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An Operational Management Competency Model for Online Education Administrators

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An Operational Management Competency Model for Online Education
Administrators

by

Fanniel deMarks

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in
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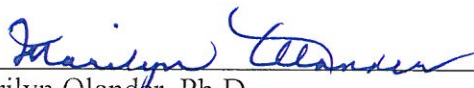
We hereby certify that this dissertation, submitted by Fanniel deMarks, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirements for the degree of Doctor of Philosophy.

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Despite the steady rise in online education and increasingly empirical studies on related learning technologies and technology support, there is considerable evidence that the field has not kept the pace with studies related to online education administrators (OEAs). Further investigation was needed into OEAs' practice of day-to-day administration of their programs. Therefore, this study examined OEAs' perceptions of their areas of responsibility, tasks to be accomplished and skills and knowledge needed for them to get the job done.

A three-round Delphi research technique was employed as a structured group communication method between five participants to answer three research questions. The protocol consisted of anonymous participants using online surveys to respond to several rounds of questioning. The research concluded with a group consensus.

The results produced nine functional areas, 12 operational tasks and 14 competencies of skills and knowledge for OEAs. Based on the findings, it was now possible to illustrate an operational management competency model as a resource for the administrator in charge of an online education program. After conclusions were drawn, the study provided recommendations for future research.

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Chapter 1

Introduction

Background

Online education (OE) has become one of the most significant discussions in education because it disrupted the traditional brick and mortar classrooms and offered schooling in virtual classrooms. Moody (2004) regarded virtual classrooms interchangeable with other terms such as distance learning, distance education (DE), virtual education, online learning, OE, distance-delivered, and Web-based courses.

Online education continues to draw students desiring flexibility and the convenience of learning. A recent survey that tracks online learning found a rise of 7.2% and 12.7% among four-year public and private non-profit institutions, respectively (Grade Level: Tracking Online Education in the United States, 2015). As such, the literature has become increasingly concentrated on illuminating many aspects of OE with an amplified focus on technology, such as learning technologies, instructional technology, and network support to assist online learners. While a technology focus helps to understand the process of online learning implementation, a central issue is the lack of empirical studies with attention to frontline online education administrators' (OEA) areas of responsibility, their tasks to be accomplished and the skills and knowledge needed for them to get the job done. Marcus (2004) and Nworie (2012) asserted that the technology aspects of DE have become the primary attraction in the literature, consequently bypassing focused attention on leaders who manage DE.

Research has not fully examined the lived experiences of OEAs and the aspects of their job during discourse about quality OE programs. Therefore, further investigations into OEAs will increase understanding about their practice of administering programs, such as the functional areas they manage, tasks required at the operational level, and skills and knowledge to get the job done. A functional area is a section, division, or department within a work environment that is responsible for executing specific tasks or activities (Koontz, 1980; Pfeifer, Reissiger, & Canales, 2004; Skipton, 1983). Examples of OE functional areas are instructional development, learning management system support, multimedia production, professional development, network support, assessment and testing (Moore & Kearsley, 2011), support services, and marketing (Schroder, 2013).

Tasks required at the operational level are intentional segmented activities (Turner, 1993; Vermeerbergen, Van Hootegem, & Benders, 2016) assigned as work to be done (Pich, Loch, & Meyer, 2002; Wysocki, 2011), with some activities performed day-to-day (Abraham & Seal, 2001; Ingram & McDonnell, 1996) and recurring (Thomsett, 2009). Because of these daily tasks, some scholars, such as Paim, Mansur Caulliraux, and Cardoso (2008) and Tichy (1981), contended that frontline managers are essential to oversee execution of tasks, thus ensuring bottom line success.

A competency is a skill set of knowledge and abilities acquired by individuals to enhance their ability to perform (Boyatzis, 1982, 2008; Woodruffe, 1993). Managerial competencies include skills sets aligned to the management role such as analyzing, problem solving, and decision-making (Khoshouei, Oreyzi, & Noori, 2013; Szczepańska-Woszczyna & Dacko-Pikiewicz, 2014).

Because OEAs oversee a multi-function program daily, their competencies pull from aspects of DE leadership and operational management. Nworie (2012) argued that the lack of significant studies on DE leadership limits rich understandings about how DE leaders are developed. This limitation extends into practice and results in ill-defined competencies, qualities and qualifications of DE leaders (Nworie, Haughton, & Oprandi, 2012). In similar fashion, OEAs' competencies associated with their daily activities of managing OE programs have not been studied, yet identified as an essential focus (Kearsley, 2013; Marcus, 2004; Nworie, 2012).

Distance education leaders are classified primarily into three strands: operational, strategic, and servant. The operational leader's experiences extend to leading and managing the daily function (Schroder, 2013). The strategic leaders develop long-range plans and manage costs associated with programs. The servant leaders' attention is a servant-follower relationship (Van Dierendonck, 2011) where followers sense being in control, self-directed, and having shared feeling of community (Bunt-Kokhuis, 2012). Even though DE resonates with these strands and a theme that all leaders should continue to reform their programs (Diamond, 2008; Marcus, 2004), the field still lacks leadership guidance, including a resource for OEAs in practice.

The operational strand of DE leadership impacts OEAs research because it aligns with operational management. Baumgartner (2014) views operational management as organizational efficiency by organizing and managing activities to align with strategic goals. Operational management in DE has been examined through implementation of the e-learning maturity model (eMM; Marshall, 2012), a framework that assesses the overall quality of e-learning through dimensions of delivery, planning, definition, management, and optimization. The key processes of the eMM include key functional areas that are also aligned with some of the OEAs' duties.

Problem Statement

While the number of online education courses and programs continues to grow at higher institutions (Jaggars, 2013), so too will the demand for OEAs to manage frontline activities. Yet, despite demand, little has been reported on OEAs. For example, there is a small strand on operational leadership (Hunter & Nielsen, 2013; Schroder, 2013), but not enough attention to operational tasks of OEAs. Also, pockets of discussion have emerged on skills needed for OEAs to manage the functional area of distance education technologies but not on skills needed to manage other functional areas required by this position (Marcus, 2004; Nworie, 2012).

The problem is the lack of useful information guiding the operational management of online education programs. If this pattern continues, the gap will progressively widen in understanding the skills and knowledge required of OEAs, their tasks and functional areas needed to enhance daily administration of online education. To close this gap and respond to the increasingly demand for experienced OEAs, a resource of skills, knowledge, tasks, and functional areas are needed to assist them in the daily administration of their programs.

Dissertation Goal

The research goal was to develop a resource for the administrator in charge of an online education program. The resource specified the areas of responsibility, the tasks to be accomplished and the skills and knowledge necessary to get the job done. More importantly, this resource closed the gap in understanding online education management and equip administrators with multiple aspects of operational management to enhance program effectiveness. The resource can also serve as a guide for developing professional certification training or development programs for OEAs.

Research Questions

The study answered the following research questions (RQ).

- RQ1: What are the functional areas, operational tasks, and competencies associated with online education programs?

- RQ2: How do OEAs rate the importance of operational tasks and competencies for managing OE programs?

- RQ3: Which competencies do OEAs perceive as being the most critical for managing OE programs?

Relevance and Significance

Examining functional areas of responsibility, operational tasks, and competencies associated with OEAs closed the gap on understanding the practice of administering OE. Overall, the proposed investigation has informed OE. Furthermore, OEAs practitioners now have a resource to enhance effectiveness of administering their programs. Notwithstanding, more research will be needed that examines the lived experiences of OEAs administering programs daily and has been suggested for further study.

Barriers and Issues

Barriers

There were no barriers during the course of implementing the study.

Issues

There were no issues during the course of implementing the study.

Assumptions, Limitations, and Delimitations

 The assumptions, limitations, and delimitations are presented below.

Assumptions

1. It was assumed that the study population would be comprised of participants who are OEAs that oversee at least three functional areas associated with the daily activities of their OE programs.

2. It was assumed that the participants would have a basic familiarity with taking online surveys.

3. It was assumed that the participants would respond to the study's questionnaires timely and with honesty and accuracy.

4. Using the Delphi research technique of multiple rounds of response and coding, it was assumed that the participants would reach a consensus agreement within a reasonable time.

Limitations

1. The population was limited to OEAs who are in higher education settings.

2. The participants consisted of OEAs who manages at least three functional areas of online programs.

3. The small number of OEAs limited generalization.

4. The time constraint imposed was six weeks, which allowed for maximum turnaround time for three rounds of sampling and analysis.

Delimitations

1. The research questions were delimited by the literature that defines and examines the context of OEAs. Furthermore, the questions were delimited by OEAs' perceptions of

their areas of responsibilities, operational tasks, and the most important competencies needed to manage daily activities associated with their OE program.

2. The participants were delimited by administrators who oversaw the daily operations of OE programs such as OEAs. Precisely, these administrators were a subset of DE administrators within higher education settings. The decision to use the population was to advance the professional standards of OEAs by utilizing the findings to provide a resource to guide them in their practice.

