the cognitive findings of experimental observation, but failed to explain the meaning behind the actions recorded.

**Constructivism-social situativity.** Constructivists hold a philosophy exponed in 1909 by the pragmatist William James (James, 1975) that knower and known are
inseparable. The early theory informs constructivism as an inherent element of knower constructing realities from what is known within a social world (Merriam, 1998). A contemporary of Merriam’s, Wenger (1998) contended knowledge is constructed by individuals within a unique community of practice. For a constructivist researcher, knowledge may be built from the world, however truth is never verifiable in a generalizing manner (Crotty, 1998) as its individually constructed meaning is unique to each citizen. Moreover, each one is uniquely situated within a social setting (Lave & Wenger, 1991), though may not share the same meaning with its constituents. As inferred by the social constructivism perspective, perception may be understood from participant views (Gelo et al., 2008) while acting within a social situation, for example, one’s workplace.

Whether in nature or in a cubicle, behavior occurs naturally when in context and is best observed in situ. When discussing the perspective of situativity, Gelo et al. (2008) claimed the perspective affords comprehension of how one makes connections between concepts and perceptions. Moreover, both declarative and procedural knowledge reside in the unique situation (Driscoll, 2005), which lends a more complete contextual frame. As Clancey (1997) claimed, “because what people perceive, how they conceive of their activity, and what they physically do [emphases in original] develop together” (pp. 1-2). Therefore, this study measured the conceptions and perceptions of professional designers for comprehension of leadership competencies in use from a fresh perspective of their reality.

**Nomothetic-idiographic.** Over time, psychological inquiry encountered a bifurcation in ideology. Gelo et al. (2008) and Teddlie and Tashakkori (2009) discussed
the polarizing models of nomothetic and idiographic investigative perspectives. Both researchers portrayed the former as concerned with natural general laws; while the latter individualizes the specifics of human experience (Teddlie & Tashakkori, 2009). The distinction defined below was important for the researcher’s purpose of inquiry into meaning-making.

Nomotheticism typifies the long guarded premise of science that a theory must stand up to intense scrutiny and only becomes tentatively true after refutation proves futile (Crotty, 1998). In other words, quantitative research seeks to disprove the hypothesis (Crotty, 1998; Creswell, 2009) or researcher’s theory from measurable human output. In contrast, qualitative idiographic inquiry seeks to uncover profound, complex truth as exampled in the individual experience, which may rarely juxtapose onto a logical matrix. For knowledge to be advanced in a rapidly changing world, extracting meanings from those individuals with specific insight to personal experience with the world proved to be more expedient than sifting through multiple negatively proffered theories in order to find the truth.

**Interpretivism.** The philosophy of interpretivism, although closely aligned with constructivist epistemological orientations, may best explain meaning as translated from the world’s constructs, objects, and populations. According to Crotty (1998), the interpretivist “looks for culturally derived and historically situated interpretations of the social life-world” (p. 67). This view is particularly important for understanding the results from perceptual data as researcher and subject engage in dialogue ultimately interpreted by the researcher. This disturbs opponents of qualitative methodology as, based on a positivist position, bias is carefully avoided in the quantitative method.
However, as Onwuegbuzie et al. (2008) suggested, the interpretivist researcher knowingly inserts bias, thus gains rich data from the integration of personal experience and the subject’s lived experiences. Consequently, meaning may be richer through analysis of perceptual data when a broader contextual basis underpins articulations.

In light of revolutions in designs and procedures (Molenda, 2008), there is an ongoing need for inquiry into the perceptions and practices that guide human behavior. Calling for improvement in the courses that train future educational leaders, Sullivan and Rosin (2008) indicted the academy as “unresponsive to the problem of meaning and diverse practices that populate society” (p. 91). This concept resonated with Gibson’s (1966) work on perceptions in which perception is centered in awareness of one's surroundings through the senses; perception is essential for understanding, or meaning of, how things work. Gibson believed that without perception, action would be chaotic. Guided action, therefore, requires a perceptual thought process by which a product may move from idea to plan to production according to how a designer believes or thinks it should work. In this way, data was collected as participants shared valuable information toward effecting change through their perceptions of how and why things occurred in their domain—as a direct result of guided actions.

**Phenomenological Inquiry Approach**

**Essence of experience.** Covering a broad scope of applications and variations, the phenomenological approach to research best represented the approach adopted by this researcher. Study participants revealed the essence of meaning in experienced phenomena through subjective, intentional, and guided inquiry to this researcher who
personal experience in order to derive meaning directly from the phenomena (Crotty, 1998; Creswell, 2009; Moustakas, 1994). A study from India reflected the intentionality of Sharma-Bryer and Fox (2008) to observe lived experiences of educated women within a framework of culture through narrative collection and analysis. While freeing their mind of as many prior assumptions of similar experiences as possible, researchers sought the essence (Creswell, 2009; Teddlie & Tashakkori, 2009) or direct experience (Crotty, 1998) of the study subjects’ lives.

Another example from Teddlie and Tashakkori (2009) recorded a brief study by a student of Clark Moustakas (1994), social researcher and positor of the notion of bracketing—setting aside of researcher personal bias. The phenomenon under investigation was an eldest child’s power role in a family setting. From an interested, yet detached perspective, the investigator extrapolated meaning at its core, or essence, from the subject’s lived experience. Inferential statements described the complexity of negotiating familial dynamics, revealing deep psychological meaning for the participant. The findings were indicative of a Sharma-Bryer and Fox (2008) study that described the typology as an exploration into the “ultimate essence of the experience” (p. 322) from interpreted narratives, which serve as authentic documentation of participants’ voices.

**In-depth interview-analysis of experience.** One technique for gaining essence of experience occurred during a qualitative idiographic (concerned with natural general laws) study (Gelo et al., 2008) of participant perspectives. A predefined set of topics guided a structured interview process in which open-ended questions requested participants to reconstruct lived experiences. Expressions of reflections and perceptions provided data for in-depth analysis (Creswell, 2009; Seidman, 2006). One goal of this
researcher was to provide a “compelling evocation of an individual’s experience” (Seidman, 2006, p. 51).

Kirschner, Strijbos, Kreijns, and Beers (2004) utilized the interview technique while capturing collaborative online learning strategies. Amatea and Clark (2005) used the interview approach during a grounded theory study of school administrators’ conceptions of the school counselor role. Further, Masterman, Jameson, and Walker (2009) employed the interview strategy during case studies of teachers’ experience with learning designs. Finally, Seidman (2006) expanded the interview technique while conducting research on community faculty teaching experiences. In all of the studies, conceptions explicated by participants served to generate new theories, ideas, and dimensions of the central phenomena from a perspective of experience and expertise. In this way, the approach satisfied the goals of this study.

**Constant comparison analysis.** Constant comparison analysis is a type of analysis for effectively extracting meaning from in-depth interviews (Gelo et al., 2008; Glaser & Strauss, 1967; Lincoln & Guba, 1985; Taylor & Bogdan, 1998). The technique looks for similarity and frequency of themes in educational settings with phenomenological problems. With roots in the 1940s scientific classification by frequency of occurrence (Berelson, 1952), the technique has long been shown as successful in extracting themes or categories from speech, interviews, and focus groups. This technique has also been called discourse analysis (Gee, 1992), conversation analysis (Gelo et al., 2008), and narrative analysis (Creswell, 2008; Reisman, 1993).

The rigid process of constant comparison analysis serves to establish themes and categories that emerge during discourse and throughout the unpredictable interview
continuum (Creswell, 2009; Leech & Onwuegbuzie, 2008; Masterman et al., 2009; Onwuegbuzie, Leech, & Collins, 2008). Seidman (2006) theorized, “Passages in interviews become links to each other in ways that cannot be foretold” (p. 81). Special rules and theories, as proposed by Taylor and Bogdan (1998), drove the coding and analysis technique adopted in the data analysis process that extrapolated the most discussed themes and how they related, as derived from each unit of analysis—the interview sentence (Kirschner et al., 2004).

**Conclusion**

Issues explored in this literature review included (a) foundations of instructional design theory and practice, (b) educational research designs and measurement tools, (c) critical leadership attributes, roles, and responsibilities needed to advance the modern paradigm of learning and, (d) the merits of qualitative research. To the focus of this study, Kowch (2009) declared an “imperative for educational technologists to take charge of integrating the sweep of educational technology knowledge with the trajectory of leadership knowledge” (p. 47). Emanating from the literature analysis, diverse notions of what constitutes quality learning, competencies required, and leadership theories needed in the online learning design domain provided a framework for exploring the problem and research questions cited for this study.

Inquiry into practitioner perceptions of design decisions and, the instructional designer’s role and status, with ultimate impact on educational products, was meant to bring new understanding to the meaning of quality online learning with consequences for learners. In other words, it was the aim of this study to increase awareness for the many
factors in dynamic interplay of instructional design for online learning through a qualitative social research study.

Drucker (1981) said, “It is the practitioner rather than the scholar who develops the discipline, who synthesizes experience into testable concepts, that is into theory, who codifies, who finds and tests new knowledge, and who teaches and sets the example” (p. 1). A phenomenological idiographic strategy of inquiry proffered a means of representing practitioner reality through retrospective inquiry. The approach aided in extracting deep or hidden meanings underlying a social phenomenon—as in how instructional designers perceived the pedagogical influence of leadership attributes in practice. This approach to research allowed emergent issues of the type inherent in perceptual inquiries; assured confidentiality and individual response timetables; sought perceptions of a central phenomenon rather than a comprehensive subject’s story; was achievable in the brief research time window; and, was not confined to a culture bound group. Moreover, phenomenological research guided the study from a literature-produced problem and research questions to data collection and analysis in a systematic process.

Instructional designers tasked with incorporating best methods, tools, and aids for effective online learning will be especially interested in the results of this and other phenomenological studies. The analysis is based on a recent study of anthropomorphic computer characters (Veletsianos & Miller, 2008) applied phenomenology to the meaning of humans conversing with a virtual agent. Results confirmed essentials of human need and desire when interacting and learning via digital beings. Implications were significant for an ability to lead in the design of instructional tools for a modern age
in which the negatives of computer-mediated learning may be met with valid counters of usefulness and utility.

In conclusion, instructional design leadership competency was at the center of a study of widely-perceived low quality online pedagogies. Critical thinking scholar Ruggeiro (2004) declared, “Inquiry is seeking answers to questions, investigating issues, and gathering information to help us draw conclusions” (p. 168). It was argued that phenomenological inquiry into the insights of those in the practice of designing educative tools for impressionable minds was invaluable for theorizing meaningful conclusions to leadership competency and decision-making, as well as, other issues yet unknown or misunderstood. The complete methodology followed in this study is discussed in depth in the following chapter, which includes an outline of the structure and procedures of the research design.
CHAPTER 3. METHODOLOGY

Summary of Study

An extensive literature review provided the context for a phenomenological study of instructional designer practices in relation to pedagogical quality in online higher education. Multifarious perspectives were examined, analyzed, and explicated on domain-specific leadership competencies—those required of learning designers in an era of internet-based education. An assumption of this study suggested learning designs, crafted by the architects of academic training courses and programs (Kays, 2003; Lang, 2005), inform educational initiatives; in this way, instructional designers lead educational transformations (Kowch, 2009; Sims, 2006).

In conflict with higher education’s mission to remain relevant, researchers and theorists have posited perceptions of low quality online course designs in use, with potential for deleterious effects on learners (Naidu, 2003; Der-Thanq, Hung, & Wang, 2007; Sims, 2006). At the same time, new perspectives on learning, documented by Dede, Dieterle, Clarke, Jass-Ketelhut, and Nelson (2007), challenged those who continue to apply traditional methods to current learner demands. As part of the solution to ill-prepared online course designs, some have promoted more leadership competency training in the instructional design higher education curricula (Beaudoin, 2007, Kowch, 2009; Sims & Koszalka, 2008). However, current research into instructional designer perceptions of practice, with implications of its impact on products that inform learning
and learners (Campbell, Schwier, & Kenny, 2009), inspired a more in-depth investigation into the phenomenon of online quality influences.

**Problem**

The problem explored in this research project was a current lack of quality in selected online higher education curricula. It has been suggested by leaders in the field (Beaudoin, 2007; Naidu, 2007; Sims & Koszalka, 2008) that new instructional design leadership competencies are needed to advance the practice of its profession with which to ensure excellence in online course production in a new age of technology. However, decisions which influence the outcome of work products often contain hidden meanings (Gelo, Braakmann, & Benetka, 2008) and may or may not involve leadership skills. On the other hand, a gap was observed between the pedagogical status of online courses and understanding of the leadership skills prescribed by relevant literature required for a quality end product.

**Purpose**

Stemming from the problem described, the purpose of this study was to (a) identify the critical instructional design leadership competencies needed to produce quality online designs, (b) to locate specified leadership competencies in current online design structures, and (c) to assess student evaluations of those designs. Ultimately, the study ascertained value and impact on designers’ work quality through recognition of a leadership influence variable. Moreover, themes emerged from the phenomenological study which intersected with researcher-rated outcomes of web-based courses of learning;
the analysis produced fresh understanding for the instructional design field of unique competencies required for a new paradigm of learning.

**Research Questions**

A study on leadership competencies and quality of instructional design outcomes (to the extent quality is measured by researcher and student assessments) invited and answered the following questions:

1. What instructional design leadership competencies are identified as critical to creating quality online learning designs?
2. What are the characteristics of courses created by participants who have identified critical leadership competencies?
3. How do students evaluate the quality of courses created using those critical leadership competencies?

**Rationale for Qualitative Research Design**

Given the pervasive problem of quality in online postsecondary online academics, a qualitative research design guided exploration through (a) interviews with instructional designers to find leadership competencies considered critical in producing online learning designs, (b) use of a researcher modified heuristic to rate participant-designed courses, and (c) assessment of student evaluations of participant-designed courses. To the extent that competence plays a critical role in behaviors of practice—decisions, attitudes, and leadership attributes—it was appropriate to study practitioners from a perspective of personal skills and experience in the context of their work.

Informed by idiographic epistemology (Gelo et al., 2008), a phenomenological approach (Creswell, 2009; Giorgi, 1985; Sokolowski, 2000) elicited participant perspectives on meaning of actions through a series of three semi-structured, in-depth
interviews (Moustakas, 1994; Seidman, 2006). Open-ended questions engaged participants in thoughtful reflection about their work and roles in the instructional design domain; the technique evoked data-based themes with inferences for transfer to others in new situations (Lincoln & Guba, 1985).

As discussed in the literature review chapter, emergence theory (Irlbeck, Kays, Jones, & Sims, 2006; Pepper, 1926) provided a suitable lens for conceptualizing underlying motivations, values, habits, and other behaviors of practitioners. The approach extracted meanings inherent in underlying practical decisions made by instructional designers (Campbell et al., 2009; Christensen & Osguthorpe, 2004) and resolved into analyzable macro behavior. Hence, a phenomenological research strategy was justified for exploring perceptions, through practitioners’ voices (Wertsch, 1998) during in-depth interviews, analyzing emergent themes, and interpreting findings through the literature. Therefore, the goals of this study were achieved through exploration into expert practitioner thoughts and beliefs and by comparison of emergent themes to the initial research questions.

**Participants/Sampling/Instrumentation**

**Participants**

Using purposive, or typical case, sampling strategy (Gelo et al., 2008), professional instructional designers (about 600), also members of the Association for Educational Communications and Technology (AECT) Design and Development group, were invited by e-mail to participate in this study. Qualifications included at least 7 years of experience as an instructional designer, with 3 years dedicated to online learning.
designs. A target population of 116 respondents emerged from the more general population of invitees (instructional designers). As a result, participants selected for this study represented a smaller bounded population (Creswell, 2009) characterized as experienced instructional designers of online higher education curricula (courses and programs).

The AECT is an organization uniquely qualified to provide a knowledgeable group of potential participants in a study of instructional design leadership evident in the mission statement posted on their website:

The mission of the Association for Educational Communications and Technology is to provide international leadership by promoting scholarship and best practices in the creation, use, and management of technologies for effective teaching and learning in a wide range of settings. (AECT, 2010, Mission Statement section)

Permission to contact the AECT group membership was obtained from the organization’s Executive Director and Committee.

**Sampling**

A typical-case sampling technique guided selection from “the most outstanding…information-rich cases” (Patton, 1990, as cited in Gelo et al., 2008, p. 275). Gelo et al. (2008) defined a typical case sample as participants that bring the most experience and knowledge to the study. From the target population, a sample of 6 participants was identified by averaging the experience of the target population and selecting those with the highest average years in practice. In this way, sampling was narrowed to those most closely representative of the group of interest, expert instructional designers of higher education online courses. The group was asked to express conceptions and perceptions of the competencies and roles critical to leading quality
online education through a lens of rich experience. Subsequently, findings from the study were informative to the larger population, although inference was not considered probable. The unique nature of ideographic inquiry limits how applicable one’s particular history-based theories are generalizable (Creswell, 2009; Merriam, 1998). Further, nonsampling error was minimized by size (Creswell, 2008), in that a goal of 100 respondents from 610 invitees was exceeded by 16 which served to offset nonresponse.