3. The study was delimited by OEAs who manage at least three functional areas of their OE programs. This approach was utilized by selecting OEAs who lead, plan, and guide daily operational tasks associated with the functional areas such as learning technologies and management systems, course development, instructional design, faculty, student support, program, learner evaluation, procurement, and recruitment. This criterion was chosen to allow OEAs to provide data from multi-functional areas, which helped to provide a study with rich, thick descriptions, thus increasing opportunities to produce rich findings.

Definition of Terms

- *Competency* is a skill set of knowledge and abilities acquired by individuals to enhance their ability to perform (Boyatzis, 1982, 2008; Woodruffe, 1993). Therefore, competencies are skills and knowledge utilized to maximize performance of tasks (Thach, 1994).

- *Distance Education* is instruction administered by teachers that is delivered to students at a distance using the Web as the technology delivery medium (Keegan, 2002)

- *Functional area* is a section, division, or department within a work environment that is responsible for executing specific tasks or activities (Koontz, 1980; Pfeifer, Reissiger, & Canales, 2004; Skipton, 1983).

- *Managerial competency* is a skill set, such as analyzing, problem solving, and decision-making, related to the cognitive domain that individuals in management positions utilize to enhance their ability to perform (Khoshouei et al., 2013; Szczepańska-Woszczyna & Dacko-Pikiewicz, 2014).

- *Online Education Administrator* is a person who is responsible for managing the daily activities of functional areas associated with online education programs (Kearsley, 2013).

- *Online Education* is a form of teacher-student distance instruction that is administered across the Web in modes such as fully online or blended with a combination of traditional classroom instruction and online (Nash, 2015).

- *Online Education Program* is a series of courses administered by teachers to remote students using the Web as the technology delivery medium (Kearsley, 2013; Moore, 2013).

- *Operational tasks* are intentional activities assigned as work to be done (Pich, Loch, & Meyer, 2002; Wysocki, 2011) with some activities performed daily (Abraham & Seal, 2001; Ingram & McDonnell, 1996) and recurring (Thomsett, 2009).

List of Acronyms

Listed below are acronyms utilized throughout the paper.

1. CM – Competency Modeling

2. CR – Consensus Rule

3. DE – Distance Education

4. HR – Human Resources

5. IRB – Institutional Review Board

6. MC – Managerial Competency

7. OE – Online Education

8. OEA – Online Education Administrator

9. OM – Operational Management

10. PM – Project Management

11. RQ – Research Questions

Summary

The organization of this study included five chapters consisting of the introduction, review of the literature, methodology, results, and conclusions, implications, recommendations, and summary. The first chapter was the introduction and presented here as a discussion of the background, problem, research questions, definition of terms, and barriers, issues, limitations, and delimitations. The second chapter contained a review of the literature that was divided into sections of key foundational areas: DE, OE, OM, and competencies. These areas enhanced what was known and unknown about OEAs and the administration of their programs. Discussions were focused within strands of higher education, human resources, management, and applied

psychology. The review concluded with an analysis of research methods utilized in similar studies.

The third chapter discussed the research methodology of the Delphi technique such as the design, number of rounds of questioning, how a group consensus was achieved, and how the data were collected. The fourth chapter contained the results of the analyses and findings as presented in formats of a narrative description and statistical and graphic representations of data. The fifth and final chapter contained a summary of the conclusions and implication of this study. Based on the findings, it was now possible to illustrate an operational management competency model as a resource for the administrator in charge of an online education program. The chapter ended with recommendations for practice and further study.

Chapter 2

Review of the Literature

Boote and Beile (2005) emphasized that a literature review is a necessity to understand how work builds from existing literature. This chapter synthesized discourse and work relevant to the foundational fields influencing the study: distance education (DE), online education (OE), operational management (OM), and competencies. Within DE, leadership styles and roles were examined while administration was examined under OE. Moreover, OM was examined separately and through the lens of project management (PM). Competencies were reviewed separately and through the lens of managerial competencies (MC), job performance theory and competency modeling (CM). The review concluded with an analysis of research methods examining competencies.

Distance Education

The interchangeable terms for DE, such as distance learning, distributed education, and OE have been widely discussed (Bryant, Kahle, & Schafer, 2005; Moody, 2004). However, Keegan (2005) clarified the distinction between DE and OE as separation of teacher and student and the medium that instruction is delivered. Kerka (1996) and Moore (2013) provided definitions of DE that are aligned with the classic description of teachers and students separated by place and time. Bozkurt et al. (2013) defined DE as a catchall word. Latchem and Hanna (2013) and Morabito (1997) defined DE as a broad explanation of a global perspective that connects the world's educational community.

Characteristics of DE have been segmented into six generations (Connolly & Stansfield, 2007; Taylor, 2001), respectively: correspondence model (Anderson & Dron, 2010; Taylor, 1995), multimedia model (Anderson & Simpson, 2012; Sumner, 2000), information technologies (Moore & Kearsley, 2011), flexible learning (Connolly, Gould, Baxter, & Hainey, 2012; Passerini & Granger, 2000), Internet access (McKee, 2010), and mobile learning (Connolly et al., 2012). The fourth generation of flexible learning is considered the first generation of e-learning (Connolly & Stansfield, 2007).

Currently, DE is focused on the third generation and beyond with increased concentration on learners, learning environments, instructional delivery methods, and various learning communities. These popular topics provide knowledge about the modes of distance teaching, learning, and technologies. However, attention to understanding the leadership styles and roles of administrators responsible for managing DE helps to understand how daily tasks contribute to the overall success of DE learners (Nworie, 2012). Two DE streams significant to this review are leadership styles and leadership roles because they influence administrators' abilities to manage their programs.

Distance Education Leadership Styles

Research has conclusively shown that some DE administrators do not believe they are leaders. For example, Eddy and VanDerLinden (2006) examined leadership within the various contexts of the community college administrative areas such as self-reporting leadership, women/men's descriptions of leadership, and views of leadership based on administrative position. Results showed that academic affairs administrators, student affairs administrators, and administration areas, such as human resources and business affairs, exhibited forms of leadership, such as leader-by-position and change agents. Yet, DE administrators assumed they

were not leaders, but instead viewed themselves as obstacles to leadership where faculty had rank over them. Eddy and VanDerLinden's report found a marginalization of low-level administrators, such as DE leaders, and called for leadership development and training programs.

Leadership ability is a necessity for administrators during the planning and implementation stages of their programs (Nworie, 2012). Unfortunately, since DE leadership is not widely discussed, ambiguity exists when it comes to leadership styles needed to oversee programs. Therefore, the general leadership theories serve as a foundational resource for understanding DE leadership styles. Nworie (2012) applied these theories to advance the notion that DE leadership is organized into three main theories, such as transformational, situational, and complexity.

Beaudoin (1998) advocated that transformative leadership is a must for administrators aiming to become change leaders to move DE initiatives into mainstream higher education. Diamond (2008) and Miller (2013) asserted that DE leaders should embrace transformative leadership as change agents in the present of the evolving online education milieu. Chaloux and Miller (2013) argued that higher education has transformed because of online learning disruption. As a result, transformative leadership is needed to sustain DE initiatives of access, institutional commitment, learning effectiveness, and faculty/student satisfaction.

Situational leaders in DE require role-play traits such as delegating, coaching, directing, and supporting (Nworie, 2012). These leaders exhibit qualities of being flexible and directive (Nworie, 2012) and require leadership competencies as managers of trust and self (Bennis, 1984). Situational leaders should have the proper skills to ensure high performance of role-playing traits (Bennis, 1984). Van Dierendonck (2011) advanced transformational leadership theory by describing DE leaders as servants with qualities displayed as authentic, ethical, empowering, and spiritual. Bunt-Kokhuis (2012) introduced the emerging servant leadership

theory for DE that is multi-dimensional and embraces human, ethical, and talent factors in organizations.

Changing environments influence complexity leaders who utilize their skills of collaboration, flexibility and innovative thinking (Nworie, 2102). According to Schroeder (2013), innovative thinking is a competency of DE operational and strategic leaders. Other competencies recognized by Schroeder that impacts complexity leaders are lateral thinking and change management capabilities.

Marcus (2004) found that a central challenge in DE was the lack of a robust definition for leadership. He declared that DE was clear on leadership descriptors such as transformational, motivator, influential, change agent, situational, and self-achiever. Miller (2013) added innovator to the descriptors based on a new school of thought on innovative leadership in higher education settings that promotes several lines of authority both formal and informal. Miller viewed institutions of this type as more socially-focused environments, yet somewhat fluid in that authority comes from several angles including DE leaders. This new thought also introduced new leadership challenges for DE leaders, such as maintaining its first-rate programs, strategic focus on academic policies and practices, and a chance to lead (Miller, 2013).

Despite themes of DE leaders reforming their programs (Beaudoin, 1998; Marcus, 2006; Diamond, 2008), staying abreast of academic policies to know how to implement change (Miller, 2013), and positioning their programs as the new mainstream (Chaloux & Miller, 2013), there still lacks vigorous discourse on leadership guidance that DE leaders in practice can follow. Nworie (2012) asserted that there are few studies on DE leadership, thereby limiting a rich understanding.

Distance Education Leadership Roles

Husmann and Miller (2001) declared that DE had become threaded into the fabric of higher education. Accordingly, it was institutionalized with certification and degree-granting programs (Boyd-Barrett, 2000; Piña, 2006) that heightened interest about DE leadership roles. For example, leadership roles ranged from descriptors of informational, interpersonal, and decisional (Mintzberg, 1973), strategic (Portugal, 2006), planners/managers, and motivators/supporters (Yang, 2010) to operational and strategic (Schroder, 2013). Schroder differentiated operational leaders from strategic leaders when he described the differences in their roles and demands. As such, strategic leadership roles are aligned to address the big picture duties, emerging trends, communicating the vision, while operational leaders tackle the frontlines duties.

Empirical studies examined whether DE leaders were strategic or operational by analyzing their occupation titles (Cook-Wallace, 2012) and their roles during the implementation of OE programs (Williams, 2003; Mitchell, 2009). For example, Cook-Wallace's (2012) quantitative study found that OE administrators defined their roles using various titles, such as directors of distance learning, online learning, and online instruction. Mitchell's (2009) qualitative study found that during implementation of OE, faculty and administrators perceived their roles as facilitators and mentors. These findings were consistent with DE leaders advocating the learning function by promoting quality online learning (Yang, 2010).

Overall, DE leadership roles provide some generalizations about their leaders in practice. For instance, DE leaders must balance vision, daily challenges, and political hurdles (Portugal, 2006), be a part of the success equation for OE (Yang, 2010), and embrace a culture of quality and value (McFarlane, 2011). Moreover, Beaudoin (2015) cautioned DE leaders about changing educational reforms affected by rapid changes in the socio-technological environment. While

discourse about leaders and their responsibilities are prominent, little empirical research is provided to support DE and inform the practice.

Online Education

Although distance education and OE are considered interchangeable (Marcus, 2004), there is no comprehensive definition of OE (Cejda, 2010). For example, the Online Learning Consortium, formerly the Sloan Consortium, defines learning to be OE when 80% of courses are delivered by the Internet. In contrast, the Instructional Technology Council defines learning to be OE when 70% of courses are delivered online (Lokken & Womer, 2007). Another definition of OE advanced by Larreamendy-Joerns and Leinhardt (2006) acknowledged that OE is comprised of instructional technology, computer-assisted instruction, and DE.

Other terms describing OE have been open education and e-learning (Cox, 2005). According to Bozkurt et al. (2013), open and distance learning is destined to be the replacement term for DE because of growing emphasis on the online technologies influenced by massive open online courses and open education resources. Regardless of the various definitions for OE, it is clear that OE is the third generation DE that utilizes communication technologies to enhance collaborative learning among students (Connolly & Stansfield, 2007). Many studies have examined online communication technologies (Means, Toyama, Murphy, & Baki, 2013) and collaborative learning through online learning communities (Yuan & Kim, 2014). In contrast, fewer studies have examined administrators who manage the administration of these technologies and other functional areas of online programs.

OE Administration

During the early years of OE, the administration component was organized as a branch structure where faculty and employees from continuing education departments served as

program administrators (Husmann & Miller, 2001). Because this loosely structured design lacked exclusively managed programs, OE accounted for elusive discourse about the operational aspects (Burke, 2005; Kearsley, 2013). Mitchell (2009) reinforced a need for a structured OE administration by asserting that unstructured OE programs will jeopardize online processes and procedures.

OE administration requires not only attention to online learning, retention, and learning technologies but also equal attention to the daily functions or operational tenets of its programs. Educators, industry leaders, and government entities reinforce this notion by indicating a need for OE administrators. For example, a recent educational technology survey of board members from universities and colleges found that 73% of members reported their institutions are actively discussing development of online courses (Association of Governing Boards of Universities and Colleges, 2013), which implies a focus on the role of OE administrators in managing programs. Supporting this survey was an earlier report that the U.S. Department of Labor projected that online DE administration positions will grow over 20 percent by the year 2018 (Cook-Wallace, 2012).

The areas of responsibility for OEAs are largely based upon empirical studies that investigated practices of managing DE and online programs. For example, Compora (2003) examined practices and procedures for administering and managing DE from select colleges and universities. Compora's research aim was to increasing effectiveness DE programs. Using a case study design, he concluded with the development of an administrative operative model that showed an effective way to administrate and manage a DE program. His model was the ABC DEF GHI operative model that captured programs' assessments, budget, coordination, delivery methods, evaluation, faculty involvement and training, generating a mission statement,

hierarchical approval system, and implementation of support systems. Each alphabet letter in the model's name represents an operational function or task associated with DE programs. For example, ABC of the model represents assessment, budget, and coordination. DEF represents delivery methods, evaluation, faculty involvement and training, GHI represents generating a mission statement, hierarchical approval system, and implementation of support systems. Compora's study provided insight into the operational practices of the DE.

When comparing administrative activities of DE across institutions, Moore and Kearsley (2011) found that activities varied depending on whether DE is the sole activity at institutions (single mode) or whether DE is an added activity to traditional education at institutions (dual mode). For example, they identified activities, such as recruitment, registration, finance, and evaluations, which occur at single mode institutions. On the other hand, activities provided by special administrative units are established outside of the business or registrar's office of dual mode institutions.

Along the same line, research conducted by Paolucci and Gambescia (2007) assessed administrative structures at universities when offering graduate degree online programs to determine how institutions were organized for DE. The quantitative study reviewed 239 fully online programs and found that administrative structures were organized at the department level (single mode) or dual mode as separate DE units. The remaining programs were administered as continuing education, consortiums, alliances, and outsourced. The researchers noted that control of the curriculum came from faculty. While this research provided evidence about how programs are structured, it did not consider comparing and contrasting operational leadership roles between structures.

According to Moore and Kearsley (2011), administration of online programs aligns with the same activities of traditional education. For example, functions of managing online programs consist of faculty development (Schroder, 2013), faculty effectiveness (Jones, 2012), quality assessments (Shelton, 2011), pedagogy development, utilization of communications/interactions, and peer reviews as a measure of program delivery reviews (Singleton, Bowser, Hux, & Neal, 2013).

Overall, OE administration has identified some areas of responsibility and provided discourse about the necessity for administrators to manage online programs. Yet, according to Kearsley (2013), it still lacks robust discourse about skills needed to enhance effectiveness in administering OE.

Operational Management

According to McNamara (1999), operations management is defined as carefully overseeing an organization's processes and operations. Baumgartner's (2014) broad view of OM expanded the term to include organizational efficiency that aligns with strategic goals. The efficiency component is comprised of organizing and managing operational activities (Skipton, 1983).

Operational was coined by physicist, Bridgman (1938) who associated the word with activity in his writings about operational analysis. His work was advanced by Koontz (1980) who developed a framework of OM science and theory. The framework provided 11 approaches to analyze the management field: empirical, interpersonal, group behavior, cooperative social system, sociotechnical systems, decision theory, systems, management science, contingency, managerial roles, and operational. Of these approaches, the operational approach is significant to this review.

Koontz (1980) proposed that the operational approach is the fundamental knowledge about managing detailed activities associated with the various assembly lines, staff, departments and their controls. His framework is unique because the OM science theory pulls from several disciplines, such as economic theory, general systems theory, industrial engineering, psychology, cultural anthropology, political science, and mathematics. Koontz advanced OM by classifying organized knowledge of management into the widely known constructs of planning, organizing, staffing, leading, and controlling.

Key components of OM are functional areas and operational tasks (Skipton, 1983; Vermeerbergen et al., 2016; Wysocki, 2011). A functional area is a section, division, or department within a work environment that is responsible for executing specific tasks or activities (Koontz, 1980; Pfeifer, Reissiger, & Canales, 2004; Skipton, 1983). Examples of functional areas in OE are instructional development, learning management system support, multimedia production, professional development, network support, assessment and testing (Moore & Kearsley, 2011), support services, and marketing (Schroder, 2013).

Tasks required at the operational level are intentional activities (Turner, 1993) assigned as work to be done (Pich et al., 2002; Wysocki, 2011), with some activities performed day-to-day (Abraham & Seal, 2001; Ingram & McDonnell, 1996) and recurring (Thomsett, 2009). Because of day-to-day tasks, some scholars, such as Paim et al. (2008) and Tichy (1981) contended that frontline managers are essential to oversee execution of tasks, thus ensuring bottom line success.

Operational management in DE has been examined through the implementation of an e-learning maturity model designed to measure institutions' efforts of e-learning activities (eMM; Marshall, 2012). The model assesses the overall quality of e-learning through several dimensions of delivery, planning, definition, management, and optimization through 35 processes including

those that support OM. The key processes that support OM are technical assistance, student feedback, student personal and learning support services, faculty pedagogical support, faculty professional development, and technical support. Of interest is that these same processes have been identified as OE functional areas as managed by OEAs (Moore & Kearsley, 2011; Schroder, 2013). Yet, the eMM does not provide a list of skills needed for OM professionals to implement the processes.