An initial e-mailed invitation included a self-qualification questionnaire. For example, one question identified willing and available participants for follow-up in-depth interviews; while another requested participation by only those willing to submit personal documents—samples of online course designs with related student evaluations—for use as secondary data. For those so interested, name and contact information was required. In addition to the predefined qualification questions, minimal demographic data was requested from willing participants: gender, work role and status, country of residence. For those not interested, the form included explicit instructions to exclude identifiable information in any e-mail replies.

**Instrumentation**

Unlike quantitative research methods that rely on predefined, mathematical rules for instruments and eliminate researcher bias, qualitative research hinges on the researcher as the instrument of exploration (Seidman, 2006). Researcher bias is inevitable in that qualitative methods require personal interaction with the subjects through intrusive observation (Onwuegbuzie et al., 2008). Seidman (2006) stressed the unique relationship an interviewer holds with an interviewee to capture a snapshot of the
participant’s history. While remarking on the importance of a genuine interest in people and their stories, Seidman cautioned interviewers in several areas including (a) how to establish a rapport, (b) awareness of group identities—age, race, gender, etc., and (c) boundaries of the relationship. However, it was reasonable to assume the researcher would come to the process with a limited view of the world and would not entirely divorce personal experience from the process. Therefore, a limited use of bracketing (Kaplan, 2004; Moustakas, 1994) was employed in this effort in order to—what Kaplan (2004) referred to as—set aside “what we think we know in an attempt to reduce the potential of influencing the data gathering and analysis processes acquire deeper knowledge or to see something without judgment or bias” (p. 18).

Moreover, interpretation of findings could not escape a filter process through the experiences, opinions, beliefs, and expectations of the researcher (Creswell, 2009)—the instrument of measurement. Interpretations of expert perceptions and ideas on leading in instructional design practices and roles were sifted through previously-held beliefs of the researcher, along with hopes of changing the online learner experience in meaningful ways. Given the perspective of qualitative inquiry, meaning was prompted by the researcher-as-instrument with care not to overtly insert personal bias as prompts, a difficult balance to strike.

From a more concrete perspective, documents representing participants’ outputs corroborated the use of leadership competencies in the samples provided. Additionally, student evaluations of participants’ course designs were used as measurements of student satisfaction—a predictor of quality. Thus, work samples were the instruments of inquiry.
Data Collection

Participant data was collected during three rounds of in-depth interviews. Amatea and Clark (2005) used the interview technique during a grounded theory study of school administrators and their conceptions of the school counselor role. Likewise, and relevant to this study, Masterman, Jameson, and Walker (2009) utilized the interview technique during case studies of teachers’ experiences with learning designs. In both studies, conceptions shared by participants served to generate new theories, ideas, and dimensions of the central phenomena from a perspective of experience and expertise. Semi-structured questions queried participants for understanding of leadership competencies and roles in the instructional design practice; extracted deeper analysis of critical factors influencing quality of online outputs; and, requested suggested solutions for improving the quality of online designs.

In addition, secondary data representing participant design artifacts and student terminal course evaluations completed the data collection portfolio. The documents consisted of sample online courses designed and implemented by participants in online higher education programs. Additionally, anonymous student evaluations of the courses submitted were collected in order to complete a data triangulation test for rigor. To facilitate and expedite the study, strategies and protocols were developed and are defined below.

Interview Strategy

For confirmation of participation, planned introductory Skype™ internet voice communication, or calls, to the interviewees failed, necessitating follow-up telephone
calls and e-mails. It was desirable to confirm full understanding of the study and expectations of participants, role of the researcher, and schedule of study interviews. Subsequent interviews included three rounds of progressively deeper inquiries. The sessions were conducted in a private setting via telephone and externally recorded. Transcribed voice recordings produced textual transcriptions. Two recordings failed, however willing participants forwarded typed answers to the researcher. Additionally, a manual journal documented the researcher’s reflective thoughts, outstanding comments with time noted when made, and perceived attitude of interviewee—tired, irritable, cooperative, authentic, and so forth (Seidman, 2006).

The first two rounds of interviews scheduled 1 week apart ranged from 25 - 45 minutes each. A third round was scheduled approximately 2 weeks after the second; this allowed time for researcher analysis of participants’ personal documents. The first round explored questions intent on gaining greater understanding of self-perceived leadership competencies and roles in the instructional design practice. The second round extracted deeper meaning of, and reasons for, various factors which influence daily practice and quality of online outputs. Following this interview results from participants’ work samples analyzed by the researcher were forwarded to participants. Researcher feedback on the assessed quality of personally-created learning designs in the third round of interviews provoked participant reaction and further analysis of the influence a practitioner has on leading online instructional design reform. The interviewees were asked, in view of findings from the documents’ analysis, to suggest solutions for design leaders that would improve the quality of online designs.
A catalog of predefined topics framed an interview protocol and guided the interview process. Questions emanating from the study research questions were treated as subquestions while a set of probing questions were drafted prior to each interview to clarify and extend participants’ answers (Seidman, 2006). Further, measurement error was mitigated in the “clear, unambiguous language” (Creswell, 2008, p. 394) of the interview questions, which served as a baseline for coding emergent themes. Additionally, the plan included a research schedule, various logs and journals, and an alternate plan for unforeseen interference with the schedule accompanied the interview protocol. Minimal delays occurred when some participants were unable to keep interview appointments, however, rescheduled within a week. One participant was unable to continue altogether which left five contributing study subjects.

**Documents Collection Strategy**

For secondary data collection, the participants were asked for recently completed and implemented design samples that had been assessed by students. For each participant, one course design and all related student evaluations will comprise personal documents. The documents evaluated by the researcher served to establish quality of learning standards. These were logged and coded for correlating of themes to the interview findings; and, provided triangulation of data for rigor and truthfulness.

However, direct assignment of documents to participants was avoided through removal of all identifiers prior to submissions, as well as, by aggregate analysis of all documents submitted by participants. In this manner, no participant was judged for personal work performance; rather, data was collected for generalized sample analysis.
Data Analysis

Categorizing strategies patterned after Teddlie and Tashakkori (2009) interpreted data collected from participant thoughts, ideas, comments, feelings, suggestions, and other intrinsic information inductively developed. The researcher classified data with labels based on the literature for what was said about notions of quality as well as instructional design and leadership competencies. In addition, documents were examined for whether the course structures afforded learner-centered, personal knowledge construction strategies (Sims & Stork, 2007); and, analyzed to what extent student engagement (Parrish, 2009) and personal satisfaction were achieved. A model proposed by Sims (in press) in which objectives, assessments, strategies, and activities (OASA) informed the evaluation process.

The evaluation instruments provided by NVivo9 analytic software helped to identify themes from which to assign the interview data. Ultimately, the researcher looked for discrepancies and new themes in the data. The following discussion argues and supports both the narrative and content analysis techniques used to allocate data into meaningful analysis units. In this way the researcher was able to connect emergent themes from the data to each other, to the research question, and to relevant documents for triangulation of data (Taylor & Bogdan, 1998) and substantiation of a rigorous, quality research study.

Constant Comparison Analysis of Interviews

Analysis of interviews relied on constant comparison analysis first proposed by Glaser and Strauss (1967) and developed further by Lincoln and Guba (1985) and Taylor
and Bogdan (1998). Specifically, constant comparison analysis measures frequency of occurrence and distinctiveness by interviewees (Berelson, 1952; Gelo et al., 2008; Richey & Klein, 2007) useful for establishing the themes and categories that emerged during discourse (Masterman et al., 2009). Tests were applied to the organized data for internal consistency and mutual exclusivity, or distinctness (Gelo et al., 2008). For example, categories were integrated and compared, then parsed into fewer concise categories from which theories will be construed (Glaser & Strauss, 1967). This was accomplished during several iterations of labeling distilled and re-categorized data until consistency in coding—within the data sets and with familiar domain-specific terms—was finalized.

Subsequently, thematic analysis (Onwuegbuzie et al., 2008) provided refined data by which to link perceptions of identified critical leadership competencies, revealed in attitudes and decisions made in the construction of an online course, with quality of design outcomes. The analysis effort uncovered few gaps in understanding of the leadership dimensions demanded in instructional designers’ daily work; rather, the lack surfaced in unawareness of personal leadership in action. However, by the end of the study, participants reflected on previously-held notions and made new connections with the concept of personal leadership characteristics in use. In this way, external validity, or transferability, was achieved as developing theories broadened the phenomenon under examination to a larger perspective (Gelo et al., 2008).

Further, Teddlie and Tashakkori (2009) instructed in how to aim for a holistic, coherent, and transferable study outcome to the instructional design population at large by connecting emergent themes from the data to each other, as well as to relevant documents and the research questions. Gelo et al. (2008) concurred, “Data analysis
consists of examining the database to address the research questions and hypotheses” (p. 276).

Finally, following each interview, a copy of resulting transcriptions was submitted to each participant for member checking analysis. Creswell (2008, 2009) posited this strategy as a means of assuring accuracy of data and truthful representation of participant meaning. Returned and corrected transcriptions were finalized for incorporation in the final data findings report.

**Content Analysis of Documents**

Finally, corroboration of interview data encompassed document analysis of personal artifacts representing created, developed, and implemented online course designs. By triangulating document (content) analysis with interview findings, the research study established credibility, confirmability, and dependability by its readers resulting in a holistic, coherent, and transferable study outcome to the instructional design field at large. Ely (2002) used content analysis to analyze the currency of instructional design issues and to report on trends in educational technology. Significant to this project, Beaudoin (2007) utilized the technique in a broad investigation of publications for how often research on distance educational leadership was disseminated over a 10-year period (1996-2006), relying on frequency of themes.

For analysis of participant sample online course documents, a modified version of the Quality Matters™ (QM™, 2010) online course evaluator formed a construct from the original eight categories: Course Overview and Introduction, Learning Objectives, Assessment and Measurement, Resources and Materials, Learner Engagement, Course Technology, Learner Support, and Accessibility. The QM™ 2008-2010 *edition with*
assigned point values (2010) was used on a limited scale. With permission from the publisher, a modified version of the per-item rated course assessor (see Appendix A) included Learning Objectives, Assessment and Measurement, and Learner Engagement categories. The tool supplied a numeric measurement suitable for comparing themes of leadership competencies in use to similar themes of quality in the products produced.

Coding

Categories and themes emerged from content data and were ascribed to a baseline coding scheme. Thus, a codebook was developed for framing the analysis of data with the research questions (MacQueen, McLellan, Kay, & Milstein 1998). MacQueen et al. (1998) considered this perspective a reflection of the researcher’s purpose underpinned by the problem revealed in literature. Further, a codebook refines the criterion by which analysis may proceed. Development involved a series of labeling based on refinement of the data beginning with structural coding—identifying large segments (MacQueen et al., 1998) framed by the research questions.

Next, coded categories and themes were used to build an argument for grounding of resulting theories in the data, but not the researcher’s thoughts and ideas (Gelo et al., 2008). Gelo et al. (2008) described a series of steps for initial coding and labeling from the participant’s actual words—emic coding (MacQueen et al., 1998), categorizing, re-labeling with researcher’s and theoretical language, abstraction of interrelated categories into a set of themes, and a final re-labeling. The prescribed procedures were followed in this study with systematic care.
Follow-up to Analyses

Following analyses and write-up of findings, a qualified reviewer evaluated the themes identified for coherence sought from triangulation of data. Eisner (1991) stated "there are no operationally defined truth tests to apply to qualitative research" (p. 53) implying a need for expert outside observation for corroboration purposes. The researcher requested and was granted such assistance from a dissertation committee member with ample credentials. The doctor of philosophy’s repertoire of experience included extensive instruction and graduate mentorship in adult education and instructional technology, publications on qualitative research, and personal research using a broad range of methodologies. Her review offered invaluable insights and suggestions for improving and verifying data analysis through minor revisions to the findings in chapter 4.

Report of Findings

In a report of findings, descriptions and themes derived from data analysis are reported in narrative form in chapter 4 of this dissertation. Interpretations of meanings situated back into the literature previously reviewed, provided a backdrop for relevant interpretations (Creswell, 2008). Categories extracted from the data linked emergent themes to the research questions guiding the study through rich, thick descriptions of perceptions from in-context experiences of the participants (Creswell, 2009). Excerpts from lengthy narrative captured during the three interviews were included as part of the findings. An ensuing discussion, chapter 5, offers implications for solutions to improved instructional design leadership in online course designs.
For ease in reader understanding, categories of meaning are displayed in figures and tables, as well as narratives, of descriptive emergent themes and their relationships. Likewise, content analysis data from documents are displayed in figures and narrative for visualizing and describing participant decisions in action; in implemented course design elements and in student evaluation compilations. Finally, all analyses and discussions are disseminated through a lens of the pedagogic quality of online course design artifacts.

**Ethics**

Ethical considerations underpin human participant research and encompass risk, confidentiality, informed consent, privacy, and data security. In addition, the researcher’s role and relationship to the subjects of study seeks to lend credible and responsible oversight to a moral pursuit of knowledge. From analysis of the literature and descriptions of an ethical approach to human research, every effort was put forth to protect the dignity of the participants. To assist the researcher in minimizing risk and achieving positive ethical goals, an application to conduct this study as outlined was made to Capella University’s Institutional Review Board (IRB). The study followed guidelines provided for ethical human treatment (Policy 3.03.01: Human Research Protections Policy) and in keeping with the principles of the Belmont Report (45CFR46), as well as United States guidelines for human research. In addition, the researcher holds a current Collaborative Institutional Training Initiative (CITI) Certificate.

**Risk**

When studying human subjects through narrative research, risks of breaching intentions of integrity exist. For example, Smythe and Murray (2000) discussed, "the
subtle and often unforeseeable consequences of writing about people's lives" (p. 321). As the researcher is regarded as an expert in the social phenomenon under review, participant interpretation of personal experience may be diminished from a perspective of inferior ability for self-evaluation. In addition, when transcripts are read what is written about the participant may include risks of emotional misinterpretation as “the emotional impact of having one's story reinterpreted and filtered through the lenses of social scientific categories" (p. 321) is realized. Moreover, online research carries inherent risks associated with distance between researcher and subject, issues of privacy, and security treatment of personal information (James & Busher, 2009). One key to ensuring the integrity of the research is to outline a well-defined research protocol including ethical guidelines (James & Busher, 2009; Smythe & Murray, 2000).

Confidentiality

While anonymity was not guaranteed in this study, confidentiality was upheld as promised. For those not interested in full participation, the invitation letter and qualification form included explicit instructions to exclude identifiable information, or opt out of the study. Further, respondents not willing to participate in interviews were assured of immediate e-mail address deletion from the researcher’s database.

For those who did participate in interviews, special effort was given to anonymize text recorded from interviewees in any published report through the use of pseudonyms. In addition, prospective participants willingly provided releases to personal documents with guarantee of anonymization and confidentiality in reporting analyses through similar masking of identities (see Informed Consent section). Finally, the participants were
willing adults and volunteered for the study with full awareness of the measures and principles the researcher was to apply to the collection of data.

**Informed Consent**

Agreement to participate constituted initial informed consent; however, an additional and more detailed letter of informed consent approved by the IRB was sent by e-mail to each participant selected for the sampling group. An additional consideration in the informed consent letter stressed that no remuneration was offered for participation. However, an appreciation gift of $25, in the form of a VISA gift card, was mailed at the end of the study to each participant willing to accept the token. The value represented a negligible monetary offering, which served to avert risk of skewed data or other ethical concerns. It was clarified in the informed consent letter that a small gift after the study would represent researcher gratefulness and may be accepted, or refused, at the participant’s discretion.

**Privacy**

While it was out of the control of the researcher to provide privacy for the interviewee at his or her location, instructions for the interview session included a suggestion for the participant to find a secluded place to be during the telephone interview. Privacy on the researcher’s end guaranteed through assurance and use of a secured office during interviews. The privacy measures were reflected in the interview confidentiality agreement which included protection of recorded sessions from others’ hearing.
Data Security

Finally, participants in the study were afforded confidentiality through careful encryption of identifying properties procedures (e-mail addresses, IP addresses, telephone numbers, and all other personal information received). These processes included, but were not limited to, printed data locked in the researcher’s personal office; pass-protected access to researcher’s personal computer, storage devices, and off-site storage repository; and, promise of no willful sharing of personal information in any form. Further, all personal information was destroyed immediately upon completion of the study, except as permitted by participants for future correspondence. Following a required retention period, paper printouts will be shredded and electronic data will be erased.