Project Management

According to Lalonde, Bourgault, and Findeli (2010), PM is a professional discipline and considered a practice. Lewis (2006) defined project work as individuals performing specific tasks to deliver a service or product within a specified time. Unfortunately, when it comes to higher education, there has been relatively little support for PM. For example, Austin, Brown, Hass, Kenyatta, and Zulueta (2013) hypothesized that PM is not fully utilized in higher education. They conducted a case study to determine reasons leaders have not widely used PM in higher education. Their findings produced perceptions that PM is more rigid because higher education is focused on education not implementation. Other reasons were faculty was more focused on research and teaching, not managing projects, and higher education's lack of attention to achieve competitive advantage and increase profits. With increasing demand for OE and outside program providers rapidly invading higher education (Chen, 2017), institutions' attention to PM is now a necessity.

OE is vague in disseminating professional skills for its operational managers. Kearsley (2013) and Yung (2015) addressed this deficiency by emphasizing that project management (PM) is derived from OM because of the frontline tasks associated with project work. Because of this connection, PM can provide comparable information about the professional skills of the

operational manager. For example, Berge (1995) asserted that PM skills needed for e-learning projects should be organized into categories of pedagogical, social, management, and technical. Chen (1997) organized PM skills into people-focused, management, business expertise, and technical knowledge. Other studies have identified PM skills of planning, budgeting, visionary leadership (Pinto & Trailer, 1998), motivational and communication (Rees, Turner, & Tampoe, 1996; Schmid & Adams, 2008), and leadership competencies of risk-taking and competitiveness (Dulewicz & Higgs, 2005). In contrast to PM skills, some studies have shown that project managers' personalities enhance their performance as driven by their initiative (Andersen, Grude, & Haug, 1987), ambition, likeability, and prudence (Hogan & Holland, 2003). Keil, Lee, and Deng (2013) examined PM skills in a Delphi study that identified the most critical skills of 19 PMs in information technology. They found that the most important skills, as ranked from the top, were leadership, verbal communication skills, scope management, listening skills, and project planning. In a similar fashion, Chang and Torkzadeh (2013) conducted a study on perceived skills and abilities of 47 PMs in information systems. The results ranked skills and abilities from high to low as communication/relationship, change leadership, resource management and administrative.

Competencies

Various definitions exist for competency and its plural term (competencies) from different perspectives and fields (Hoffman, 1999). However, this review selected to define competencies as a skill set of knowledge and abilities acquired by individuals to enhance their ability to perform (Boyatzis, 1982; Woodruffe, 1993), a willingness to perform tasks (Brown, 1993), or a high-level performance task that utilizes intellectual or physical abilities (Hung & Jung, 2011). Tucker and Cofsky (1994) defined the concept of competency as individuals having a set of core

characteristics (knowledge, skills, self-concepts, traits, motives) that lead to critical behaviors resulting in performance.

Administrators' competencies have been classified into several categories such as technical, managerial, human, and conceptual (Katz & Kahn, 1966), leadership, administrative, and interpersonal (Sandwith, 1993), attention, meaning, trust, and self (Bennis, 1984), and core competencies and leadership (McCracken & Wallace, 2000). Furthermore, the taxonomy for competencies is also organized into clusters or domains under a specific task (Mirabile, 1997; Picket, 1998).

DE has not fully focused on competencies of OEAs because the early years of transitioning from traditional classrooms to online learning environments relied on faculty as opposed to administrators managing their programs (Cook-Wallace, 2012). Therefore, during these years, administrators' competencies and roles were ill-defined (Marcus, 2004). For instance, Kelly (2002) conducted a Delphi study of online teachers and administrators and found that competencies of interpersonal communication, planning, collaboration, organization, basic technology knowledge, and technology access knowledge were needed by administrators to have effective OE programs. Each competency was not identified as belonging to teachers or administrators but instead, grouped together as OE professionals. Williams (2003) followed with a Delphi study but this time focused on competencies as identified by administrators, deans, instructional designers, a coordinator and a manager. He found results similar to Kelly (2002) with the exception of collaboration/teamwork ranking first.

Another study conducted during the early years of DE examined the competencies of professionals from a two-round Delphi study that sought perceptions of roles and competencies from 103 DE experts (Thach, 1994). The study presented 10 competencies, 11 roles, and a table

that summarized competencies by individual roles. The competencies were skills and knowledge associated with interpersonal communication, planning, collaboration, English proficiency, writing, organizational, feedback, knowledge of DE, basic technology, and technology access. Of the 11 roles presented, the administrator was assigned as the sole competency of managerial skills. However, the study did not define the job focus of the administrator, for example, as strategic or operational.

In recent years, competencies have been examined to understand which ones are best for online administrators. For instance, Cook-Wallace (2012) suggested that the interpersonal communication competency should be considered a foundational skill for online administrators to initiate the online social presence in programs. Kelly (2002) addressed this competency 10 years ago as a necessity and it is still at the forefront. Other competencies presented were associated with basic instructional design principles knowledge and online pedagogy knowledge and recommended as unique requirements to administer OE (Moller, Foshay, & Huett, 2008; Cook-Wallace, 2012; Kinash, Knight, & McLean, 2015).

Preparing OEAs to oversee daily activities of OE programs will require leadership competencies to ensure their success (Boggs, 2012; Nworie, 2012). Acquiring these competencies will, by default, thrust administrators into an advocacy role for OE (Mitchell, 2009) to promote online teaching and learning.

Managerial Competencies

Perspectives on managerial competencies (MC) are addressed from two key strands: management and applied psychology. The management field contributes to the definition of competency as a descriptive set of skills assigned to managerial performance and rated as superior or average (Boyatzis, 1982). Tripathi and Agrawal (2014) contended that managerial

competency is a soft competency that is people skills-related, such as problem solving and communication. In contrast, they asserted that a functional competency is a hard competency that is work skills-related, such as technical analysis and market research. Verkerk-Geelhoed and van Zelm (2010) emphasized that operational managers should develop their competencies from the tasks. However, Picket (1998) asserted that to ensure managerial tasks can be easily linked, competencies should be grouped into clusters or domains. Other definitions state specific skills for describing MC. For example, Szczepańska-Woszczyna and Dacko-Pikiewicz (2014) investigated international managers' competencies necessary for implementing innovation and found that operational managers rated competencies high on motivating others and building good relationships. The innovation skill set for leaders resonates in OE as a critical skill for OEAs. McNeal (2015) argued that innovative teaching and technological advancement are linked to quality online course development and delivery. Moreover, Schroder (2013) contended that operational leaders of programs such as OE share somewhat similar competencies required by innovative thinkers.

The applied psychology field supports Bartram, Robertson, and Callinan's (2002) view that competencies are performance-based measurements assigned as specific behaviors for performing a job task. These researchers developed a competency framework profiler of eight factors along with each applicable competency from a pool of 112 component competencies. Bartram (2005) expanded the competency framework by finalizing the model with eight competencies associated with workplace performance. The competencies were leading and deciding, supporting and cooperating, interacting and presenting, analyzing and interpreting, creating and conceptualizing, organizing and executing, adapting and coping, and enterprising and performing. Khoshouei et al. (2013) contributed to applied psychology with their modified

definition of MC as skills that come from the cognitive domain with descriptors of analyzing, problem solving, and decision-making. Even though managerial competencies cover a broad perspective across several fields, its common thread is performance accountability of managers.

Job Performance Theory

Central to the strand of workplace competency is individual job performance. For instance, Boyatzis (1982) asserted that workplace performance is influenced by job responsibilities, organizational level, and individuals' skills and abilities and essential to achieving effective job performance. Although a theory of job performance is not clearly defined as a single statement, Rotundo and Sackett (2002) presented a working theory of job performance as the collective idea of positive behaviors, negative (counterproductive) behaviors, and ratings from those such as peer, self, and co-workers.

Several definitions help to define job performance as individual work accomplishments and evident from the observation of behaviors (Smith, 1976), behaviors in contrast to results (Murphy, 1989), and individual-controlled actions based on results (Campbell, 1990). However, Mahoney (1988) and Rotundo and Sackett (2002) asserted that productivity measurements were not indicators of job performance.

Some scholars agree that job performance have factors or dimensions. For example, Murphy (1994) suggested dimensions of behaviors, Bakker and Demerouti (2007) offered two behavioral factors, and Campbell (1990) offered eight general factors. The four dimensions are task, interpersonal, downtime, and destructive. The behavioral factors are task and contextual. The general factors are behaviors (task and non-task), communication, effort, personal discipline, assisting others (including groups), leadership, and managerial task.

Models of job performance exist for managerial jobs. For example, Campbell's (1990) factor of managerial task is defined as achieving organizational goals, monitoring employees' progress within the group a manager oversees, and responding to influences caused by the external environment. Borman and Brush (1993) addressed job performance of managers by advancing a taxonomy that consisted of 18 managerial performance requirements organized into four behavioral categories: technical activities, leadership and supervision, interpersonal, and useful personal behavior. These categories described performance related to administration, guiding, directing, motivating, communicating, maintaining working relationships, and organizational mindset.