Researcher Relationship to Study

While the researcher was invested in the topic under exploration, unusual bias was controlled through careful listening (Seidman, 2006) and probing questions (Creswell, 2009) in order to hear the voices of the participants. Leadership is an issue that had long interested the researcher from both personal and professional perspectives. The range included corporate management and training roles, church leadership and teaching positions, small business owner and manager, family facilitator, and instructional designer. Various leadership responsibilities over the years fostered interest in the competencies required for successful outcomes. From this background, as well as recent graduate training in what constitutes quality online learning artifacts and interventions, the researcher hoped to form rich relationships with interviewees through shared experiences. The hope was fulfilled with much satisfaction.
Researcher Qualifications

Protecting participants through researcher integrity was paramount to an equitable study (James & Busher, 2009). By respectful treatment in the entire process (as outlined in the Ethics section) and genuine concern for the difficult issues facing the instructional designer, a relationship of trust encouraged the research efforts. The researcher comes to this study with a vast background in positions of confidence and trust. Several relevant work-related qualifications included the following:

- corporate officer roles with private company fiduciary rights and duties
- financial management positions with privilege to sensitive data
- recording and retention of confidential documents
- access to and accounting for multimillion dollar inventories (jewels, diamonds, and fine art)
- review and analysis of resumes, interviewing and hiring employees
- evaluations of staff performance
- duties involving confidential psychological counselling of humans
- strong experience with technology—design, development, implementation, and troubleshooting—substantiates qualification for the proper use of computers, the internet, and related peripherals for the collection, storage, and analysis of data

Finally, NVivo9 training received through in-context helps, website tips, and related texts advanced researcher knowledge and capability to utilize its functions and features for a thorough analysis effort.

Conclusion

A research study with a purpose to inform the instructional design community, encouraged the quality of online academic designs, and located meaning behind the
practices of designers sought to inform the importance of leadership competencies in design decisions for online higher education courses. The qualitative in-depth interview approach was designed to extract, not only meaning but, unforeseen causes of a phenomenon largely responsible for the quality of online learning. Participants willing to share their lived experiences lent insight and new data for important research into a growing field of designing for the modern paradigm of computer-based education.

This report includes an assertion that the research project produced no intentional duplication of previously published work. Instead, the researcher sought to add new knowledge and understanding through a study on the quality of instructional designs in relation to the criticisms of their online interventions.
CHAPTER 4. DATA COLLECTION AND ANALYSIS

Context of Study

A contextual, foundational, and theoretical construct and rationale for inquiry into factors and relationships critical to pedagogical quality of online higher academics was presented in chapters 1 to 3. A recurring problem of lack of quality in certain online higher education curricula emerged from an extensive literature analysis. Deficiency in quality often appeared in the literature as a lack of learner-centered knowledge control in the course structure. An effective course design will not prescriptively provide for learning, rather, will afford learners opportunity to construct knowledge and meaning through an individualized perspective (Sims & Stork, 2007). Moreover, Bernard et al. (2009) found that pedagogical excellence was achieved with congruity between strategies and the learning context. However, der-Thanq, Hung, and Wang (2007) found ineffective strategies were frequently employed by designers of web-based course rooms.

Meanwhile, leadership from the designers of online learning interventions was identified as an important, yet often unrecognized, variable by Sims and Koszalka (2008) who contended its lack may directly influence learning outcomes. A consequence, or measurement, of leadership has long been acknowledged as its effectiveness to produce a good product with the skills required to accomplish the job (Drucker, 1981; Fullan & Scott, 2009; Katz, 1955). A good product was defined as satisfying the needs of a client (Moore & Kearsley, 2005); and, in this study’s context, of the needs present in
technology-based learning. Therefore, the purpose of this study was to explore the problem of quality in higher education online curricula through its relationship to instructional designer’s leadership competencies (and roles) as classified by expert practitioners.

In order to ascertain the impact on designers’ work quality through recognition of the leadership influence involved in producing educational materials, and its ultimate impact on learners, three research questions guided the study,

1. What instructional design leadership competencies are identified as critical to creating quality online learning designs?

2. What are the characteristics of courses created by participants who have identified critical leadership competencies?

3. How do students evaluate the quality of courses by those using the identified critical leadership competencies?

A qualitative research design, utilizing an in-depth interview technique, provided a construct for analyzing the phenomenon of pedagogical quality through expert perceptions and experiences. The data analysis process section in this chapter will elucidate how participants’ words and phrases were organized into theoretical descriptors. In addition, themes representing numerous characteristics identified in the leadership domain literature produced a priori categories—categories which were later used to resolve and frame participant understandings. Table 1 maps the themes, categories, and characteristics useful for later comparison to the study’s results.
Table 1. *Literature-based Leadership Classifications*

<table>
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<tr>
<th>Theme</th>
<th>Category</th>
<th>Characteristics</th>
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<tr>
<td>Competencies</td>
<td>Vision</td>
<td>Change agent</td>
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<td></td>
<td></td>
<td>Example, conveys vision</td>
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<td></td>
<td></td>
<td>Innovative</td>
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<td></td>
<td>Productivity</td>
<td>Hard-worker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time/Cost management</td>
</tr>
<tr>
<td></td>
<td>Strategy</td>
<td>Proactive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Preventive-thinker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes connections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acts from global view</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plans for change</td>
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<tr>
<td></td>
<td></td>
<td>Stays current</td>
</tr>
<tr>
<td></td>
<td>Focus</td>
<td>Endurance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perseverance</td>
</tr>
<tr>
<td>Attributes</td>
<td>Values</td>
<td>Moral purpose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acts on convictions</td>
</tr>
<tr>
<td></td>
<td>Personality</td>
<td>Confident</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes intentional decisions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interpersonal relationships</td>
</tr>
<tr>
<td></td>
<td>Emotional/Psychological</td>
<td>Logical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes good choices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rational-thinker</td>
</tr>
<tr>
<td>Roles</td>
<td>Positional</td>
<td>Status</td>
</tr>
<tr>
<td></td>
<td>Nonposition</td>
<td>Shared</td>
</tr>
</tbody>
</table>

**Population and Sampling**

Following Capella University’s Institutional Review Board (IRB) approval, inquiry into the dimensions of the study ensued with invitations to participate e-mailed to 610 members of the Association for Educational and Communications Technology (AECT), Design and Development Division (permission to contact granted by organization).

Within 10 days 116 responses were received providing a target population for an exploratory study of expert instructional designers. From this group 19 responded as...
willing to participate, while 13 responded as both willing and qualified participants. Expert and qualified were defined as expert instructional designers of higher education academic courses with at least 7 years of experience in instructional design, 3 of those with online interventions, willing and able to participate in three interviews, and willing and able to submit personal documents. Reasons for several respondents considered willing but not qualified included obstacles in obtaining personal documents, as well as, anticipated scheduling restrictions.

From a typical-case, purposive sampling strategy 7 potential participants were selected as highly qualified respondents. Subsequent clarification in what was understood from stipulated qualifications eliminated one more candidate leaving a remainder of 6 members in the final sample group. During the study, 1 participant completed the introduction and first interview, 5 completed two interviews and submitted personal documents, while 4 completed the study with all three interviews and personal documents.

**Methodology and Data Collection**

A qualitative, phenomenological approach was employed for observation of recurrent themes and patterns from data collected during interviews and from personal documents. The research design was structured to understand the central phenomenon of quality in online academic courses through a lens of perceptions and experiences of the expert practitioner. In-depth interviews followed a semi-structured and open-ended questions format outlined in an interview protocol. Appendix B lists the 15 interview questions organized under the three overarching research questions. In addition,
preconstructed probing questions were implemented as needed for further explanation or
to extricate deeper meanings.

The interviews lasting from 30 to 60 minutes were initially designed to be
carried out using Skype™ telecommunications software, but poor connectivity issues
resulted in the interviews being conducted by telephone and recorded in digital files
through an externally-connected recorder. Participants were aware of and gave
permission to voice recordings. Interviews were transcribed within the NVivo9 data
collection and analysis software workspace (see Figure 2 for a sample transcription).

<table>
<thead>
<tr>
<th>Times</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>pan</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0:00.0</td>
</tr>
<tr>
<td></td>
<td>Marcia: Okay, the technology is working today!</td>
</tr>
<tr>
<td></td>
<td>P4: Alright.</td>
</tr>
<tr>
<td></td>
<td>Marcia: So, P4, the first thing that I wanted to ask you is WHAT IS YOUR DEFINITION of leadership competence? Now, not what you may have previously read or heard, or a speaker - their particular slant on leadership, but what your experience as an instructional designer has shown you that leadership competence is when in practice?</td>
</tr>
<tr>
<td>2</td>
<td>0:35.4</td>
</tr>
<tr>
<td></td>
<td>P4: Okay, I guess I'd say modeling the behavior you're expecting of others.</td>
</tr>
<tr>
<td></td>
<td>Marcia: Umhum. Do you...can you expand on that a little bit?</td>
</tr>
<tr>
<td></td>
<td>P4: Well, as a faculty member, or as an instructional designer, I would say to others that in teaching you should use some sort of multimedia; you should use universal design in that you are designing for all people so that no matter what their learning style or abilities are that you're designing for everyone. So, of course, modeling that behavior would be the first thing. So, as far as being a leader, or if I was advocating that people use podcasting because they're certain learners who can learn better from podcasting than from textual information, then I would say I would model it by doing podcasting. Marcia: I understand. Can you expand on your definition of leadership competence? That's excellent; I'm just hoping to get a few more ideas from you.</td>
</tr>
</tbody>
</table>

Figure 2. Sample transcript from NVivo9.

A second step exported transcriptions to Microsoft® Word for spell-checking and
formatting. Next, the revised documents were imported back into NVivo9 for
classification, coding, sorting, and analysis.
To triangulate findings, personal documents—participant-designed online course designs and student evaluations of those implemented courses—were collected and analyzed for consistency with interviewees’ perceptions of competence in practice. Additional data—recorded notations of bias, research challenges, and personal reflections—were generated in the form of two journals maintained by the researcher during and in-between each interview. The exercise supported researcher credibility through reflexivity and bracketing techniques defined as recognition and setting aside of personal bias (Kaplan, 2004), all the while inserting personality and direct involvement—interest and investment in the topic—into the interview dynamics.

**Ethics**

Collection of data was approved by Capella’s IRB from a research study proposal which relied on mandated ethical considerations including data security, privacy, confidentiality, and benevolence. Participants signed a voluntary informed consent letter detailing the intent and methods of the study, their role in the process, and the researcher’s efforts to protect their integrity and dignity.

During the process a satisfying relationship of trust was experienced with both the topic and the participants. There were no complaints of violating the principles of ethical research, although, one participant did withdraw after two interviews on the basis of her disagreement with the “tone and direction of the research” (P4, personal communication, February 17, 2011). The apologetic message included this statement, “Sorry if this causes you any difficulty”; it did not also request an elimination of previously collected data from the study. All other participants were positive and supportive of the manner in
which the study was conducted. One commented (Participant #1), “By the way, the summary of my views was outstanding. You’ve got that nailed.” In response to my expression of pleasure over our interview sessions Participant #2 replied, “I’ve enjoyed them as well. It has allowed me to take a look at my own practice.”

All predefined ethical considerations delineated in Chapter 3 were adhered to with due diligence with one additional measure added for fairness: a word count was run to compare density of words cited by each participant. When contrasted with the amount of words transcribed from interview recordings, the weighted percentage of word use confirmed fairness; each voice heard was appropriately represented. At the study’s conclusion, a $25 VISA gift card was mailed in a thank you note to those willing to accept the token of appreciation. Those refusing the gift received thank you notes.

Data Analysis Process Summary

Interview Analysis

To answer the research questions, several techniques guided the analysis process. Data collected were analyzed using constant comparison analysis in which distillation of data resolved into specific categories and were summarized into general themes. NVivo9 software—a database tool for indexing categories into nodes—provided ease in viewing data from various perspectives and models. A critical step in the interview analysis involved coding data with descriptors drawn from the research questions on words and phrases. In answer to the first question “What is your definition of leadership competence?” the following excerpt from participant P5’s transcript (in Figure 3) conveys how phrases were initially tagged for coding into broad-based nodes:
Figure 3. Excerpt of NVivo9 transcript coding from raw data.

In this way multiple and diverse terms emerging from the raw data were resolved under nomenclature familiar to instructional design as shown in Table 2:

Table 2. Coding Phrases to Themes and Categories

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Theme or Category Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>It's being competent</td>
<td>Competency</td>
</tr>
<tr>
<td>As an active listener</td>
<td>Attribute</td>
</tr>
<tr>
<td>In the art of negotiation</td>
<td>Strategy</td>
</tr>
<tr>
<td>In inter and intrapersonal communication</td>
<td>Personality (Communication)</td>
</tr>
<tr>
<td>Aware of contemporary pedagogies</td>
<td>Strategy</td>
</tr>
<tr>
<td>Aware of emerging technologies</td>
<td>Vision</td>
</tr>
</tbody>
</table>
Subsequently, the process supported running frequency analyses on nodes considered to be major themes and categories. Finally, for reporting interest and clarification, textual results were quantitized—converted to integers (Teddle & Tashakkori, 2008), tabulated, and graphed.

Documents Analysis

For personal document analysis, a modified Quality Matters™ Project (QM™) course evaluator, approved for use by its publishers MarylandOnline, Inc., was applied to participants’ online course design artifacts. The original version contained eight categories and rated elements in a course on a scale from 1 to 3, 3 being the highest level of compliance. Three of the original QM™ rubric’s eight categories were useful to this study’s purposes therefore, total points possible to meet quality expectations was reduced to 35 based on the number of points ascribed to the categories used in the analysis: Learning Objectives (12), Assessments and Measurements (15), and Learner Engagement (10). Applying a baseline of 82.9% minimum for meeting quality required by QM™, 29 points \( (35 \times 82.9\% = 29) \) was used as the standard for this study. Numeric evaluations were used as informational guidelines, for comparing from a logical perspective what participants regarded as comprising quality and what the designs’ analysis revealed.

In a similar manner, student course evaluations were assessed and categorized using frequency analysis to identify major categories. The data provided relevant findings when rolled up into two general classifications acknowledged in the literature as student engagement—defined by the National Student Survey of Engagement (NSSE, 2008)—and student satisfaction—defined as learner-centered (Sims & Stork, 2007).
Qualitative Tests

Along with fidelity to a process delineated in the proposed research design, other qualitative tests substantiated rigor. Credibility, confirmability, dependability, and transferability—derived in part from Merriam, (1995) and summarized by Bedford (2009)—were applied as explicated below:

- **Credibility** - use of triangulation—connecting emergent themes from the data to each other, to the research question, and to relevant documents (Taylor & Bogdan, 1998); member-checking of transcripts and documents analysis summaries; and, with multiple perspectives on themes through rich, thick descriptions (Creswell, 2008) from the narratives.

- **Confirmability** - in the researcher’s prolonged time working, studying, and researching in the field of instructional design (documented in chapter 3); and in recording of personal reflections on both positive and negative experiences and thoughts; expert corroboration of findings.

- **Dependability** – or, internal consistency, ensured by applying like-kind meaning to each code over multiple uses.

- **Credibility and Transferability** - demonstrated by carefully recording analysis steps and keeping other records that documented the coding steps (MacQueen, 1998); and, perceptions of inconsistencies were addressed immediately to ensure integrity of the data and the analysis process.

- **Transferability** - to the larger population of instructional designers was achieved by reporting data—thick descriptions—in which perceptions and experiences of expert participants implied application beyond the bounds of the study parameters (online, higher education, academic course designers). For example, accounts by Participant #5 cited client impact from design decisions made in a military training setting. In addition, application of competency-related themes to practicing instructional designers within the study criteria confirmed transferability.

- **Member-checking** - a summary of the first two interviews were included with a preliminary analysis of personal documents and forwarded to participants. Results were discussed in the final interview in order to elicit participant comments, corrections, or further elucidation on the topic of study.
Research Findings

Introduction

Interpretations of participant words and phrases resolved into classifications deemed critical to high standards in the online artifacts produced by instructional designers. Table 3 summarizes the most frequently cited categories from analyses.

Table 3. Summary of Study Findings by Research Question

<table>
<thead>
<tr>
<th>Analysis Resource</th>
<th>RQ1: What instructional design leadership competencies are identified as critical to creating quality online learning designs?</th>
<th>RQ2: What are the characteristics of courses created by participants who have identified critical leadership competencies?</th>
<th>RQ3: How do students evaluate the quality of courses by those using the identified critical leadership competencies?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview findings</td>
<td>Strategy, Vision, Personality, (Interpersonal/Communications skills), Productivity, Mentoring, Values, Emotional strength</td>
<td>Instructional strategies, Authentic tasks, Interaction, Learner-control, Problem-solving, Theories-based, Values-based, Objectives, Assessments, Activities</td>
<td></td>
</tr>
<tr>
<td>Course designs</td>
<td>Objectives, Clearly articulated, Learner-oriented, Addresses higher-thinking skills, Assessments, Clear measurements, Practice assigned, Sequenced, linked to content, Engagement, Interactions, Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student evaluations</td>
<td>Learner engagement, Learning satisfaction, Overall course quality, Clear objectives, Relevant assessments, Personal knowledge, Construction strategies, Relevant assigned activities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To triangulate themes from interview findings delineated later under each research question, evidence was found in both course designs and corresponding student evaluations for stated leadership competencies as predictors of quality course designs. A modified QM™ online course evaluator confirmed high levels of Strategy, Interaction, and Engagement with an overall quality rating of 88.1%. A nearly equal level (88.5%) of student approval resulted from assessments of terminal evaluations associated with the courses submitted; students expressed positive perceptions of Engagement, Learning Satisfaction, and Overall Course Quality.