Engelbrecht and Fisher (1995) further divided managerial task performance into variables: action, task structuring, probing, synthesis, and judgement. Tett, Guterman, Bleier, and Murphy (2000) organized managers' task performance into traditional, functions, and occupational acumen and concerns. Other studies examined managerial performance and established dimensions of job performance related to managers (Kassem & Mouri, 1971; Komaki, Zlotnick, & Jensen, 1986; Conway, 1996).

Generally, studies examining the theory of job performance span task performance (Katz & Khan, 1964; Murphy, 1994), organizational citizenship behavior (Borman & Motowidlo, 1993), and negative or counterproductive behavior (Hollinger & Clark, 1982; Robinson & Greenberg, 1998; Zhang, Lepine, Buckman & Wei, 2015). Furthermore, some research has addressed the changing nature of individual job performance over short periods such as daily intervals (Binnewies, Sonnentag, & Mojza, 2009). However, no framework exists for individual work performance (Koopmans, et al., 2011).

Overall, competencies, MC, and job performance theory help to understand job position, duties, and responsibilities. Still, discourse about OEAs' competencies is somewhat dispersed because previous studies have not dealt solely with the topic.

Competency Modeling

Even though this review minimizes discussions about competency modeling (CM), it is worthy to note that it is a critical tool utilized to elevate awareness in organizations about employee skills (Campion et al., 2011), recognize top performers (White & Lemmer, 2007), and connect competencies of future roles to strategic objectives (Hill, Jones, & Schilling, 2014; Stevens, 2013).

There are various definitions for CM primarily in HR as an integrated framework for organizing personnel. However, the simplest explanation for CM is a tool that describes knowledge, skills, abilities and behavior required to achieve organizational performance (Mirabile, 1997; Chung-Herrera, Enz & Lankau, 2003). In terms of visual representations of CM, Campion et al. (2011) emphasized that models should be presented in a format that is easy for others to view and gain understanding. Their suggestions were "lists, pictures, or schematics" (p, 228).

CMs are often utilized to provide information about job position (Mansfield, 1996), promotions, compensations, evaluations, and training (Stevens, 2013), raise awareness in organizations about employee skills (Campion et al., 2011), recognize top performers (White & Lemmer, 2007), connect competencies of future roles to strategic objectives (Sandwith, 1993; Hill et al., 2014; Stevens, 2013), identify soft skills associated with attitudes and motivation (Rothwell & Lindholm, 1999) and establish specific aspects of outstanding performance (Chouhan & Srivastava, 2014).

To summarize, operational management and PM inform OE administration about the areas of responsibility, tasks to be done, and skills required to get the job done. Furthermore, the OM approach embedded into the practice of PM is equally vital to enhancing the effectiveness of OE programs. The OM approach is Koontz's (1980) constructs of planning, organizing, staffing, leading, and controlling. Rozenes (2011) argued that project success and project managers' skills have an interdependent relationship. Because of the few empirical studies about the professional skills of OEAs, considerably more research will be needed to sustain OE and inform practitioners.

Analysis of Research Methods Examining Competencies

Boyatzis (1982) asserted that empirical research must be utilized for identifying competencies. The critical incident technique established by John Flanagan in 1954 was the forerunner methodology for conducting competency studies (Flanagan, 1954; Rothwell & Lindholm, 1999). Even though his seminal work did not identify competencies, it instead sought to examine the performance of U.S. military aircraft pilots when flying and bombing by capturing 'critical incidents' of their past performance issues. Therefore, the importance of this technique increased attention to job performance. Years later, scholars, such as McClelland (1973), McLagan (1980; 1983), and Boyatzis (1982), began examining job competency, human performance improvement interventions-competency modeling, and successful managers' competencies, respectively.

Identifying competencies through empirical research is advantageous because it provides opportunities to communicate directly with work participants. However, Winterton and Winterton (1999) cautioned that studies examining competencies and CMs have limitations

because the findings may become outdated. Moreover, no sole CM can consider all competencies of a position (Antonacopoulou & Fitzgerald, 1996).

In a similar manner, Williams (2000) contended that competency studies' knowledge life can be shortened due to changes in learning technologies and instructional delivery. Therefore, he recommended that his study about roles and competencies in higher education DE programs be conducted by researchers within five years to address possible changes to his findings. Moreover, the practice of revisiting competency studies every five years has been suggested by the American Society of Training and Development for human resources professionals (Dixon & Henkelman, 1991; Ulrich, D., Younger, Brockbank, & Ulrich, M., 2013).

Research methods examining competencies are comprised of qualitative and quantitative research methodologies. The qualitative studies worth noting examined MC through the lens of phenomenology (Tantchou (2011), emergent ground theory (Leong, 2013), and case study (Munkeby, 2007). The quantitative methods examining MC utilized survey methods that were analyzed by linear regression (Scaperlanda-Herlein, 2009) and correlational (Maraouch, 2013). However, the most commonly used research method examining competencies of professionals is the Delphi technique. In addition to using this technique in DE, several researchers have employed this technique as a research method to identify roles, responsibilities, and determine competencies of directors of allied health programs in academia (Rines, 1988), human resource professionals (McLagan, 1983), registered dieticians (Kane, Estes, Colton, & Eltoft, 1990), special education administrators (Robeson, 1983), and trainers (Fulkert, 1997).

The Delphi technique is a structured group communication method used to address research problems by utilizing expert participants to take part in several rounds of questioning that eventually end with a group consensus. The primary purpose of Delphi studies is to identify,

develop, examine, or validate competencies and roles of professionals (Parker, 2014; Tantchou, 2011; Williams, 2006). As a result, the outcome of these studies provides information that aid in either developing CMs or insight for professional development initiatives.

During each Delphi round and before resending to participants, the data are analyzed, and the instrument is revised as necessary (Beech, 1999; Linstone & Turoff, 2002). Ironically, determining a consensus among participants is the least agreed (Rayens & Hahn, 2000; Heiko, 2012) with several methods, such as central tendency (Diamond et al., 2014), chi-square test (Ludlow, 1975), McNemar change test (Weir, Hicken, Rappaport, Nebeker, 2006), intra-class correlation coefficient (Brender, Ammenwerth, Nykänen, & Talmon, 2006), Spearman's rank-order correlation coefficient (DeLeo, 2004), Kendall's *W* coefficient of concordance (Brancheau & Wetherbe, 1987), *t*-statistics-*F*-tests (Buck, Gross, Hakim, Weinblatt, 1993), and Wilcoxon matched-pairs signed-rank test (De Vet, et al., 2005). As shown in Table 1 is a summary of selective DE Delphi studies that highlight the research methodology, sample size, analysis, consensus strategy, and results. The DE studies from 1994 to 2004 presented in the Table 1 have the same predominant purpose of examining the roles and competencies of its professionals.

Table 1

Summary of Selective DE Delphi Studies from 1994 to 2004 that Examines the Roles and

Competencies of its Professionals

Author	Purpose	Sample Size	Methodology	Analysis/Consensus/Results
Thach (1994)	Identified the roles, outputs, and competencies of distance learning professionals within the U.S. and Canada	N = 36 Criterion sampling	Delphi - 2 rounds	The mean and standard deviation were calculated for each scale rating for the outputs and competencies and based on the high and low mean scores of the ratings. Because a complete consensus by participants was not the design of study, no third round was conducted. From the results, a descriptive competency model was developed.
Williams, P. (2000)	Identified competencies and roles needed in DE in higher education Rated the importance of those competencies; compared results to the previous study of Tach (1994)	N = 15 Criterion sampling	Delphi - 4 rounds	Experts were asked to review their rating of each item in comparison with the group median. If their score from round three fell outside the interquartile range (IQR; defined as the range between the 25th and 75th percentiles), round 4 consisted of only the participants asked to either support their position or change their score. From the results, a descriptive model of general competencies related to roles and role-specific competencies was developed.
Simon (2002)	Identified roles, outputs, and competencies used most frequently when teaching online Created descriptive competency model for training and development in web-based instruction	N = 5 Criterion sampling	Delphi - 3 rounds	Mean and standard deviation were calculated. Although the study indicated consensus was obtained in the third round, the approach was ill-defined. From the results, a descriptive competency model was developed.
Abdulla (2004)	Identified online instructor competencies from graduate students' perceptions	N = 135 Probability sampling	Survey	Measure of central tendency (mean, median, and mode); variability (range, variance, and standard deviation); ANOVA; Chi-Squared

Likewise, the DE studies from 2006 to 2014 presented in the Table 2 have the same predominant

purpose of examining the roles and competencies of its professionals.