In addition, in the entire document analyses an overarching pattern of relevant and linked instructional design elements, Objectives, Assessments, Strategies, and Activities (highlighted in bold), dominated the results on outcomes of leadership competencies as predictors of online course quality. In summary, views and notions extracted from the participants aligned with documents exemplary of identified competencies, completing the cycle of influence on quality and learning.

**Participant Demographics and Profiles**

Demographic data were compiled on the 6 study participants bounded by parameters of qualifications deemed critical to the sample group: years of experience, work status, and work position or role. Figure 4 maps the demographic breakdown by participant; it displays alpha-numeric codes for hierarchical order and acronyms (nicknames) to mask true identities as promised in the Informed Consent agreement. Out of a total 96 years of experience the range is 7 – 22 years with an overall average of 16 years in practice. None of the 6 participants held a unique full-time instructional designer
position distinct from other roles: 2 were full-time faculty, 1 was a university administrator and developer seeking a PhD, 1 was a retired instructional designer and adjunct online professor, 1 was a part-time instructional designer completing a PhD, and 1 was an administrator with faculty status. In addition, gender and country of residence were recorded for descriptive statistics deemed interesting to the study. There was a split between male and female participants, three and three; while five resided in the United States and one in Canada.

![Demographics Diagram](image)

**Figure 4.** Participant demographic attributes connections map.

In order to present a more complete context of the research study’s central phenomenon framed, as Seidman (2006) proposed, through illumination of an individual participant’s situational perspective, a profile of each expert is sketched below.
**P1.** A full-time professor who instructs at a United States university with significant online course offerings, P1 leads a teacher training department from both an instructional technology and educational leadership background. While bringing 12 years of experience to the study, P1’s extensive knowledge in issues of quality course designs added to the findings of this study during three interviews. Her contributions of personal documents were incorporated into the analysis of relevant artifacts and student evaluations.

While filtering leadership through a lens of team leader, this participant emphasized interpersonal skills and knowledge of team skills in that role. P1 focused on a leader's need for personal knowledge, skills, expertise, and proficiency. Design leadership competencies perceived by her included knowledge of current research on best practices and team-building. P1 was concerned with increasing student learning by aligning course strategies and activities with course and program outcomes. In addition, P1 expressed a belief that leadership decisions influence designs through knowledgeable choices for affordances such as appropriate technology and texts, as well as reliance on student feedback for improvement. Moreover, the experienced practitioner attributed a team-building, collaborative process to a successful practice of quality online course design.

**P2.** P2 is a full-time professor with teaching, training, and research duties for a Canadian university’s educational technology department. The participant reported 22 years of experience in the field and brought her expertise into this study through three interviews, personal artifacts, and student evaluations.
While filtering leadership through a lens of a team leader role, P2 emphasized leadership as a means to an end: creating effective learning (happy clients) through team collaboration and growth. She focused on a leader's ability to lead projects, giving clients informed options, and creating innovative, team-based designs. Design leadership competencies perceived by P2 included recognition of what is “different and better” and respectfully conveying the validity of instructional design principles underlying the recommendations offered. Additionally, P2 was concerned with increasing student learning by advocating activity theory, mediation with tools, constructivist strategies, and authentic activities for metacognitive learning. With conviction, P2 acknowledged a leader’s decisions influence designs through reliance on student involvement, students as “co-builders” of contextual, situational course topics and assessments; ultimately, leaders impact student satisfaction in these ways.

P3. With over seven 7 of experience practicing in the instructional design field, P3 added knowledge to this study from multiple perspectives and background in the e-learning industry. While completing a PhD in instructional technology (at a United States university), P3’s extensive research in assessing quality of course designs lent valuable input during three interviews and from personal artifacts and evaluations.

While filtering leadership through a lens of expertise in and application of instructional design theories, P3 emphasized influencing others in improving quality of online instruction in that role. He focused on a leader's ability to implement latest instructional design strategies for best practice. Design leadership competencies perceived by P3 included knowledge of current research, partnership with developers and instructors, and influence on many from a position of expertise and from evidence-based
knowledge of best practices and approaches. Furthermore, P3 was concerned with increasing student learning by affording better and current technology-based strategies and inclusion of real-world tasks in the design affordances.

**P4.** P4 claimed a semi-retired status as an expert instructional designer with 20 years of experience in the field. As an adjunct online professor with a technical university, instructed doctoral students, and was a frequent presenter at educational technology conferences worldwide. Although withdrawing from the study after two interviews, her valuable contributions to the study were included in the findings.

While filtering leadership through a lens of modeling behavior through patience in collaborating with the stakeholders, P4 emphasized understanding and aligning with institutional and students’ educational goals in improving quality of online instruction. She works toward a course design that meets the needs of all learners, no matter their learning style or mode. Design leadership competencies perceived by P4 included knowledge of current research, as well as conference attendance and presentations as ways of being a “life-long learner” in the field. P4 was concerned with increasing student learning by affording good student interaction strategies in the course room.

**P5.** A director of a United States university learning center providing faculty development in instructional technology, P5 was working to improve his practice by seeking a PhD in the field. Quality of instructional design was the focus of his work, making him a particularly qualified candidate for this study. Although study participation was limited to the first interview due to scheduling conflicts, P5’s important insights were included in the findings for RQ1.
P6. As Dean of Online Studies and Distinguished Lecturer of Graduate Studies for a United States university, P6 contributed significant empirical data from his 20 years of experience in the field of educational technology and design. The scholar presented compelling views on the study topic during three interviews and from personal documents with student evaluations.

While filtering leadership through a lens of both technical and foundational skills in instructional design systems, P6 emphasized honesty, interpersonal skills, and self-regulation as critical to improving quality of online instruction. He focused on a leader's ability to stay current in the latest instructional design strategies for effectively promoting student learning. Design leadership competencies perceived by P6 include setting objectives and relevant, measurable assessments grounded in the learner’s context or situation; thus, a view toward “what the learner gets out of it.” Moreover, P6 was concerned with increasing student learning by affording analysis and problem-solving strategies and activities through interaction and inclusion of real-world tasks in the design affordances.

**Research Question 1 (RQ1)**

The first round of interview questions were organized under the first major research question “What instructional design leadership competencies are identified as critical to creating quality online learning designs?” and were designed to gain understanding of self-perceived leadership competencies (and attributes) deemed critical by participants to create high quality online courses. Table 4 presents both the research question and the related interview questions.
Table 4. Research Question #1 and Interview Questions #1a – #1f

<table>
<thead>
<tr>
<th>RQ#</th>
<th>IQ#</th>
<th>Question text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>What instructional design leadership competencies are identified as critical to creating quality online learning designs?</td>
</tr>
<tr>
<td>1a</td>
<td></td>
<td>What is your definition of leadership competence when in practice?</td>
</tr>
<tr>
<td>1b</td>
<td></td>
<td>Considering effective online learning design development, which leadership competencies do you believe to be the most important ones an instructional designer should possess?</td>
</tr>
<tr>
<td>1c</td>
<td></td>
<td>In what ways do you apply leadership competencies to your work? For example, describe the decision-making processes of a typical day in context of designing academic courses/programs.</td>
</tr>
<tr>
<td>1d</td>
<td></td>
<td>To what extent do you feel prepared for leading the learning changes needed for the growing trend toward online educational pursuits?</td>
</tr>
<tr>
<td>1e</td>
<td></td>
<td>How do you define your role as an educational leader, in the context of your work in online education?</td>
</tr>
<tr>
<td>1f</td>
<td></td>
<td>In your organization, is there an atmosphere of hierarchical leadership, or do instructional designers enjoy a leadership role in any capacity they may hold?</td>
</tr>
</tbody>
</table>

A related issue of the instructional designer’s role was explored for potential hindrances to an exemplary ethos of practice. However after analysis, IQ1d and IQ1f findings are not reported in this section for reasons of less pertinence to the intrinsic purpose of this study; and yet, their importance are acknowledged and have been conserved for future dissemination.

**Method of analysis.** Analysis during three distinct stages reviewed participant transcripts and focused on the similarities and differences in expert views on the study’s problem. Stage one commenced with mark-up of transcript text, selecting large chunks of participants’ actual words, phrases, and sentences as previously exhibited in Figure 3. An example of the quantity of words one concept might generate is displayed in Figure 5.
as a tree map, which was created in the NVivo 9 software from an executed query on the term effective and surrounding words.

Figure 5. Example of raw term coding results displayed in hierarchical tree form after query on specific term parameters.

For normalizing the surfeit of generated vocabulary, a coding process included attachment of a descriptor, or code, to selected units of data. Labels were prescribed that mimicked jargon familiar to the instructional design community and a priori category descriptors (see Table 2 for example) framed during the Chapter 2 literature review. Ensuing queries of specified coded nodes (NVivo term for units of tagged data) enabled a sort by participants and interview questions; the exploration generated a categorical list of potential themes. When this step was complete, results sheets were printed for further analysis.

A second analysis stage involved grouping nodes into similar categories. The effort sprang from reflection on a draft list generated in stage one. Confirmation of consistence use of codes preceded situating categories under more general themes. The culling process allowed reflection on the meaning behind participant words for a more
accurate representation. Transcripts were then recoded into new thematic nodes in NVivo9 which provided for hierarchical grouping and charting shown in Figure 6.

![Diagram of Nodes Clustered by Coding similarity]

**Figure 6.** Sample NVivo9 cluster map of coded categories.

Completing the third stage of analysis included identification of global themes across the entirety of categorized transcripts—also called selective coding for refinement and integration into theory (Leech & Onwuegbuzie, 2008)—and was followed by entry into NVivo9. Three themes emerged in varying degrees across the spectrum of questions, at times finding overlaps, at times unique to the question topic: Competencies, Attributes, and Duties. Further, major categories complementing the themes were identified and organized under each theme as explicated in the next section and displayed in Figure 7.
Results of analysis. While a global analysis of each research question (coded as RQ) developed themes, a closer look at each interview question (coded as IQ) explicated deep meanings and unanticipated thoughts from participant responses. Data findings will first be reported in chronological question order, followed by thematic analysis of the overarching research question.

RQ1, IQ1a. What is your definition of leadership competence when in practice?

Laying a foundation for what constitutes critical leadership competencies for excellent pedagogies, definitions of instructional designer competencies were offered by respondents. Original data were translated into seven general categories: Vision, Productivity, Strategy, Values, Personality, Emotional Strength, and Mentoring. Figure 8 depicts the major categories as derived from participants’ statements distributed by frequency of references to like-kind words and phrases found in the transcripts.
A significant number of perceptions exemplified Strategy and ranked characteristics of both Vision and Personality second. (Personality included interpersonal skills, however, when defined specifically, communication skills were categorized as Strategy). Three foci of Strategy were observed; when applied to the project (course design), within the design team, and for the institution.

Naming multiple characteristics P3 articulated (to protect participant integrity, ellipses were used to delete grammatical errors or superfluous words not integral to the meaning),

…you have to have a knowledge of the latest learning theories and the latest instructional design theories in order to be a leader. You also have to be able to implement those theories, individually and in concert with each other, to achieve best practice, instructional strategies, or instructional strategy design.
Likewise, P6 demarcated performance skills,

And so, if somebody is competent, they’re able to do or perform whatever task they need to at a level that someone would say, ‘this person is skilled and able to do this’. So, to be able to perform a skill for a task that is needed successfully is how I would define competence.

In contrast to perceptions of requisite skills, P2 focused on the design team,

…the ability to lead a project for the client—and the client may be the student—that leads to really effective and efficient learning.

From both perspectives, P1 offered,

I really think one of the competencies that you have to have as a leader in this area is having a thorough knowledge of what is required to complete a task: in either having the knowledge and skills to complete it or knowing where to go to get them; setting up very clear processes for those who are team members; and using your inter-relational skills to build positive, collaborative, cohesive teams to meet your deliverables.

The category, Vision, formed from two levels of thought, local and global. First, P2 discussed focus on the team and project,

…my focus is team morale, having people grow, getting the instruction, the instructional experience in such a way that the students are learning, the client is happy, and the team is functioning well and growing and having fun.

Second, a global view for the field and for education was exhorted by P3,

I think partnering with other key leaders is very critical and, for example, there's an effort out of Indiana University with AECT to make what they call systemic change in education, and they're working with legislatures, they're working with state departments of education and so on and so forth; and they're trying to partner with key people to help begin to make this change.

**RQ1, IQ1b. Considering effective online learning design development, which leadership competencies do you believe to be the most important ones an instructional designer should possess?** When asked to narrow their list of competencies to those critical to leadership of designing online pedagogies, each participant confirmed or added to their previous answers as follows (corresponding coded category in parentheses):
P1: “strong interpersonal skills with client and team, respect for others, personal growth” (Personality)

P2: “recognize and utilize different and better ideas of others” (Strategy);
“validate others, morale” (Mentor)

P5: “effective communicator with client” (Strategy)

P4: “model patience…with stakeholders” (Emotional Strength)

P3: “master online improvements” (Vision); “implement best practices” (Strategy)

P6: “honesty in interpersonal relationships” (Values); “communication skills” (Personality)

The reconceptualized perspective placed Strategy as most critical with three out of six participants naming its importance. Personality, with focus on interpersonal skills, was the only other category named more than once. However, Vision was discussed frequently in IQ1a, therefore was ranked accordingly with the IQ1b results.

What was critical for leading in quality design practice was summarized by P1,

Leadership competencies are, again, having a process, having a process that works; pulling together people, making sure that the interrelationship skills are there and working; knowing who to contact for help; again, using clear communication skills to convey the purpose and timelines, keeping them on the timelines; and, trying to build a collaborative team who have buy-in and ownership of this course.

In contrast to P1’s more global perspective, P3 was consistent in his view of technical skills as critical to quality. He stated,

Unless you can implement best practice in instructional strategies, the online instruction, basically, remains back in the dark ages of instruction.

RQ1, IQ1c. In what ways do you apply leadership competencies to your work?

Personalizing the use of leadership skills and attributes, participants expressed how decisions made in their practice applied to academic designs with specifications tabulated
in Table 5. Results showed an additional element of Productivity added when conceived through a practical lens.

Table 5. *Participant Perceptions of Applied Leadership*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Perception and experience</th>
<th>Category</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>P4</td>
<td>Meet goals set by client: learning objectives, strategies, and personalize for student</td>
<td>Strategy</td>
<td>Competencies</td>
</tr>
<tr>
<td>P5</td>
<td>Satisfy customer through communication and provide solutions; allow customer to be part of decisions; stay current</td>
<td>Strategy, vision</td>
<td>Competencies</td>
</tr>
<tr>
<td>P1</td>
<td>Collaborative team-building, interactivity for digital learner, backup designs with research, quality control by team testing each element, they have fun</td>
<td>Strategy, vision Personality</td>
<td>Competencies Attributes</td>
</tr>
<tr>
<td>P2</td>
<td>Accept other’s ideas and go with, work ideas of others, collaborate and cooperate, offer client informed options, respect is foundation of leadership in design process</td>
<td>Emotional strength, values Strategy</td>
<td>Attributes Competencies</td>
</tr>
<tr>
<td>P3</td>
<td>Best learning and ID theories synthesized, includes real-world tasks, partners with other educators to accept new approach</td>
<td>Strategy, vision</td>
<td>Competencies</td>
</tr>
<tr>
<td>P6</td>
<td>Manage time and resources to meet deadlines, prioritize, accept consequences of decisions, self-leadership, self-regulation, self-management, self-discipline, model collaboration, provide expectations, produce good product, build others</td>
<td>Productivity, vision, strategy Values Mentor</td>
<td>Competencies Attributes Duties</td>
</tr>
</tbody>
</table>

*RQ1, IQ1e. How do you define your role as an educational leader, in the context of your work in online education?* Responses for differentiating between competencies and roles centered on performing tasks for P4 and P3 and for P4, P5, P1, P2, and P3 as previously identified competencies or skills. However for some a sense of
leadership represented a duality in that a previously stated competency was now viewed as a role; for example, modeling and mentoring (P5, P1, P2, P6).

For P5 and P6 new descriptors were employed to understand their role and linked to the category Vision: “envision possibilities with juniors”, “pioneer”, “pathfinder”, “sets vision”, “inspires others”, “builds up”, and “takes risks to promote online to position quality designs at the forefront”. However, P4 regarded the instructional designer as “the middle person in the process” and declared her noninterest in the “prestige and pay” of a leader.

**Thematic analysis.** Emerging from the data, seven major categories underpinned three more general themes of competencies, attributes, and duties deemed critical to quality pedagogies. The first set of interview questions summarized under the themes illustrated in Figure 9.

![Research Question 1 Themes](image)

*Figure 9.* RQ1 themes by response percentage rates.

For descriptive purposes, percentages were added to illuminate the emphasis on specific themes. Based on frequency analysis of coded terms, 64% of all identified terms situated under Competencies, 27% under Attributes, and 9% under Duties. For closer
analysis, Figure 10 conveys the categorical breakdown of each theme and displays a proportionate complement of each.