Table 2

Summary of Selective DE Delphi Studies from 2006 to 2014 that Examines the Roles and

Competencies of its Professionals

Author	Purpose	Sample Size	Methodology	Analysis/Consensus/Results
Nelson (2006)	Identified the competencies, competency descriptions, and outputs needed by those that lead distributed learning at selected public colleges	N = 9 Criterion sampling	Delphi - 3 rounds	95% convergence after only one round; additional; After Round 2, participants reached convergence on another four of the competencies and outputs that they did not reach convergence on after the first round and on one competency that was added after the first round; Round 3 yielded 100% convergence, however, the convergence between Round 1 and Round 2 increased only 5%, The convergence for Round 2 was the determining factor.
Williams, F. (2006)	Explored roles, competencies, and professional development based on the perceptions of DE administrators and math faculty who taught at a community college	N = 20 Administrators N = 52 online faculty Criterion sampling	Quantitative	Ranked competencies; significant differences in ranking of competencies between the two groups (Chi-square); significant differences in rankings between the two groups (Chi-square; one-way analysis of variance (ANOVA);
Tantchou (2011)	Identified competencies that DE leaders perceived as essential to successful administration of DE programs	N = 10 Purposeful sampling	Phenomenological Qualitative	Data were transcribed and analyzed using a modified van Kaam technique (textural and structural descriptions) qualitative data analysis software (Dedoose^{TM});
Hudson (2013)	Examined roles and competencies of instructional designers when they guide and collaborate with faculty-designers in online learning higher education	N = 14 Snowball Sampling	Qualitative	Data were transcribed and analyzed using qualitative data analysis software (Dedoose^{TM});
Parker (2014)	Examined the role and constructivist competencies of the online instructor; explore current related competency models	N = 100 Criterion sampling	Mixed Methods: Survey and Qualitative	Perceived roles and competencies (qualitative); competencies (survey); Consensus determined from the frequency of use competencies and importance ranking (analysis of covariance); perceived differences (multivariate analysis of variance); from the results, a competency model was developed.

Summary

Overall, this review provided some evidence that the lack of empirical research in the area of OE program administration. This deficiency is becoming increasingly exhausting on the OE literature in the presence of demands for understanding online learning and the expansion of learning technologies. While the review provided somewhat vigorous discussions about the foundational strands informing OE administration such as DE leadership, OE administration, OM, and competencies, it also lacked a strong empirical base. Frontline administrators are an important part of the OE system and demands equal attention in the literature. Currently, there has been little discussion about OEAs, specifically, their areas of responsibility, tasks to be done, and skills required to get the job done.

Chapter 3

Methodology

Restatement of the Problem Statement

While the number of online education courses and programs continues to grow at higher

institutions (Jaggars, 2013), so too will the demand for online education administrators (OEAs)

to manage frontline activities. Yet, despite demand, little has been reported on OEAs. For

example, there is a small strand on operational leadership (Hunter & Nielsen, 2013; Schroder,

2013), but not enough attention to operational tasks of OEAs. Also, pockets of discussion have

emerged on skills needed for OEAs to manage the functional area of distance education

technologies but not on skills needed to manage other functional areas required by this position

(Marcus, 2004; Nworie, 2012).

The problem is the lack of useful information guiding the operational management of online

education programs. If this pattern continues, the gap will progressively widen in understanding

the skills and knowledge required of OEAs and tasks and functional areas needed to enhance

daily administration of online education. To close this gap and respond to the increasingly

demand for experienced OEAs, a resource of skills, knowledge, tasks, and functional areas are

needed to assist them in the daily administration of their programs.

An approach to solving the problem is to develop a resource for the administrator in charge of

an online education program. The resource will specify the areas of responsibility, the tasks to be

accomplished and the skills and knowledge necessary to get the job done. More importantly, this

resource will close the gap in understanding online education management and equip administrators with multiple aspects of operational management to enhance program effectiveness. Also, the resource can serve as a guide for developing professional certification training or development programs for OEAs.

Research Method

A concurrent mixed methodology of qualitative (exploratory approach) and quantitative (explanatory approach) strategies was used to address the problem (Creswell & Clark, 2013). The intent was to better understand the research problem by converging text data and numeric data at the same time during the interpretation process (Creswell & Clark, 2013). However, according to Tapio, Paloniemi, Varho, and Vinnari (2011), when using mixed methods, the researcher should delineate which method will be answering each research question. The choice of this methodology subscribes to a larger qualitative method emphasis that the participants will bring the constructivist paradigm of multiple meanings and subjective views (Creswell & Clark, 2013). Therefore, the research employed a bottom-up approach with each participant contributing to a larger understanding. Using a constructivist lens, the questions were general so that participants could have flexibility to construct meaning (Creswell, 2012). The quantitative methodology served only to enhance the qualitative data by providing a statistical analysis of responses. According to Creswell (2012), no hypothesis is needed for this type of approach.

Data were collected using an online survey self-developer tool, www.surveymonkey.com. This tool provided hosting services that could send qualitative and quantitative data to survey takers and compile results. Creswell (2012) contended that the medium for the inquiry should be capable of building and examining a multifaceted picture of a study. Furthermore, the tool

optimized time, cost, and provided flexibility (Bethlehem & Biffignandi, 2011; Donohoe, Stellefson, & Tennant, 2012).

Research Design

The most appropriate method to inform the problem and attain the goal was the Delphi technique. Nworie (2011) asserted that studies examining professional competencies would benefit from utilizing the Delphi technique because it would provide practical information about a profession's duties and responsibilities. Shelton and Creghan (2014) maintained that although the Delphi technique is valid, depending on the instrument and data collection strategy, this approach can be qualitative or quantitative or mixed methods (Skulmoski, Hartman, & Krahn, 2007).

The Delphi technique is a structured group communication method that involves expert participants during several rounds of questioning leading to a group consensus in response to the research problem. During each round and before resending to participants, the data are analyzed, and the instrument is revised as necessary (Beech, 1999; Linstone & Turoff, 2002). McKenna (1994) best summarized an overview of the Delphi technique as first starting with a pilot test to confirm that the open-ended instrument is acceptable, develop a questionnaire, and then proceed with the following steps:

- Step A: Solicit comments using qualitative instrument

- Step B: Incorporate participants' feedback and develop quantitative instrument

- Step C: Administer quantitative instrument

- Step D: Solicit participants' feedback

- Step E: Perform statistical analysis from subsequent rounds of participants' feedback until consensus is achieved

A key advantage of the Delphi technique is it allows participants to act as an expert panel, yet individual and anonymous, so they can provide input, such as content reviews that may lead to modification of the instrument before it is re-administered during subsequent rounds (Stitt-Gohdes & Crews, 2005). Another advantage is that this method is popular when researchers want to obtain information that is subjective and groundbreaking (Brill, Bishop, & Walker, 2006). Moreover, the Delphi technique minimizes cost (Grisham, 2009; Heiko, 2012; Powell, 2003) and time, especially for participants located in various geographic areas (Linstone & Turoff, 1975).

Even though the Delphi technique provides outstanding strengths of structured communication for a group to collect knowledge, participants' anonymity for freedom of expression, it still has weaknesses of researchers rushing through the technique by failing to put enough thought into the process and not fully examining participants' comments and disagreements (Stitt-Gohdes & Crews, 2005).

OM served as the conceptual frame that guided the study. OM in DE has been examined through implementation of the e-learning maturity model (eMM; Marshall, 2012), a framework that assesses the overall quality of e-learning through dimensions of delivery, planning, definition, management, and optimization. In addition to OEAs managing the functional areas of instructional media and development, the key processes of this model comprise some of the other key functional areas OEAs oversee. These functional areas are technical support, learning support services, faculty pedagogical support, and faculty professional development (Kearsley, 2013).

Because DE is vague on disseminating professional skills for operational managers, the underpinning frame of PM helps to inform the field. According to Kearsley (2013) and Yung

(2015), since OE is a PM function, it can provide similar information about the professional skills of the operational manager. As a result, PM can be considered a derivative of OM.

Instruments

Lincoln and Guba (1986) and Creswell (2012) have stressed the need for researchers to ensure the appropriateness of their instruments to minimize threats to the validity and reliability. Therefore, the modified Delphi technique allowed for the initial instrument to contain items selected from previous studies and synthesized work. According to Custer, Scarcella, and Stewart (1999), a key advantage of using a modified instrument is that items are associated with work that has been empirically tested, thus requiring no pilot testing. The instruments were developed by modifying a previously validated questionnaire from the literature as opposed to developing an open-ended instrument that would have required pilot testing. McKenna (1994) asserted that a pilot study should be conducted to confirm that an open-ended instrument is acceptable before proceeding with development of the questionnaire.

Thach (1994) had given permission (Appendix A) to use and modify her qualitative and quantitative instruments (Appendixes B and C). Her Delphi study examined the roles, outputs, and competencies of the DE professionals. Therefore, these instruments have been tested for accuracy, depth, and suitability. Furthermore, the results provided roles, outputs, and competencies that today are now associated with the position of OEAs. This seminal study helped in developing the instruments for the current study. Controlling threats to validity and reliability of the modified structured instrument were managed by utilizing the built-in features of the Delphi technique such as member checks and instrument analysis from participants (Linstone & Turoff, 1975).

Specifically, because Thach (1994) utilized her instruments to examine competencies for DE professionals, they provided core content to build the data for the Delphi rounds. However, the terminology was revised to fit the constructs of functional areas and operational tasks.