**Figure 10.** RQ1 categorical breakdown of themes.

**Response to question.** Strategy prevailed when all participants selected specific critical competencies for leading in quality designs. The importance of designers possessing current understanding of strategies important to online pedagogies was exemplified by P2’s learning experience,

> So, it’s a mindset of being really comfortable with that ambiguity and figuring out that what you know now is going to change later and being comfortable with that. I mean, there was one time when I brought in a wiki; for me it was new. I had a class exercise set up around this wiki. I made sure I knew how to use it and all the rest. Well, wikis aren't very good at simultaneous editing. And it was just awful.

Moreover, tabulated findings for all categories revealed Vision second; with Personality (Interpersonal Skills) a third choice for what is critical to quality of online designs (see Figure 11). At the other end of the continuum, a low aggregate response for the Values element, which included honesty and integrity, represented one participant (P6) who particularized its importance to the meaning of leadership,

> I think that, for a leader, it really involves who you are even more than what you do. It's like what Steven Covey has said, "You must first be something before you can do something". I guess I'm looking at more character traits than competencies. And it is; it's honesty.
Of note, IQ1c results were later compared with RQ2, IQ2b to observe how perceptions of the practical use of competencies named during the first interview would change after the passage of time.

**Figure 11.** Summary analysis of RQ1 by major categories.

In total, responses to the first interview questions reaped substantial data with which to frame and to satisfy the study’s theories of competency and leadership. Further, the results of question IQ1c distilled participants’ definitions as well as informed the second research question.

**Answer to research question RQ1: What instructional design leadership competencies are identified as critical to creating quality online learning designs?**

The findings suggested experts in the field considered certain instructional design leadership Competencies (strategy, productivity, vision), Attributes (personality, values, emotional strength), and Duties (mentoring)—also understood as Roles—to be the critical requirements for transferring high quality pedagogies to online course designs.
Those regarded as more critical are Strategy, Vision, and Personality (or Interpersonal Skills).

Research Question 2

A second round of questions itemized in Table 6 were designed to provide a more in-depth response to the topic of leadership’s influence on the quality of online designs by asking, “What are the characteristics of courses created by participants who have identified critical leadership competencies?” Allowing a one week gap in interview sessions enabled participants a time for reflection on personal application of the principles of leadership in their practices. In addition to findings from the interview questions (IQs), results from course design reviews are reported in this section.

Table 6. Research Question #2 and Interview Questions #2a - #2f

<table>
<thead>
<tr>
<th>RQ#</th>
<th>IQ#</th>
<th>Question text</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>What are the characteristics of courses created by participants who have identified critical leadership competencies?</td>
</tr>
<tr>
<td>2a</td>
<td></td>
<td>In the first interview you made an observation I would like to pursue further before exploring the second set of questions _______________________________.</td>
</tr>
<tr>
<td>2b</td>
<td></td>
<td>In what ways do courses you have designed for the online higher education student convey leadership competencies in practice?</td>
</tr>
<tr>
<td>2c</td>
<td></td>
<td>From your observation of instructional designers at work, how would you describe the impact of decisions leaders make on the products they influence or create?</td>
</tr>
<tr>
<td>2d</td>
<td></td>
<td>Describe an experience when the influence was particularly significant.</td>
</tr>
<tr>
<td>2e</td>
<td></td>
<td>In relation to keeping pace with modern educational changes, in what ways does your power to influence learning in new ways enhance your design practice?</td>
</tr>
<tr>
<td>2f</td>
<td></td>
<td>Are there any other factors influencing your design work that we have not yet discussed?</td>
</tr>
</tbody>
</table>

Method of analysis. A similar analysis approach to that used for RQ1 illuminated the findings for RQ2. Continuing the three stages process, NVivo9 was
utilized for sorting and coding interview data in stage one. The tool provided a means for constant comparison analysis of semi-structured interviews for organizing the second corpus of unstructured text from verbal inquiry. The technique generated additional themes and continued to build theory for the study. Second, a reflection journal sustained throughout the process added contextual insights to the process and focus of research and provided researcher reflexivity. Third, personal documents voluntarily submitted by participants were evaluated using a modified version of the QM™ online course evaluator (see Appendix A for sample) for quality elements inherent in online course designs. A content analysis technique determined the process of analysing dissimilar documents with varying quantities of elements and diverse textual compositions.

However, the QM™ rubric was limited in its definitions of certain standard terms; therefore, a search for explanations was conducted outside of the instrument. The National Student Survey of Engagement (NSSE, 2008) informed meaning from five benchmarks. In addition, other scholarship increased understanding of concepts such as learner-centered, personal knowledge control (Sims & Stork, 2007) and alignment of objectives, assessments, strategies, and activities (see Sims’s OASA model, in press). Both tables of terms with definitions are found Appendix C. It was from these perspectives that a secondary, more rigorous assessment was conducted. A third analysis, designed for testing truthfulness (unintentional) of participants’ perceptions, re-evaluated each of the course designs in juxtaposition to participants’ stated applied competencies.

**Results of analysis from interviews.** Second round interview transcripts provided additional results of in-depth inquiry into expert perceptions of personal
leadership practices as predictors of online course design quality. Although, RQ2, IQ2a was a follow-up to RQ1, hence, did not add to the results of RQ2, but were added to overall study data for final analysis.

**RQ2,IQ2b. In what ways do courses you have designed for the online higher education student convey leadership competencies in practice?** The question was a restatement of IQ1c and was designed to refocus preliminary participant notions from how competencies are generally viewed to how they are applied to their design structures. Coded responses produced four general themes and six categories organized in Figure 12. An additional category (not included in the analysis) pertained to learning theory which was not under investigation. Of the leadership competency themes identified, Instructional Strategies returned a majority (65% of all similar words and phrases) while Assessments captured 15% of the responses. Objectives/Outcomes and Activities (10% each) complemented the responses.

![Competencies in Participant Designs](image)

*Figure 12. Leadership competencies in participants’ course designs by theme.*

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A more complex theme, Instructional Strategies, warranted a separate analysis displayed in Figure 13. Interaction and Authentic Tasks each garnered 31% of the responses. Closely related to Authentic Tasks, Learner-controlled Tasks resulted in 15%. The difference in terms defined the former category as tasks selected by the designer, while the latter implied learner selection of tasks. The findings were later used as a secondary analysis technique for locating participant-specified competency related elements intrinsic in course designs.

Figure 13. Instructional strategies theme breakdown by category.

*RQ2,IQ2c.* From your observation of instructional designers at work, how would you describe the impact of decisions leaders make on the products they influence or create? (in conjunction with) *RQ2,IQ2d.* Describe an experience when the influence was particularly significant. Results in this section co-contributed to the findings reported under the previous IQs. Results are expressed through participants’ own words. P1 assigned impact on course design from a leader’s decisions on style, philosophy, and external limitations. Her answers centered on strategic design choices and approach to the team effort,
The lead instructional designer sets the tone for the team. If he or she is proficient, the end product will reflect that.

From P1’s experience,

In designing the course I was quite adamant in the selection of the course text. That decision impacted the selection of supporting videos, articles, etc. It changed a course that had once been a generic multicultural course into one that facilitated the growth of practicing teachers.

In contrast, P2 cited team effects on a design from poor leadership,

Generally, it certainly affects the quality of the instruction. You can have people decide to do a particular strategy that’s a really bad idea in this particular context. It can affect the quality of the team interaction.

P3 summed up what and how leadership competencies displayed in instructional strategic decisions influence academic online courses,

I guess the biggest challenge is providing leadership, in teaching that online media are only wonderful tools that can make it possible to implement instructional strategies; and that good instructional strategies will lead to effective instruction and learning. Typical lecture, posting readings online, meaningless threaded discussion, recall quizzes and tests, without meaning real world practice will lead to poor learning and performance.

Likewise, P4 experienced intractability in leaders who followed template-based design strategies during “instructional design bullpens” interpreted by her as a discouragement to innovative ideas and quality. She added, “I understand why they were doing what they were doing…but they could never reach real high quality doing what they were doing.”

Results of analysis from documents. Ratings of design course categories were translated into percentage of points awarded as summarized in Table 7. (See Appendix D for complete ranked categorical results). A total of points possible for the modified QM™ rubric to rate a course as having achieved a minimum standard equaled 35. However, deletion of one item (see RQ3, IQ3a) reduced the measurement to 32.
Table 7.  Summary of Course Design Evaluations

<table>
<thead>
<tr>
<th>Category</th>
<th>Points achieved/Points possible</th>
<th>Percentage standards met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning objectives</td>
<td>8.2/9</td>
<td>91.1%</td>
</tr>
<tr>
<td>Assessment and measurement</td>
<td>11.4/13</td>
<td>87.7%</td>
</tr>
<tr>
<td>Learning engagement</td>
<td>8.6/10</td>
<td>86.0%</td>
</tr>
<tr>
<td>Total</td>
<td>28.2/32</td>
<td>88.1%</td>
</tr>
</tbody>
</table>

Analysis focused on themes that were related to participants’ definitions and prescriptions of competency-driven elements in RQ1 and RQ2, IQ2b. The findings suggested that for Learner Objectives inclusion of clear learning Objectives and how students will meet them was given the most attention (100%) by designers. Second, course goals addressed critical higher-order learning and pedagogical standards—or Strategies (90%). Although scoring in the 80% range, Outcomes ranked fourth out of five.

The Assessment and Measurement category revealed more emphasis placed on grading and practice than on the sequencing and alignment of assessments with Activities; although, this important measurement of high quality did show present in greater than 80% of the designs. Under Learner Engagement rankings showed more attention is given to learning-related interactions than any other item (93%), while instructor availability ranked last (70%). Learning activities structured to promote achievement of stated learning objectives ranked third out of four.

**Response to question RQ2.** Design scores exceeded the base required by the Quality Matters™ Project to achieve standards with an 88.1% overall percentage; in other
words, the course designs met high quality standards. In addition, participant-named competencies named for leading in quality pedagogies were evident in every course. In addition, when pressed for deeper meanings to RQ1 answers, participants’ thoughts transitioned from a focus on practical skills to duty toward the team, the design, and the learner. Each one expressed a personal pursuit of staying current with research for immediate application to improving designs.

**Answer to research question RQ2, What are the characteristics of courses created by participants who have identified critical leadership competencies?** The characteristics of study participants’ courses embodied the specified, critical leadership competencies for creating quality courses of which alignment of Objectives with relevant, measurable Assessments; Engagement through Activities in a learner-centered environment; and authentic, contextual virtual learning experiences supported Strategies and Vision (most frequently prescribed for course designs).

**Research Question 3**

Following a review of participant documents (online academic course designs and corresponding student evaluations), the third round of interview questions (see Table 8) sought to link learning outcomes to leadership competencies and asked “How do students evaluate the quality of courses by those using the identified critical leadership competencies? In addition, one question elicited responses in the form of suggested solutions for design leaders that may improve the quality of online designs. A final question, designed to allow participants additional input not previously addressed is discussed in chapter 5.
Table 8. Research Question #3 and Interview Questions #3a - #3c

<table>
<thead>
<tr>
<th>RQ#</th>
<th>IQ#</th>
<th>Question text</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>How do students evaluate the quality of courses by those using the identified critical leadership competencies?</td>
</tr>
<tr>
<td></td>
<td>3a</td>
<td>From the analysis provided, would you share your current thoughts on what relationship leadership skills and roles may have on learning designs?</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>Will you please articulate one or two solutions for improving the quality of online academic designs in the context of instructional designers leading in meeting the demands of the modern learner?</td>
</tr>
<tr>
<td></td>
<td>3c</td>
<td>Is there any issue I have not addressed that you feel is pertinent to this study?</td>
</tr>
</tbody>
</table>

**Method of analysis.** Two weeks before final interviews, student course evaluations submitted by participants, were assessed using frequency of theme and category occurrence and tabulation (Sample located in Appendix E). Diversity of quantity and vocabulary in each evaluation necessitated converting scores into percentages for comparison. To further simplify findings, multiple categories were rolled up into and viewed through the lenses of student engagement and student satisfaction as described in the Data Analysis Process section. Summaries of both course design and student evaluations were e-mailed to participants for review and comment, or member-checking. MacQueen et al. (1998) found this method useful to do a more in-depth analysis of topics or themes that span multiple general research questions.

Analysis of the remaining interview questions followed the pattern set for the first two sets; again, analysis relied on constant comparison analysis for similarities and differences in participant responses. One exception was made for the first question in which participant reaction for researcher accuracy was elicited from a preliminary analysis of the first two interview sessions as well personal documents. Next, solutions...
for improving online course design quality were elicited and analyzed for particular theories.

**Results of analysis from student evaluations.** Students rated the participant-designed courses and found high levels of course quality (90%), engagement present (89.8% rating), with a slightly lower value placed on satisfaction experienced in the courses (87.2%). A few of the more interesting findings follows (italics indicate unit of evaluation text):

- One evaluation (SE4) reflected its lowest scores from *amount of detail in course outline* (71.4%) and *course consistency with outline* (76.1%) while scored the lowest of all the designs for satisfaction with *how much was learned* (76.1%).

- Another example (SE2) revealed a high satisfaction rating with the *instructor as an effective teacher* (84.2%), at the same time rated engagement variables, *Timeliness in grading and feedback* (79.6%, 81.0%), lower than overall satisfaction factors. However, two of the four top engagement ratings included course design factors situated under personal knowledge construction attributes, *students encouraged to think independently and critical thinking stimulated* (86.6%, 85.2%), signifying a fairly high rating of learning design quality.

- The course that centered on the mean (SE5) reflected high satisfaction scores for *overall course quality* (90.0%). Engagement factors contributing to this were *relevance of exams to course goals* (100.0%) and *relevance of assignments to course content* (93.3%). The lowest score was assigned to *articulation of student course responsibilities* (78.3%).

A complete summary of the individual student evaluations is provided in Appendix F.

**Results of analysis from interviews.** A report to participants on results and analysis of completed interview questions and course evaluations preceded the first IQ3. Findings are reported in narrative representations of participant reactions and conclusions for the third research question.
From the analysis provided, would you share your current thoughts on what relationship leadership skills and roles may have on learning designs? A general agreement for researcher accuracy was reported by the participants of the preliminary analyses, with comments of surprise as to the low score in alignment of unit and course objectives: 2.2 The module/unit learning objectives describe outcomes that are measurable and consistent with the course-level objectives. An initial 47% score was later nullified as it was considered skewed from a lack of relevant data. However, the analysis prompted and congealed notions on the study’s central phenomenon of online course quality.

The first participant, P1 responded by saying,

I think it’s the leaders who can create and will create collaborative teams made up of people with diverse perspectives and talents, skills, and expertise will be the ones who will be developing the engaging, motivating, interactive, and effective learning environments for today’s learners.

Participant P2 emphasized,

I do think that the leadership qualities are integral to the course design, to the student learning, to the outcomes that you’re going to get, to future transfer…not only in the subject matter content that you are doing, but also transfer in the instructional design principles and the educational precepts that are really important in higher education everywhere.

From P3’s perspective,

Looking at online course quality is figuring out which factors matter the most. And so when everything is said and done, leadership is about finding those factors and figuring out what’s the priorities…and then disseminating that knowledge.

Participant P6 concluded,

We would tend to focus on, as far as basic axioms of instructional design, the one that objectives are measurable and that the objectives are aligned with the assessments, and the objectives and the assessments are aligned with the content…allowing you to meet the objectives.
**RQ3,IQ3b. Will you please articulate one or two solutions for improving the quality of online academic designs in the context of instructional designers leading in meeting the demands of the modern learner?** Replies to this question included P1’s suggestion that would allow instructional designers research and development time such as during a semester-long “think-tank” session. She mused,

The products that we could produce, the learning environments we could create, would just be unimaginable!

Similarly P2 promoted the community of practice by,

Taking a look at the online activities...looking at them for different strategies, but also looking at them for different levels of learning.

P6 exhorted in building on a learner model of instruction with online specific strategies. Capturing the essence of the problem explored in this study, he reminded,

The purpose for the instructional design must be the learning and change of the learners. One of the biggest problems that I see in online design is that online design often is focused upon taking an existing face to face course and adapting it to online delivery. And very often the face to face course was built on a content model of instruction, not on a learner model of instruction.

**RQ3,IQ3c. Is there any issue I have not addressed that you feel is pertinent to this study?** The final question in the study opened a dialogue window for participants to reveal any last hidden thoughts and meanings on the study’s topic. Some responses more related to frustrations and concerns with one’s daily practice, with the field at large, and with a lack of leadership training.

**Response to question.** Participants summarized leadership’s relationship to the future of online quality in terms of competencies that will align objectives and assessments to instructional strategies and content, professional collaboration, team-building, and stressed the importance of identifying, specifying, and sharing factors of
quality with the instructional design field. The findings corroborated results from RQ1 and RQ2 and completed the link between each focus of exploration.

**Answer to research question RQ3, How do students evaluate the quality of courses by those using the identified critical leadership competencies?** Through a student lens, the data implied that quality is linked to objectives (in *course outlines*) as aligned with assessments (for example, appropriate *exams*) followed by strategies (tasks involving *personal knowledge construction*) and activities (relevant *assignments*). Quality levels of online course designs varied along these design competency-based criteria, but generally ranked high.

**Conclusion**

As a result of triangulation of data, reflexivity, and expert corroboration, the study findings and analyses answered the research questions with consistency and cogency: leadership competencies identified by participants were critical to the quality of online higher education pedagogies. Specifically, the findings confirmed the researcher’s assumption at the start of the study that leadership skills, when defined by study participants, would be evident in the academic courses they designed in terms of contextual, environment-specific, theory-driven standards; and, that correspondent quality would be confirmed by student engagement and with satisfaction in overall course quality. Explicitly linking quality to the research questions, a synopsis from the sample group follows:

- The data collected corresponded with P1’s perception of leadership competencies’ contribution to quality of course designs by applying expertise in best practices (gained from current research) to design processes.
• The data collected corresponded with P2’s perception of leadership competencies’ contribution to quality of course design in the high level of engagement represented through contextual assessments, and relevant strategies and activities (activity theory, authentic tasks, involvement in own learning) to design processes. In addition, P2 articulated use of interaction and communication tools, particularly online affordances, with students and teams. The scores (included in raw data) represented a wide range of satisfaction with interaction elements.

• The data collected corresponded with P3’s perception of leadership competencies’ contribution to quality of course designs by applying expertise in best practices (gained from current research) in instructional strategies to design processes. In addition, P3 attributed personal expertise in the instructional design field grounded in current evidence-based research to a successful practice of quality online course design.

• The data collected corresponded with P4’s perception of leadership competencies’ contribution to quality of course designs by applying redundancy and practice, as well as student interaction in instructional strategies to design processes. In addition, P4 ascribed design flexibility and student input to successful production of a quality online course design, which the data indicated were present in the designs.

• The data collected corresponded with P6’s perception of specified leadership competencies’ contribution to quality of course designs in the high level of engagement represented through alignment of objectives, contextual assessments, and relevant strategies and activities. In addition, P6 articulated concern with student interaction, particularly with the instructor. The scores (included in raw data) represented a range of satisfaction with interaction. P6’s experience with the recurrent issue was expressed,

One of the biggest problems that I see in online design is that online design often is focused upon taking an existing face to face course and adapting it to online delivery. And very often the face to face course was built on a content model of instruction, not on a learner model of instruction. The other thing is that the other, I believe inferior, model for online design, is the online course is merely an extension of the textbook, and I see that a lot.

However, complexities inherent in the instructional design process were evident in the multifarious competencies identified by participants. Therefore, the research questions, intent on exploring a problem of quality in online academic course designs,
were answered and analyzed from a perspective grounded in the literature explicating in chapter 2. Data analysis results concluded with a total of 16 major categories organized under seven themes, with additional themes that fell outside of the general research questions findings; for example, Preparedness, or, Professional Development. In addition, themes that were relevant, although require more space than appropriate for this dissertation (an additional chapter would be needed), included Roles, Decisions, Influence, and Institutional Support. While abbreviated in this report, the data has been reserved for additional dissemination in another publication. A more thorough discussion and interpretation of findings through the relevant literature resides in chapter 5.
CHAPTER 5. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Study

This chapter includes a discussion of the qualitative study of expert instructional designers. An analysis of the collected data informed gaps in understanding of the leadership dimensions demanded in an instructional designer’s daily work with direct influence on the quality of online pedagogies, the central phenomenon under exploration. Also conceptualized as a gap that exists between what is considered optimal for effective online learning and what is evident in current pedagogies, a foundational position of this study was that the gap could be closed with domain-specific leadership competencies.

Synopsis of Findings

From data collected and analysed in the present study, findings aligned with the theoretical framework documented in chapter 2 and showed the importance of increased leadership awareness and competencies when added to the skillsets of instructional designers. Expert participants from the United States and Canada extended a traditional view of instructional design competencies (IBSTPI, 2000), by suggesting the skills of practice be implemented through a lens focused on the future. Competencies named as critical were (a) Strategy with Vision—oversight and foresight for the institution, for the field, for the design team, and for the learning event; (b) Personality, or interpersonal and communication skills, with which to convey plans and for insight into team dynamics and
client needs; and (c) Productivity necessary to complete learning interventions in the face of competing interests (time, budget, team dynamics, institutional support) with forethought for innovation. In this way, interview and document data, when allocated to key themes, reaped anticipated results as well as added new meaning to the central phenomenon of online learning quality. The findings were interpreted metaphorically as an umbrella of distinct leadership mindsets overseeing and guiding the implementation of effective and satisfying course designs, teams, and programs in the context of an instructional design domain. In other terms, leadership was viewed as one who practices with shared expectation and plans for change in a fluid educational context (Fullan & Scott, 2009).

Moreover, a leader was viewed as one who will inspire instructional strategies consistent with modern research for engaging mobile learners (Kim, Baylor, & Group, 2006; Velleltianos & Miller, 2008). The participants’ philosophies and perceptions were evident in the personal documents’ analysis, in that most afforded a learner-centered environment for maximizing engagement and achieving learning outcomes (Parrish, 2009). In addition, leadership was manifested in the close attention paid to alignment of measurable objectives, authentic assessments, strategies for learning, and relevant activities (Sims, in press) specified for the online learning space (Bollettino & Bruderlein, 2008; Hong & Sullivan, 2009; Sims & Koszalka, 2008).

From a research question construct, the metaphor in Figure 14 conveys the study outcome’s relationships and links to each research question and themes consistent with those located in the literature. The three main themes and quality predictors are shown as outcomes of the analysis of aggregated data from each research question’s results.
Thematic conclusions were Competencies (Dooley Lindner, Telg, Irani, Moore, & Lundy, 2007), Attributes (Scott, Means, & Coates, 2008), and Duties (Campbell Schwier, & Kenny, 2009) culminating in designs with aligned Objectives/Outcomes, Assessments, Instructional Strategies, and Activities, represented by Sims (in press) OASA model.

Figure 14. Synthesis of research questions findings.


**Study Context and Purpose**

Early in the genesis of a web-based education paradigm, degradation of online pedagogical quality was demonstrated by traditional methods infused into web-based course designs. Naidu (2003) summarized the problem,

Evidence of this is all around us in the form of innumerable university course Web sites that contain little more than the schedule, a brief outline of the course content, PowerPoint slides of the lecturer's notes, and sometimes, sample examination papers. (p. 349)

By 2010 evidence was scant for improvement in the low quality perception represented by an Allen and Seaman (2010) study of faculty perceptions of online pedagogies. The critical nature of improving the structures for learning outcomes was highlighted by Participant (P3) who warned that if quality does not become the focus of attention and dissemination in the field of online instructional design “the majority of the instruction is going to remain inferior”. Xu and Morris (2007) concluded environmental differences in online versus traditional venues demand unique learning support, while Artino (2008) showed that learning is different in the venue. Supporting P3’s conclusions, Hannum (2009) admonished researchers to rigorously explore “variables that directly influence outcomes” (p. 173) of the distance environment.

Additionally, on-going negative views by educators (Allen & Seaman, 2009), along with a burgeoning online enrollment (Allen & Seaman, 2010), challenged this researcher and the field of instructional design to reconceptualize approaches to pedagogical quality, in particular those informed by leadership competencies. Leadership, as a solution, was cited as an essential component of making quality decisions based in part on a study by Dooley et al. (2007) in which instructional designers were observed during academic course creation and implementation. Added to the
specific domain literature were numerous cross-disciplinary studies and sources; together they provided a theory-based rationale for examining the characteristics of leadership in direct application to effective online pedagogical development. For example, Maxwell (2007) prescribed 21 irrefutable universal laws for government and organizational leaders, nonprofits, sports franchises, and individuals. Kotter (2008) updated his earlier business model with distinctions in leadership from management as (a) setting direction over planning and budgeting, (b) aligning principles while organizing and staffing, and (c) motivating people versus controlling and problem-solving. From this pertinent construct, several additional sources were linked to the study findings as articulated in the following sections.

**Research Approach**

Understanding the dimensions and complexities of the instructional design process for developing quality online higher academic pedagogies demanded extensive conceptual and empirical analyses. Utilizing one rigorous social research approach—a qualitative, phenomenological inquiry with in-depth interviews (Seidman, 2006) triangulated by personal documents analysis—participant thoughts from a community of practice (Wenger, 1998) with theory-construction (Creswell, 2009; Drucker, 1981; Gelo, Braakmann, & Benetka, 2008). In particular, the exploration looked into how expert instructional designers perceived and applied the leadership attributes required for producing high quality online learning designs in their specific work situation (Dooley et al., 2007; Stein et al., 2009).
Successive and progressive interviews (three) of the professional instructional designers clarified—and, at times, changed—participants’ thoughts on leadership competencies to influence online pedagogies. In addition, an interview protocol was successful in terms of providing a clear direction for extracting meaningful study data. Constant comparison analysis examined data until congruency was found between the practitioners’ definitions, perceptions, and experiences and how courses were formulated. Ultimately, theory and meaning emanated and grew from prolonged discourse with the researcher, which confirmed the appropriateness of the phenomenological research design and methodology (Creswell, 2009; Gelo et al., 2008).

Typical to qualitative studies in the social sciences, the task of coalescing divergent paths of human thought into coherent themes and categories resembled chaos theory postulated by Lorenz in 1960 (Stewart, 1989): when viewed from one perspective patterns look different than when viewed from another point in the data. Hence, findings often crossed thematic and categorical boundaries within a given research question. Similarly, interpretation of findings blurred between the questions and, at times, transcended the study’s main focus. For example, it became apparent that RQ2 and RQ3 served more to inform and support RQ1 while retaining unique value to the study’s outcome. Therefore, a departure from typical qualitative reporting and discussion ensued, including a decision to interpret themes within each research question and not by an additional thematic analysis section. However, since RQ1 themes anchored the second and third questions’ results to the study problem, a section is provided near the conclusion of this chapter, Linking Quality to Themes and Research Questions.
Discussion by Research Questions

Diverse perceptions of the definition and practice of leadership by instructional designers resolved into an explicit relationship between critical leadership competencies and quality outcomes through themes and categories explicated in this section.

Consistent with problems of systematic modelling stemming from the complexities of instructional design, themes from competency identification and practice did not always explicitly map onto those identified during the subsequent documents’ analysis. For example, strategy was conceptualized as both a global approach to the process as well as a local technique employed in a course design. Another term example, mentor, appeared as a characteristic in all three themes of Competencies, Duties, and Roles. One conflict with the literature was observed when leadership competencies were framed in the context of team responsibilities and mentor duties, rather than as an overseer mindset as suggested by Kowch (2009). Ultimately, the ill-defined notions were rethought, redefined, and organized under seven themes although, at times, still overlapped one another.

Research Question 1

What instructional design leadership competencies are identified as critical to creating quality online learning designs?

Consistent with studies reported in chapter 2 of this manuscript, the interview findings conveyed a perception blurred across lines of standards understood for instructional design (IBSTPI, 2000) and those regarded as leadership skills and attributes (Kowch, 2009; Sackney & Mergel, 2007). Inspirational to this study, Beaudoin (2007)
and Sims (2008) posited in similar ways that instructional designers do not possess adequate self-knowledge and perception of the competencies required for converting leadership skills to quality products.

Moreover, Scott et al. (2008) found that the concept of leadership was poorly understood across disciplines and industries. In terms of competencies, Dooley et al. (2007) defined the concept as knowledge, skill, and abilities in operation needed for a successful outcome. In contrast, comments recorded in an interview reflection journal recorded views ranging from P4 being unsure of what leadership competency is, P2’s struggles with what specific leadership competence is for her, to P6’s difficulty in identifying and articulating his own competencies. On the other hand, the participants expressed strong beliefs about what leadership competencies should be for instructional designers and why they were important, which resonated with Campbell et al.’s (2009) suggestion that IDs have deeply-held feelings and beliefs about their craft.

**Strategy.** Responses designated as Strategy resonated with one study’s findings in particular: Scott et al. (2008) implied that leaders are competent in developing strategic, proactive plans for the future, engaging others in the process, as well as collaborating for best possible solutions to current and unforeseen problems and challenges. Further, the researchers’ posited that leaders knew where to go for the answers or knowledge to create the answers. In brief, views of participants in this study were consistent with the literature summarized as: leaders make the right connections in a network of colleagues and technology (Siemens, 2004; Sims, 2006) for expertly accomplishing the task at hand or anticipated.
Additional strategies deemed critical to online instructional design by the study’s practicing designers aligned with relevant research, such as, knowing which instructional design construct best provides for complex, authentic problem-solving (Dabbagh & Denisar, 2005); understanding that context is most important (Barab & Roth, 2006; Sims & Stork, 2007); demonstrating how to sustain engagement (Parrish, 2009); continuing domain-specific research on strategies required in a distance learning environment (Bollettino & Bruderlein, 2008; Hong & Sullivan, 2009); incorporating and disseminating best practices and ethical standards (Campbell et al., 2009; Spector, Klein, Reiser, Sims, Grabowski, & de la Teja, 2006); and, having a proactive mindset of collaboration and connectedness with a team of designers, instructors, and students (Sims, 2009).

**Vision.** For this theme, participants cited Vision as intrinsic to a good leader. Characteristics of vision are represented in the responses focused on growth—in the design team, in the student, and for the field of education at large—as a change agent (Campbell et al., 2009; Beabout & Carr-Chellman, 2008) and global thinker (Reimers, 2009). In spite of research that showed instructional designers felt a lack of power to change the institution or society (Campbell et al., 2009), this study’s representatives responded to demands for an instructional design vision to encourage global collaboration among institutions (Durdur, Yalabik, & Cagiltay, 2009). In keeping with the research, participants prescribed best-fit models and relevant curricula toward quality online pedagogies for all learners. In this way vision takes practical form when practitioners specify nontraditional resources as in open source learning objects (Caswell,
Henson, Jensen, & Wiley, 2008), wikis (Baggio, 2008), and informed blogs (Carman, 2008).

Veering from what competencies are to how designers reinforce skills, participants described staying current in the field toward informed choices for maximizing the learning environment. Scott et al. (2008) regarded this characteristic, not as a competency, rather as a capacity to see the big picture and to “read and respond to a continuously and rapidly changing external environment” (p. 11). The theory supports leaders having vision through developing foresight from a synthesis of past events, trends, and new developments. However, empirical evidence offered by Howard and Wellins (2008) inferred visionary skills, either from example or through adequate training, are not being conveyed or passed on. An important finding from this study group contradicted the theory as leaders were seen, as Sackney and Mergel (2007) coined, “steward [s] of the vision” (p. 94); in addition, agreed with Kouzes and Posner (2007) to encourage others to share in the vision—in this context, for improving online design quality for higher education.

**Productivity.** The study results echoed literature that implied leaders as those who understand how to work hard to achieve results; in other words, are productive. Not unlike a statement made by participant P6, that a leader’s competence consists of being able to “perform a skill for a task that is needed successfully”, a study of leadership roles in virtual teams showed that learners prefer a producer to any other style (Chen et al., 2008), a leader who gets things done. As mentioned by other participants, the range of tasks involved in developing academic courses within client time and budget constraints
(Moore & Kearsley, 2005) found value in one leading in hard work with skill, as well as in finishing the job.

Others described leaders as those who know how to assume responsibility and are expected to do what they say (Argyris & Schön, 1992). Hence, good products were seen as produced by skillful leaders, trained in specific capacities, and who work until the job is done, until the client is satisfied. As one participant noted, in the context of producing learning events, clearly the client may be the student.

**Personality (Interpersonal skills).** The participants listing competencies related to interrelationships—communication within a team or institution—also described certain personality traits that enhanced or hindered the process of developing quality products. The perspective reflected a recent trend found in leaders in specific. Howard and Wellins’s (2008) survey of human resource leaders ranked a lack of visionary skills in organizational leaders as one of the top reasons leaders fail, however, cited the primary cause as inferior interpersonal skills; Larson and Lockee (2009) considered it vital. The notion supported a pervasive claim in literature of communication as the linchpin of all successful leadership (Sergiovanni & Corbally, 1984).

**Values.** Returning a low volume of responses, Values, contradicted findings cited in studies that moral code and purpose are integral to instructional designers (Campbell et al., 2009; Fullan, 2001). Interestingly, the findings suggested agreement with Spector et al.’s (2006) opposing analysis that instructional designers have little concept of how to design with a moral basis. However, one participant (P6) was particularly passionate about its importance to standards of practice offering repetitive responses on honesty, integrity, and servant leadership. Another participant (P2) held a prudential perspective
on a design team’s innate dignity and was emphatic that aspects of values are critical, “respect is the foundation of leadership in the design process.” Paralleling these views, attributes of truthfulness, fairness, esteem, service to others, acting on conscience and other moral underpinnings were found in much of the literature on leadership (Campbell, Schwier, & Kenny, 2005; Greenleaf, 1977; Maxwell, 2007; Senge, 2006; Sullivan and Rosin, 2008; Wolumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008). With Fullan’s (2001) observations in mind that educators lead with a moral purpose the on-going debate suggested a gap in understanding for this aspect of a designer’s mindset.