Table 3 is an excerpt of Thach's instrument that was modified by changing roles to functional areas and outputs to operational tasks. This table is presented as an example layout and content for Delphi round one instrument.

Table 3

Example Contents of a Structured Instrument Format

FUNCTIONAL AREAS, OPERATIONAL TASKS, AND COMPETENCIES for Online Education Administrators	
Delphi Round One	
Instructions: Please complete the form below by: (1) reviewing the list of functional areas, operational tasks, and competencies and (2) revising the list by adding or deleting functional areas, operational tasks, and competencies. All changes can be made on this form.	
FUNCTIONAL AREA: INSTRUCTIONAL DEVELOPMENT	
Operational Task	**Competency**
Advise developers on how to prepare curriculum for distance learning	Instructional Design Skills Distance Learning Curriculum Development Knowledge Advising Skills
area where participants would add or revise operational task	**area where participants would add or revise competency**
FUNCTIONAL AREA: SUPPORT SERVICES	
Operational Task	**Competency**
Review guidelines for addressing student disabilities	Knowledge of Support Services Knowledge of Accessibility for Online Learners
area where participants would add or revise operational task	**area where participants would add or revise competency**
Additional Comments:	

Note. Adapted with permission from "*Perceptions of distance education experts regarding roles, outputs, and competencies needed in the field of distance education,*" by E.C. Thach, 1994, *Doctoral Dissertation, Retrieved from* ProQuest Dissertations and Theses database. (UMI No. 9506728), pp. 128-130. Copyright 1994 by E. C. Thach.

Table 4 is an excerpt of Thach's instrument that was modified to show an example of the survey instrument utilized in Delphi round two. This table summarizes the section that addressed the ranking of operational tasks.

Table 4

Example Contents of Survey Instrument's Operational Tasks Section Format

COMPETENCY SURVEY   page 2 of 2
Functional Areas and Operational Tasks for OEAs **Delphi Round Two**
Instructions: Following is a list of functional areas and associated operational tasks for OEAs. Please indicate **how important** you believe these **operational tasks** are to effective performance by selecting the appropriate number using the code:
1 = not important; 2 = slightly important; 3 = important; 4 = very important; 5 = critical
Functional Areas: A. _____ B. _____ C. _____ D. _____ E. _____ F. _____

Functional Area: Instructional Development				
Advise developers on how to prepare curriculum for distance learning	**1**	**2**	**3**	**4**
Functional Area: Support Services				
Review guidelines for addressing student disabilities	**1**	**2**	**3**	**4**
Additional Comments:				

Note. Adapted with permission from "*Perceptions of distance education experts regarding roles, outputs, and competencies needed in the field of distance education," by E.C. Thach, 1994, Doctoral Dissertation, Retrieved from* ProQuest Dissertations and Theses database. (UMI No. 9506728), pp. 171-173. Copyright 1994 by E. C. Thach.

Table 5 is an excerpt of Thach's instrument that was modified as an example of the survey instrument utilized in Delphi round two. This table summarizes the section that addressed the ranking of competencies.

Table 5

Example Contents of Survey Instrument's Competencies Section Format

COMPETENCY SURVEY **page 1 of 2**						
Competencies for Online Education Administrators (OEA) **Delphi Round Two**						
Demographic Information: position title, number of functional areas responsible for, years administrators have been working in their position, type of institution (community, two-year, or four-year), and geographic location of the institution.						
Instructional Delivery Platform(s) utilized at your institution: (e.g. Blackboard, Moodle)						
Instructions: Following is a list of competencies for online education administrators. Competencies are skills and knowledge utilized to maximize performance of tasks. Therefore, the same competency may be important for more than one operational task. Please indicate which **<u>competencies</u>** you believe are **critical to** the online education administrator's functional areas by selecting the appropriate number using the code:						
0 = Critical to NO functional area: 1 = critical to only one functional area; 2 = critical to a few functional areas; 3 = critical to half of the functional areas; 4 = critical to a majority of functional areas; 5 = critical to all of the functional areas						
Functional Areas: A. _____ B. _____ C. _____D. _____ E. _____ F. _____						
Instructional Design Skills	**0**	**1**	**2**	**3**	**4**	**5**
Distance Learning Curriculum Development Knowledge	**0**	**1**	**2**	**3**	**4**	**5**
Advising Skills	**0**	**1**	**2**	**3**	**4**	**5**
Additional Comments:						

Note. Adapted with permission from "*Perceptions of distance education experts regarding roles, outputs, and competencies needed in the field of distance education," by E.C. Thach, 1994, Doctoral Dissertation, Retrieved from* ProQuest Dissertations and Theses database. (UMI No. 9506728), p. 174. Copyright 1994 by E. C. Thach.

Controlling threats to construct validity was minimized because the Delphi technique requires that after each round the participants provide input about the instrument's constructs, their responses and the other participants' responses (Linstone & Turoff, 1975). This feedback provided valuable information so that the instrument represented an accurate interpretation of

competencies and their applicable categories (Okoli & Paslowski, 2004). Furthermore, the built-in validity methods allowed participants to incorporate their practical experience in utilizing competencies. As such, modifications to the Delphi instruments was an active process that solicited expert opinions.

According to Hasson and Keeney (2011), trustworthiness encompasses credibility, dependability, confirmability, and transferability and is more associated with qualitative inquiry. Lincoln and Guba (1986) provided a brief overview of each construct with credibility being associated with the number of rounds in the Delphi technique and the comments that will be gathered from participants responding to the open-ended questions. Dependability is utilizing the literature as a resource for Delphi instruments. Confirmability is the audit trail created from the data collection and analysis phases. Transferability is the process of transferring data from the collection phase by providing rich, thick narrative descriptions.

Answering Research Questions

Figure 1 summarizes the research questions (RQ) and procedures employed during the data collection strategy.
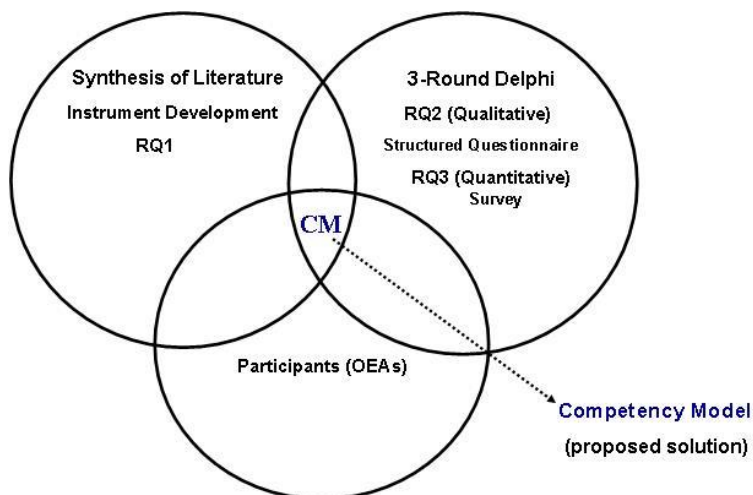
Figure 1. Venn diagram showing an overview of the data collection strategy. This figure illustrates the key elements that were included in the data collection phase.

RQ1: What are the functional areas, operational tasks, and competencies associated with OE programs?

 RQ1 was answered from a synthesis of the literature to identify functional areas, corresponding operational tasks and competencies. Results of this synthesis provided a basis to develop the instruments. Kerlinger (1999) contended that using the literature to develop the Delphi technique's round one questionnaire as structured is an option. Therefore, changing the classical Delphi technique from an open-ended questionnaire to a structured questionnaire changed the research approach to a modified Delphi technique (Hsu & Sandford, 2007).

RQ2: How do OEAs rate the importance of operational tasks and competencies for managing OE programs? RQ2 was answered by participants responding to a qualitative structured questionnaire #1 in Delphi Round One. The questionnaire was developed from the results of RQ1. Hsu & Sandford (2007) asserted that modification of the Delphi process is acceptable and often includes development of a structured questionnaire in round one. The participants had an

opportunity to review and revise current information and write-in other functional areas, operational tasks, and corresponding competencies.

RQ3: Which competencies do OEAs perceive as being the most critical for managing OE programs? RQ3 was answered by participants responding to a quantitative survey (closed-end instrument # 2 in Delphi Round Two) of compiled data from round one. The instrument utilized a four-point Likert scale for ranking importance of operational tasks and for rating the criticality of competencies. This round answered the most critical competencies. However, to ensure participants had exhausted their choice of competencies, the importance ranking for operational tasks served to assist them in deciding if a new competency was needed, based on their review of operational tasks and associated importance ranking. Space on the instrument was provided for participants' comments (Nworie, 2011). To summarize, the key steps of the research study are presented below.

1. **Perform Delphi Round One** by utilizing the expert panel of participants to review Instrument #1 (open-ended questionnaire) to confirm, reject, recommend, or comment on functional arears, operational tasks, and competencies. The maximum time for responses was two weeks. From a synthesis of the literature, RQ1 was addressed to provide the core functional areas, operational tasks and competencies for OEAs.