**Emotional strength.** Although ranking in the lowest quartile of respondent answers, characteristics representative of inner fortitude were considered important and expressed as “patience” and “working with the ideas of others.” The notions reflected Scott et al.’s (2008) identification of emotional capacity as a gift with which to comprehend and respond to specific situations by selecting and using certain competencies, especially in a rapidly changing environment. Participants described experiences in which an inner strength was activated to lay aside personal preference in lieu of honoring a colleague or client’s theories.

**Mentoring.** An example of category-blurring was found in the frequent naming of Mentor(ing) as both a competency and a duty, or role. Another concept riddled throughout historical accounts and conceptualizations of leadership, a mentor has also been defined as a coach (Howard & Wellins, 2008) with respect to monitoring a novice’s progress through a cognitive or physical goal. However, the theme was considered emergent for this study as it was not one understood by the researcher as a potential leadership competency, rather a role of teaching. While often interchanged with the term
teacher, an instructional design mentor was conveyed by participants as having a sense of close relationship, a symbiotic dynamic with another person, for which the experienced designer assumed ultimate responsibility. The perceptual study by Howard & Wellins, 2008 revealed 37% of leaders at a high-level fail, citing the most frequent cause as ineffective leadership skills “such as facilitating change, building a team, and coaching” (p. 10). Implications from Howard and Wellins and this present study’s findings were that an instructional design leader is tasked with and measured by the degree of passing on of knowledge and wisdom to novice designers through insight and foresight.

**Research Question 2**

What are the characteristics of courses created by participants who have identified critical leadership competencies?

**Objectives/Outcomes.** Discussion of themes emerging out of this research question emanates from both interview and personal documents’ results. The designs assessed by the researcher afforded learning satisfaction with close alignment of objectives, assessments, strategies, and activities. Sims (in press) has shown how specific instructional strategies for online learning, as in simulations, will not guarantee successful outcomes without alignment of the essential components of learning beginning with well-defined objectives and will be enhanced by incorporation of the learner’s desired goals.

**Assessments.** Closely associated with Objectives/Outcomes is the need for matching and measurable assessments of achievement. Echoing concerns on how learners must be assessed for relevant learning (Sim, in press), the findings revealed
perceptions of attaining the goals defined in course and unit objectives with appropriate measures or assessments.

**Strategies (Instructional).** It was clear from the study, in addition to global strategy, perceptions focused on local strategic capabilities as the prime exemplars for instructional design leaders. Concepts offered were found throughout instructional design literature and formed unique categories: Authentic Tasks (Duffy & Jonassen, 1992), Interaction (Bernard et al., 2009; Sims, 2003), Learner-control (Spiro & DeSchryver, 2009), Problem-solving (Dabbagh & Denisar, 2005), Theories-based Instruction (Dooley, Lindner, Telg, Irani, Moore, & Lundy, 2007), and Engagement (Parrish, 2009). An unanticipated category emerged during discourse, Values-based Instruction, although aligned closely with values-based leadership discussed above in the Values section, as well as in a study of organizational leaders by Wolumbwa et al. (2008).

Specifically, due to the asynchronous nature of online transactions (Naidu, 2007), learners need to be engaged more directly through contextualized and personalized learning (Sims & Stork, 2007). This type of learning necessitates specific strategies in the course structure for knowledge connections (Siemens, 2004). Furthermore, Sims and Stork (2007) exposed the extent of engagement critical to modern social learners. In keeping with the concept, participants incorporated opportunities for learners to construct knowledge and meaning through an individualized perception into their designs. The perspective aligned with contemporary disseminators who proposed that instructional designers lead in designing for future trends in delivering education, such as social networking, mobile technologies, and intelligent pedagogical agents (Kim, Baylor, &
Group, 2006; Velltsianos & Miller, 2008). Hong and Sullivan (2009) challenged instructional design leaders to seek out and rely on new theories and innovation-oriented designs in support of knowledge creation.

**Activities.** Participant P2 thought activity theory to be an effective method of encouraging learners to construct meaning from knowledge. The notion exemplified other experts’ thoughts of how an activity may be a means of completing the goal set by an objective (Naidu, 2007) and measured by an assessment, which may also be the activity itself (Sims, in press). As an example, P2 described how a theory learned in her course was put into practice in a student’s own classroom (during a specific assigned activity). The activity itself assessed the teacher-in-training’s understanding of what was taught in measuring how much was understood about applying the concept to a real-world problem.

**Research Question 3**

How do students evaluate the quality of courses by those using the identified critical leadership competencies?

Student evaluations more often measure teacher performance (Seok, 2009) as was prevalent in the study artifacts; however, multiple links between learner-centered criteria in this study’s student course evaluations inferred quality. The remaining categories, Student Satisfaction, Student Engagement, and Overall Course Quality were found in ratings the students entered on surveys distributed at the end of the courses. In review, the satisfactory mastery of a course topic with measurable learning outcomes was the stated goal of instructional designers in this study. To accomplish the goal, diverse
competencies and approaches were named as essential to quality course and were used as a heuristic for assessing student evaluations. When analyzed through this lens, satisfaction with engaging courses equated to quality and was documented as being achieved by the students’ substantial and significant approval ratings.

**Linking Quality to Themes and Research Questions**

It has been described in this report that the concept of quality encompassed numerous connotations with inherent subjectivity when applied through individual lenses. Various groups have attempted to prescribe guidelines, standards, and benchmarks as measurements of quantity and quality of elements deemed essential to effective academic course designs. Given the constraints of assessing quality of online higher academic courses provided for this study, multiple heuristics were relied on; but more importantly, the sample group of expert practicing instructional designers provided current thought on how courses may be evaluated. The data effectively summarized into answers for the research questions and drew a clear link between quality of course structures, themes and categories of critical competencies, and the research questions.

Results from personal documents analysis closely aligned with a model put forth by Sims (in press) called the OASA model, a tool relevant to this study in terms of evaluating the instructional designer’s thinking; a “design for a learning mind-set rather than presenting content”, which is more typical to the traditional approach (R. Sims, personal communication, August 26, 2010). The components aligned intended outcomes with corresponding assessments followed by strategies and activities designed to enable personalized, or contextual, learning. In this way, quality of learning is represented by
the ability of students to incorporate individual experience and culture into their construction of knowledge. The present study’s findings suggested that course design quality was linked to the Objectives (unit and course congruence, articulation) as aligned with Assessments (specific, descriptive criteria) followed by Strategies (learner selected, authentic tasks; instructor interactions) and Activities (practice assignments, interactivity).

The logical structure found in the participants’ artifacts contradicted indictments found of poor quality in online pedagogies (Means, Toyama, Murphy, Bakia, & Jones, 2009; Reeves, Herrington, & Oliver, 2004), confirming a conclusion that those who think in leadership terms find those competencies infusing their work and concomitant outputs—namely academic course designs. Moreover, from a question asked during the second interview session—designed to elicit deeper insights and notions that participants’ deemed to be significant to the study—remarks more closely linked theory to literature. For example, P4 suggested ensuring “the inclusion of the learner’s objectives in the design itself, not the learner, but their objectives” implicating a learner-controlled mindset (Sims & Stork, 2007).

In the final question, quality was affirmed by students of courses implemented by the participants who cited characteristics intrinsic to effective online pedagogies such as engagement (NSSE, 2008) through authentic strategies, which also served as descriptors of leadership competencies. Therefore, the first research question was satisfied with definitions, the second with courses populated with those concepts, and the third with student approvals—namely, of overall course quality.
Importance of Study to Instructional Design and Recommendations

The research study herein compared current instructional design literature with new meanings derived from participant perspectives; in this way it added to prior and current knowledge of why instructional designers make decisions that have impact on the quality of the aggregate of online educational products. A mindset of oversight and foresight permeated both the study findings and supporting field-specific literature. Together with the past, current empirical evidence extended a call for the field of instructional design’s increased awareness and practice of leadership competencies by its members. Indeed, heeding the call will satisfy Spector’s (2009) vision of leaders transforming the field to a main-stream profession. For this to occur, the study findings inferred a broader view is needed by the elite design group responsible for guiding the momentum racing to proliferate adult online learning. Participants consistently referred to transformational concepts as essential to promoting the field and its contributions to quality online designs.

Study outcomes resonated with notions by Gelo et al. (2008) that leadership is best understood through the daily interactions and applications to the project, irrespective of delivery mode. On the other hand, participant theories, contextualized within the research problem and questions, were translated as significant to the online genre and inferred as transferable to technology-distributed pedagogies. A shift in the very nature of education and learning to personalized, autonomous acquisition of knowledge as-needed, when-desired, and on-the-go demands leadership to assert agendas for high quality through revised standards of practice.
Consequently, this research study has shown that an awareness of well-defined leadership competencies in practice is needed to encourage its practitioners to extend and improve existing and future web-based academics for higher education. Most exciting was the unfolding of new theory for the participants on a personal level as old concepts of leadership and influence on quality were rethought and applied to new situations or to old situations in new ways. The hope is that other practitioners will find similar experience upon reflection of personal leadership in practice.

A recommendation for improving the field is for integration of domain-specific leadership courses into the core requirements for undergraduate and advanced degrees in the institutions offering programs for instructional design. This is especially critical in that Larson and Lockee (2009) found few such programs in place with adequate training for what is expected in a modern work setting.

Another recommendation was inspired by the study group who urged instructors and senior designers to mentor junior counterparts in research and dissemination for increasing collaboration on a global scale. From a collection of innovative ideas, transformation of education will meet the challenges of a multicultural learning population with modern communication preferences.

In addition, a critical issue to be taken from this study is what foundation instructional designers are laying for the future, and how seriously are they taking the onerous requirements for doing the job right. Will the academy emphasize practical skills and support-level competencies and ignore the leadership competencies found to be indispensable by this study to quality online pedagogies? It is evident from the concern palpable in numerous participant responses that future designers learn to lead in new and
relevant ways to ensure a role in keeping pace and advancing with modern learning. One way suggested is through on-going research and dissemination.

**Future Research Considerations**

In view of the lack of leadership shown in recent literature and society, the findings in this study suggested more research is needed to pinpoint those competencies critical to quality practices in the online domain. Studies like this one are needed to mine the ideas of practitioners along with case studies to view principles in action for individuals and design teams, ethnographic evaluations for in-depth experience into the daily lives of academic design departments, participatory action research to enlist instructors in what works and what does not in the online environment as design interacts with and impacts learners, and design and development research to validate domain-specific models and metrics.

Additional research ideas to explore are offered as follows:

- Drawing on the approach used in this study, incorporation of expert conceptualizations and evaluators such as the OASA model by Sims (in press) into dissertations and other research projects will speed validation of essential, empirically-based constructs of best practice. Best-practices was cited several times by study participants as an issue to continue to improve on and put into the workplace toolbox.

- Theories expressed by participants alluded to a need for more understanding of and exploration into what is leadership for instructional design, therefore validating the novel model presented in this chapter is suggested. This might include comparing a course designed by a control group of designers that do not use the model to two others that do for what impact a conscious use of leadership principles has on resulting pedagogical quality. In this way quantitative empirical data will corroborate the qualitative perspective.

- What is online knowledge affordance, presentation, and design and how is it any different from engineering instruction for the traditional classroom is still a question in need of rigorous investigation and exploration to counter
arguments against validity for technology-based learning studies. Without this distinction designers struggle with what this study has found to be traditional methods uploaded to web-based learning management systems with no regard for the evidence-based differences in mediated learning. With relatively few recent studies to confirm the assumption, researchers will find a fertile field waiting to be gleaned for firm evidence for the instructional strategies named herein.

- To further elevate perceptions of how to lead, themes briefly discussed and illuminated—Values, Roles, Decision-making, Power to Influence—need further inquiry from instructional designers in any genre or capacity. Constraints of space and time must not limit the importance of these theories and the value they play in leading quality production. The existing literature is not silent on all of these concepts; however, a new generation of mobile learning demands a fresh look at each quality of online learning aspect resulting from this study.

- There is a need for more research into what will constitute an online quality heuristic applicable to a broad range of pedagogies. In other words, what patterns will emerge from studying existing designs that may provide future models for rapid prototypical processes? Will learning objects become a thing of the past in view of the individualistic approach to learning suggested this present study’s findings?

- Lastly, a significant theme repeated often, collaboration with institutions and colleagues with a common purpose has not been satiated in the existing scholarship. History has shown a trend toward cooperative learning and work efforts for producing better products in less time in most government and business endeavors. Online education deserves no less.

**Novel Model of Leadership**

A taxonomy of instructional design leadership crafted from an initial literature review and analysis (see Figure 1) was intended to be revised to incorporate the findings from this study. In reality more than an altered version was needed, thus, a novel model of leadership is proposed in the metric below. The model contains seven essentials to the effective practice of modern educational design. Support for a new model rests in researcher intention to answer a call by Kowch (2009) that,
New leaders need new ways to address these issues beyond the instructional leadership literature, which was found lacking due to a classical focus on the supervision of instructors/teachers more than with the leading of the instructional process (design and development, as we know it). (p. 45)

The 7 Ps of Leadership for Instructional Design (7PL4ID) model first lists the characteristic ‘P’; second, describes the competency or attribute; and last, offers a prescriptive link to practice. The intent of the model is for use by a designer as a constructive guide in practice. Frequent review will remind the practitioner or instructor to reflect on the principles that add a dimension of foresight and insight to their designs.

**Prescience**

Leaders conceptualize the world through a prescient mindset; they discern the future and formulate a vision for what needs to be done (Scott et al., 2008). Subsequently, leaders convey the vision to others, live the vision through decisions, promote the vision, and encourage others to share in the vision as well as enliven others to their vital role in the vision (Kouzes & Posner, 2007).

**Application for instructional design.** ID leaders will demand and infuse theory- and evidence-based strategies into the design structure. An ID leader will communicate with and encourage either a design team or designer/instructors to diligently seek out new ways of approaching the online learner needs framed by a vision of future global change which will demand unanticipated societal and work duties (Durdu et al., 2008; Reimers, 2009). Therefore, a vision for the field of ID should inspire conference presentations and disseminating on-going research to colleagues and novice designers. For example, will social media support, enhance, or merely dominate online education? What are
researchers predicting? Will online education grow as expected? What will the standards be for distributed pedagogies? How can we set the standards?

**Preventive (Proactive) Thinking**

Leaders reflect on strategies to prevent problems rather than waiting for them to happen. Moreover they engage others in the process, collaborating for best possible solutions (Campbell et al., 2009) to, not only current, but unforeseen problems and challenges (Scott et al., 2008). They know where to go for the answers or knowledge to create the answers. In other words, they make the right connections (Siemens, 2004) in a network of colleagues and technology for the task at hand or that anticipated. A global view of what is needed in a technology-driven world accompanies thinking in concert with others for innovation (Rischart, 2010).

**Application for instructional design.** It may be conceptualized that preventive thinking is a way of planning for the future and avoiding the pitfalls of degradation in education as migration to online learning proceeds. IDs will make (a) strategic decisions for the organization in preparation for online rapid growth, (b) strategic decisions for the design team to research best options for providing strict alignment of measurable objectives to assessments, content, and activities on any platform, and (c) strategic decisions for the design structure to afford engagement with context-relevant learning flexible enough for learner to quickly adapt to personal and societal fluidity. Examples are: creating new interface designs to accommodate known learning preferences, disabilities, and new delivery modes. For example, would a haptic device help or hinder...
learning for this topic? What is the latest research on connections between cognitive processes and tactile information? Who has done the most research in this area?

**Provision (for the Unexpected) Thinking**

Leaders strategically plan for the unexpected according to Sonnenfeld and Ward, (2007). The study showed leaders know how to endure; they don’t give up; they stand the test of time; and, they bounce back. Leaders encourage others to finish the task with excellence in spite of obstacles (Moore & Kearsley, 2005). Likewise, leaders of education will provide for unexpected learning challenges.

**Application for instructional design.** An ID leader strategizes for online-related roadblocks for learners as well as for the design team; for example, providing alternate realistic and reliable means of completing and forwarding assignments in case of technology-related interruptions. In the same vein, institutional upheavals from technology failures demand multiple recovery plans. Leaders of design teams will rally the team in times of heavy scheduling demands, budget shortages, and ethical complaints to complete projects on time nonetheless. For example, what is in the institutional pipeline for support of cloud computing? Is it time to demand system-wide upgrades? Will operating with one less team member require unpaid overtime? Did we afford adequate protection during interactive video meetings that would have prevented harm to that student?

**Personality**

Leaders convey personality and presence through confidence, strength, and maturity in diverse manners and ways (Kirkpatrick & Locke, 1991; Kouzes and Posner,
Leaders articulate and mediate with diplomacy and never waffle or sidestep the tough questions; they communicate with inherent and exceptional interpersonal skills (Larson & Lockee, 2009) and with a sense of purpose (Fullan, 2001; Sergiovanni, 2003)). In this present study it was found that leaders are sincere and show compassion with self-control; they are humble yet self-aware.

**Application for instructional design.** Designers of online pedagogies will exhibit confidence and expertise by offering academic and relevant arguments for the design, strategic, and team decisions. Leaders will listen carefully to impassioned arguments by the team or clients and will articulate decisions from a practical, firm position; yet will take care to be considerate of others.

**Productivity**

Leaders can be counted on and do what they say. Leaders show up on time every time. Leaders work as hard as what they expect from others; and, they get the job done with expertise and extraordinary skill (Chen et al., 2008). Findings from this present study showed that leaders rally the team to better practices; they strive for and apply innovation, creativity, and effective measures.

**Application for instructional design.** Moving the process along toward completion, the ID leader will encourage the team to think and act efficaciously with openness to new ideas and theories of learning. He or she will be involved with each aspect of the design and will delegate appropriately for efficiency and high quality learning events.
Psychological (Emotional) Toughness

Leaders think rationally, make good choices, and avoid knee-jerk reactions (Kepnoe & Tregoe, 1998; Scott et al., 2008; Sergiovanni, 2003). They operate on the offensive, not defensive, with openness to other ideas, opinions, and criticisms (Maxwell, 2007). From these sources it was evident that leaders apply logic tempered with practicality and common sense; they can weigh evidence and distinguish truth from fiction; and they rely on fairness not dogma. In this study it was found they exhibit patience with and respect for clients and co-workers.

Application for instructional design. ID leaders communicate capability through personal self-regulation and discipline. He or she exhibits strength and pragmatism in being patient and respectful with the ID process as well as other stakeholders, sorting out conflicting ideas on theories of online learning needs to adopt best relevant practices for distance environments.

Personal Convictions

From several sources (Campbell et al., 2009; Wolumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) we know that leaders are honest; they don’t cheat in business or personally and they never lie. In other words, they possess integrity in all areas of their lives. Leaders align their actions with their beliefs and live by conscience not rules. Leaders act with moral purpose; they will consider the higher good of a matter at the risk of bending an inflexible rule. Consequently, leaders will never break the law of the land, but work to bring change where needed. Leaders are trustworthy, faithful, and consistent in their beliefs.
**Application for instructional design.** An ID leader will demonstrate a willingness to confront old paradigms and regimes to do what is believed to be efficacious for the online learner. He or she will offer truthful support for decisions, including errors and delays; and will take care to act on personal moral principles. While honoring the budget, copyright laws are followed meticulously. Ethical considerations will be afforded in each academic design, giving preference only to the success of the learning process and not personal or political gain. As a matter of lifestyle, ID leaders will exemplify truthfulness and high moral conduct, mindful of the fiduciary responsibility to a vulnerable population of learners.

**Conclusion of Study**

This research study was about defining and specifying critical instructional design leadership competencies assumed to be located in courses implemented by experts in the field resulting in high quality learning experienced by students. The idea sprang from a graduate leadership course embedded in an instructional design for online learning program. The notion of leadership permeates the literature of many disciplines but rarely occupies space in the instructional design scholarship. However, there were those that recognized the need for its particular application and called for competencies on a level demanded by the complex learning paths of a modern world. Consequently, a topic ripe for study became the focus of this researcher’s dissertation study.

Designing a research study of what experts think about took on a qualitative form as it was necessary to understand the meaning behind what it is before looking at why it is. Therefore, a perceptual study allowed access to the richness of practitioners’ minds,
their experiences, and their ideas for improving the field and its creations. A series of interviews, along with reviews of personal documents, served to express theories undergirded by passion and honest desire for providing learners with excellent pedagogies.

The study findings confirmed and added new meaning to the notion that leadership is strategizing with vision; leadership is producing while doing one’s best and encouraging other to do the same; leadership is relating to all stakeholders in a design project with clarity, honesty, and respect. Study participants exemplified the competencies cited as critical to quality online courses in the passion held for their work, their students, and the field.

Interpretations also emphasized that leadership is not only a set of practical skills, but a mindset operating outside and above the daily fray. More importantly, leadership is not different for designers of online pedagogies from any other genre; nevertheless, it is critical to the level of quality inherent in the learning outcomes for students. Therefore, leadership is an essential component of the instructional design role in moving online education forward. Borrowing from an axiom that depicts viewing life through an eagle’s eye, aspects of this study showed a leader as soaring above the terrain to strategize the best plan for a successful outcome, with ability to see potential impediments in advance. Still other views kept the leader’s eyes on the project at hand. Both perspectives found value in the study sample’s personal work.

Reacting to questions raised during a preliminary lay-of-the-land inquiry of notable field experts, the researcher developed a taxonomy of designer competencies, leadership competencies, and an integrated version of the two, which ultimately guided
the study. The observations proved to be important as later in the study participant questions arose as to how leadership applied to instructional design in ways not previously assumed in practice. Answers came directly from the data: one difference viewed by Participant P2 was leadership as “the means to an end”, also described by P6 as having “a view toward what the learner gets out of it”, and by P3 as steering the online paradigm into the future through continual researching, testing, and by applying environment-specific and evidence-based best practices.

An extensive analysis of the literature and study observations not only confirmed previously-held theories, but heightened the importance of alerting the field of instructional design to its criticality in leading the shift from instruction-based mindsets to those with mobile learner demands at the fore of practice. Toward this end, a novel model of leadership was proposed to guide the daily decisions of practitioners with a new perspective. It provides a synopsis of leadership competencies and principles that will influence the quality of pedagogies for online courses and learning.

Finally, numerous recommendations for research going forward will incite others to continue in the pursuit of elevating the quality of our field through a framework of leadership. Spector (2009) and Beaudoin (2007) envisioned a profession of educators who would advance education, web-based learning, and design professionals with a prescient view of a growing paradigm of learning. This study and its findings contributed an important but embryonic framework for examining the relationship between leadership competencies and the influence its attributes bring to bear on the value of distributed learning. Future studies are crucial to the extension of the theories posited
herein and to spotlight an urgent need for quality online pedagogies inspired by evidence-backed inspiration.
REFERENCES


Magnussen, L. (2008). Applying the principles of significant learning in the e-learning environment. *Journal of Nursing Education, 47*(2), 82-86.


## APPENDIX A. MODIFIED QUALITY MATTERS™ COURSE EVALUATOR

<table>
<thead>
<tr>
<th>Standards</th>
<th>Point value</th>
<th>Total points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learning objectives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 The course learning objectives describe outcomes that are measurable.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2.2 The module/unit learning objectives describe outcomes that are measurable and consistent with the course-level objectives.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2.3 The learning objectives are stated clearly and written from the students’ perspective.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2.4 Instructions to students on how to meet the learning objectives are adequate and stated clearly.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2.5 The learning objectives address content mastery, critical thinking skills, and core learning skills.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment and measurement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 The types of assessments selected measure the stated learning objectives and are consistent with course activities and resources.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3.2 The course grading policy is stated clearly.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3.3 Specific and descriptive criteria are provided for the evaluation of students’ work and participation.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.4 The assessment instruments selected are sequenced, varied, and appropriate to the content being assessed.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.5 “Self-check” or practice assignments are provided, with timely feedback to students.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Learner engagement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1 The learning activities promote the achievement of the stated learning objectives.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5.2 Learning activities foster instructor-student, content-student, and if appropriate to the course, student-student interaction.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5.3 Clear standards are set for instructor responsiveness and availability (turn-around time for e-mail, grade posting, etc.)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5.4 The requirements for student interaction are clearly articulated.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL POINTS</strong></td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

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## APPENDIX B. RESEARCH AND INTERVIEW QUESTIONS

<table>
<thead>
<tr>
<th>RQ</th>
<th>IQ</th>
<th>Question text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>What instructional design leadership competencies are identified as critical to creating quality online learning designs?</td>
</tr>
<tr>
<td></td>
<td>1a.</td>
<td>What is your definition of leadership competence when in practice?</td>
</tr>
<tr>
<td></td>
<td>1b.</td>
<td>Considering effective online learning design development, which leadership competencies do you believe to be the most important ones an instructional designer should possess?</td>
</tr>
<tr>
<td></td>
<td>1c.</td>
<td>In what ways do you apply leadership competencies to your work. For example, describe the decision-making processes of a typical day in context of designing academic courses/programs.</td>
</tr>
<tr>
<td></td>
<td>1d.</td>
<td>To what extent do you feel prepared for leading the learning changes needed for the growing trend toward online educational pursuits?</td>
</tr>
<tr>
<td></td>
<td>1e.</td>
<td>How do you define your role as an educational leader, in the context of your work in online education?</td>
</tr>
<tr>
<td></td>
<td>1f.</td>
<td>In your organization, is there an atmosphere of hierarchical leadership, or do instructional designers enjoy a leadership role in any capacity they may hold?</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>What are the characteristics of courses created by participants who have identified critical leadership competencies?</td>
</tr>
<tr>
<td></td>
<td>2a.</td>
<td>In the first interview you made an observation I would like to pursue further before exploring the second set of questions _________________________________.</td>
</tr>
<tr>
<td></td>
<td>2b.</td>
<td>In what ways do courses you have designed for the online higher education student convey leadership competencies in practice?</td>
</tr>
<tr>
<td></td>
<td>2c.</td>
<td>From your observation of instructional designers at work, how would you describe the impact of decisions leaders make on the products they influence or create?</td>
</tr>
<tr>
<td></td>
<td>2d.</td>
<td>Describe an experience when the influence was particularly significant.</td>
</tr>
<tr>
<td></td>
<td>2e.</td>
<td>In relation to keeping pace with modern educational changes, in what ways does your power to influence learning in new ways enhance your design practice?</td>
</tr>
<tr>
<td></td>
<td>2f.</td>
<td>Are there any other factors influencing your design work that we have not yet discussed?</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>How do students evaluate the quality of courses by those using the identified critical leadership competencies?</td>
</tr>
<tr>
<td></td>
<td>3a.</td>
<td>From the analysis provided, would you share your current thoughts on what relationship leadership skills and roles may have on learning designs?</td>
</tr>
<tr>
<td></td>
<td>3b.</td>
<td>Will you please articulate one or two solutions for improving the quality of online academic designs in the context of instructional designers leading in meeting the demands of the modern learner?</td>
</tr>
<tr>
<td></td>
<td>3c.</td>
<td>Is there any issue I have not addressed that you feel is pertinent to this study?</td>
</tr>
</tbody>
</table>
### APPENDIX C. DEFINITIONS OF COURSE DESIGN EVALUATION TERMS

#### Table C1. NSSE Benchmarks for Engagement

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of academic challenge</td>
<td>Higher-order thinking, integrative learning, reflective learning, analyzing, synthesizing, making judgments, applying to other or new situations</td>
</tr>
<tr>
<td>Active and collaborative learning</td>
<td>Multiple drafts of a paper, collaborative research projects, class presentations, tutored other students, service-learning projects (community)</td>
</tr>
<tr>
<td>Student-faculty interaction</td>
<td>Frequent instructor interactions; various types of instructor interactions; instructor feedback; grading turn-around time</td>
</tr>
<tr>
<td>Enriching educational experiences</td>
<td>Cultural training and interactions; co-curricular activities; practicum, internship, clinical assignment, other; community service, volunteer work; use of electronic media to complete assignments</td>
</tr>
<tr>
<td>Supportive campus environment</td>
<td>Institutional support with social, personal, academic life; quality relationship with students, faculty, admin</td>
</tr>
</tbody>
</table>


#### Table C2. Definitions and Attributes of Learner-centered and Personal Knowledge Construction

<table>
<thead>
<tr>
<th>Element</th>
<th>Definitions</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learner-centered</td>
<td>Design strategies will afford learners opportunity to construct knowledge and meaning through an individualized perspective</td>
<td>Prior knowledge-based on personal experience</td>
</tr>
<tr>
<td>Personal knowledge construction</td>
<td>Design structure will afford personalized learning that knowledge apprehended will be individualized, or personalized, by the learner alone</td>
<td>Context/situation - how students apply learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Learning styles - open, not specified</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Culture - worldview equals unique perspective and how advances own learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media preference - affords choice of media that promotes learning</td>
</tr>
</tbody>
</table>

## APPENDIX D. RANKING OF COURSE DESIGNS BY STANDARDS

<table>
<thead>
<tr>
<th>Standards</th>
<th>% of Points possible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learner objectives</strong></td>
<td></td>
</tr>
<tr>
<td>2.3 The learning objectives are stated clearly and written from the students’ perspective.</td>
<td>100%</td>
</tr>
<tr>
<td>2.4 Instructions to students on how to meet the learning objectives are adequate and stated clearly.</td>
<td>90%</td>
</tr>
<tr>
<td>2.5 The learning objectives address content mastery, critical thinking skills, and core learning skills.</td>
<td>90%</td>
</tr>
<tr>
<td>2.1 The course learning objectives describe outcomes that are measurable.</td>
<td>80%</td>
</tr>
<tr>
<td>2.2 The module/unit learning objectives describe outcomes that are measurable and consistent with the course-level objectives.</td>
<td>-</td>
</tr>
<tr>
<td><strong>Assessments and measurements</strong></td>
<td></td>
</tr>
<tr>
<td>3.2 The course grading policy is stated clearly.</td>
<td>100%</td>
</tr>
<tr>
<td>3.5 “Self-check” or practice assignments are provided, with timely feedback to students.</td>
<td>100%</td>
</tr>
<tr>
<td>3.4 The assessment instruments selected are sequenced, varied, and appropriate to the content being assessed.</td>
<td>90%</td>
</tr>
<tr>
<td>3.1 The types of assessments selected measure the stated learning objectives and are consistent with course activities and resources.</td>
<td>80%</td>
</tr>
<tr>
<td>3.3 Specific and descriptive criteria are provided for the evaluation of students’ work and participation.</td>
<td>73%</td>
</tr>
<tr>
<td><strong>Learner engagement</strong></td>
<td></td>
</tr>
<tr>
<td>5.2 Learning activities foster instructor-student, content-student, and if appropriate to the course, student-student interaction.</td>
<td>93%</td>
</tr>
<tr>
<td>5.4 The requirements for student interaction are clearly articulated.</td>
<td>90%</td>
</tr>
<tr>
<td>5.1 The learning activities promote the achievement of the stated learning objectives.</td>
<td>87%</td>
</tr>
<tr>
<td>5.3 Clear standards are set for instructor responsiveness and availability (turn-around time for e-mail, grade posting, etc.)</td>
<td>70%</td>
</tr>
<tr>
<td>Category</td>
<td>Evaluation Items</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Student Engagement</td>
<td>Students treated respectfully</td>
</tr>
<tr>
<td></td>
<td>Student questions responded to</td>
</tr>
<tr>
<td></td>
<td>Communicated with enthusiasm</td>
</tr>
<tr>
<td></td>
<td>Work graded in reasonable time</td>
</tr>
<tr>
<td></td>
<td>Overall Instruction</td>
</tr>
<tr>
<td></td>
<td>Opportunities for assistance</td>
</tr>
<tr>
<td></td>
<td>Evaluation methods fair</td>
</tr>
<tr>
<td></td>
<td>Support materials helpful</td>
</tr>
<tr>
<td></td>
<td>Course content well organized</td>
</tr>
<tr>
<td></td>
<td>Course consistent with outline</td>
</tr>
<tr>
<td></td>
<td>Enough detail in course outline</td>
</tr>
<tr>
<td></td>
<td>Total Category</td>
</tr>
<tr>
<td>Student Satisfaction</td>
<td>I learned a lot in this course</td>
</tr>
<tr>
<td></td>
<td>Total Category</td>
</tr>
<tr>
<td></td>
<td>TOTAL ALL</td>
</tr>
</tbody>
</table>

Note: All point system ratings have been converted to percentages for ease in comparison.

Student satisfaction based on learning, not instructor.
## APPENDIX F. STUDENT COURSE EVALUATIONS SUMMARY

<table>
<thead>
<tr>
<th>Category</th>
<th>SE (Student evaluation) #</th>
<th>Number of items</th>
<th>Number of evaluations</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE1</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>100.0%</td>
</tr>
<tr>
<td>SE2</td>
<td>13</td>
<td>5</td>
<td>5</td>
<td>81.5%</td>
</tr>
<tr>
<td>SE3</td>
<td>16</td>
<td>5</td>
<td>5</td>
<td>91.5%</td>
</tr>
<tr>
<td>SE4</td>
<td>11</td>
<td>7</td>
<td>7</td>
<td>87.9%</td>
</tr>
<tr>
<td>SE5</td>
<td>18</td>
<td>6</td>
<td>6</td>
<td>88.0%</td>
</tr>
<tr>
<td><strong>Total category</strong></td>
<td></td>
<td></td>
<td></td>
<td>89.8%</td>
</tr>
<tr>
<td>Student satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>100.0%</td>
</tr>
<tr>
<td>SE2</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>84.2%</td>
</tr>
<tr>
<td>SE3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>89.0%</td>
</tr>
<tr>
<td>SE4</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>76.1%</td>
</tr>
<tr>
<td>SE5</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>86.7%</td>
</tr>
<tr>
<td><strong>Total category</strong></td>
<td></td>
<td></td>
<td></td>
<td>87.2%</td>
</tr>
<tr>
<td><strong>Overall mean</strong></td>
<td></td>
<td></td>
<td></td>
<td>88.5%</td>
</tr>
</tbody>
</table>