2. **Perform general qualitative analysis** (possible constant comparison) to incorporate participants' feedback to prepare Instrument #2 (survey, closed-end) lists of operational tasks and competencies. The maximum time for development was three days.

3. **Perform Delphi Round Two** by utilizing the expert panel of participants to review Instrument #2 and rank the importance of operational tasks and rate the frequency of

competencies. The maximum time for responses was two weeks. The following RQs were answered.

- RQ1: What are the functional areas, operational tasks, and competencies associated with OE programs?

- RQ2: How do OEAs rate the importance of operational tasks for managing OE programs?

- RQ3: Which competencies do OEAs perceive as being the most critical for managing OE programs?

4. **Perform statistical analysis** on results of Instrument #2 using IBM SPSS statistical software or similar software to calculate the mean and standard deviation. The maximum time for analysis was three days.

5. **Perform Delphi Round Three** by utilizing the expert panel of participants to review the results from Instrument #2 and provide feedback. Because the consensus was greater than 60% in favor, the Delphi concluded. Ludwig (1997) contended that the number of rounds should be limited by a consensus strategy or whether any new information is provided by participants. Heiko (2012) conducted a literature review on consensus measurement in Delphi studies and found that there are no formal guidelines for measuring consensus, thus, the criteria can vary depending on the researcher. However, Dajani, Sincoff, and Talley (1979) asserted that using a percentage was an option for obtaining participants' consensus.

If a review of the panel's feedback determined a negative consensus (below 60%), the study would have proceeded with Round Four and a revised Instrument #2. However, the decision rule (DR) would have been for participants to suggest at least two new competencies with each one accompanied by at least one operational task and functional area. Another statistical analysis

would have been required for this extra round. Figure 2 illustrates the key steps involved with

employing the study.

ROUND 1	ROUND 2	ROUND 3
Expert Participants Review	Expert Participants Review	Expert Participants Review
Structured Questionnaire #1	**Quantitative Questionnaire #2**	**Qualitative Questionnaire #3**
Functional Areas	Rank Importance of Tasks	Summary of Rankings
Operational Tasks	Rate Frequency of Competencies	Summary of Comments
Competencies	Provide Comments	Provide Comments
Provide Comments	**2-week Timeframe**	**1-week Timeframe**
2-week Timeframe	**Analysis**	**Analysis**
Analysis	Calculate Mean	Calculate Mean
Possible Constant Comparison	Calculate Standard Deviation	Calculate Standard Deviation
Identify Consensus Issues	Prepare Questionnaire #3	Incorporate Comments per Judgement Rule
Incorporate Comments	Identify Consensus Issues	Consensus Rule: 60% in favor
Prepare Questionnaire #2	Review Comments	100% in favor by Participants Delphi Study Ends

Figure 2. Diagram summarizing elements of the Delphi rounds strategy. This figure illustrates the key elements that were administered during the Delphi technique phase.

Participants

   The purposive sampling method was employed to obtain a subset population of OEAs within

the larger set of higher education administrators. A key characteristic of purposive sampling is

the criterion selection strategy (Creswell, 2012). Delbecq et al. (1975) and Stone, Fish, and

Busby (2005) agreed that having a strong criterion for selecting expert participants helps to

support the validity of the research design. This selection strategy was utilized to select OEAs

who plan, guide, and control daily operational tasks with a criterion of managing at least three

functional areas such as learning technologies and management systems, course development/instructional design, faculty, student support, program/learner evaluation, procurement, and recruitment. As a result, the exclusion criterion was the administrator who manages fewer than three functional areas. The rationale for selecting this sampling technique was to address the research problem and phenomenon of managerial competencies and lived experiences of OEAs performing daily operational tasks associated with OE, respectively. Creswell (2012) contended that criterion sampling is appropriate when the population mirrors the phenomenon.

The research sample size was comprised of five OEAs from two-year community colleges and four-year colleges or universities. Donohoe and Needham, (2009) suggested that the most important considerations for sample size is not the quantity but the quality of participants to provide expert information about the research problem. They recommended having at least enough participants so that if one or two drop out, the study could still proceed with the remaining participants. Even though there has been ongoing debate about the number of participants in Delphi studies, no agreement has been reached on the exact number (Hsu & Sandford, 2007), nor have evidenced-based studies reported any negative effect on reliability and validity of the processes with a few participants (Murphy et al., 1998).

The process of selecting the sample size involved browsing higher education institutions' websites for OE programs to gather information about OE administration such as administrators' functional areas and position title, and to identify at least three functional areas they oversee. Participants provided key demographics such as administrators' position titles, years administrators have been working in their position, type of institution (community, two-year, or four-year), and geographic location of the institution.

Guidelines provided by the Institutional Review Board (IRB; Lincoln & Tierney, 2004) such as withholding participants' names and observing strict protocols were adhered to. IRB permission document are included in Appendix D. An email invitation was sent to potential participants with a brief overview of the study and the Delphi technique. An offer was extended that included a timeline presented as a simple bullet-list showing the schedule for the data collection process, including member checks, instrument reviews, and consensus review. Following agreement, an informed consent letter was mailed to each participant along with a self-addressed-stamped envelope with instructions to read carefully, then sign letter and return. Everyone who agreed to participate was accepted.

The anticipated response rate was 100%. This rate was based on the anticipated enthusiasm from participants to contribute as a part of an expert panel that will inform their profession. Garson (2014) provided key assumptions to justify why a Delphi study has the potential for a 100% response rate. The assumptions are that participants are experts on the topic and willing to participate and provide anonymous feedback. Collectively, these assumptions increased the likelihood that a group consensus would be favorable and achieved in a timely manner.

Data Analysis

Data were analyzed per the following protocol assigned to the Delphi data collection phase.

1. **Delphi Round One:** The comments portion of the structured questionnaire (Instrument #1) utilized a qualitative analysis strategy of constant comparison method. However, the open-ended comments sections did not provide enough text to code and organize into themes. Therefore, statistical data analysis took place before proceeding to the next iteration of the Delphi technique.

2. **Delphi Round Two:** A quantitative questionnaire (survey) #2 with a 4-point Likert scale rating was employed using statistical software to calculate the mean, thus establishing the importance of operational tasks and frequency of most critical competencies. Rankings was calculated based on the mean ratings.

3. **Delphi Round Three:** A qualitative questionnaire #3 that presented a summary of rankings for operational tasks and competencies and comment box was employed. Data analysis was not required for this round because participants reviewed data previously analyzed in round two. The participants met the consensus rule of 60% with 100% in favor of results. Thus, based on consensus, the research concluded.

External threats to validity was minimized by providing a detailed transfer of data collection to the results (Merriam & Simpson, 2000). Therefore, the comments were presented as direct quotes from participants which helped validate efforts of a rigorous inquiry. According to Creswell (2012), rich descriptions in the analysis phase assist readers in conceptualizing the validity efforts of a small purposive sampling making claim to a large phenomenon.

Formats for Presenting Results

A key component was presenting results. The document contains a description of the outcome as a narrative description and statistical and graphical representations of data in the form of figures and tables (Kothari, 2004; Merriam & Simpson, 2000). According to Abramson (2015), the reader should be able to understand the research from reading the results.

The essential goal of the narrative was to aid the reader in capturing the research scope and depth. According to Creswell (2009), the results narrative should consist of rich text that relay participants' voices as they have responded to open-ended questions. Therefore, the document

contains narrative text, as organized by research questions, that captures participants' comments to assist readers in understanding how the study was conducted in view of the questions.

Because some Delphi data were quantitative, some of the results was presented as numeric. These statistical representations have been organized from highest to lowest mean and displayed in a visually manner that supports the results (Cleveland & McGill, 1987; Tufte, 2001). According to Hasson, Keeney, and McKenna (2000), the researcher should provide an explanation of how to interpret statistical information. In addition, Diamond et al. (2014) contended that researchers who employ the Delphi design should include a section in their report that explains how participants achieved consensus. Therefore, the document explains the statistical data and the consensus.

The central goal of graphic representation (e.g. figures, tables, or charts) is to illustrate the results with visual summaries (Kothari, 2004). Presenting the results in this format allows the reader the option to obtain a summary of the results prior to their examination of the findings through narrative and statistical descriptions. Likewise, the graphic representation is illustrated so that the reader can acquire enough information to expect understanding (Abramson, 2015).

Resource Requirements

The main resource requirements were people, places, and technology. These resources aided in the successfully execution of the study. The people were the expert panel (participants) of the Delphi group, dissertation chair, committee, and IRB. Because the investigation was conducted online, this environment also served as the communication medium for distributing and receiving questionnaire responses.

The primary technology was the computer for storing the data and providing the medium for the email account that was used as the platform to distribute questions and receive responses

from participants. Other technologies were the email client, survey software, and data analysis

tools that captured qualitative and statistical information. In addition, smartphones and office

telephones were used to reach out and receive communication from participants.

Summary

The problem was the lack of useful information guiding the operational management of

online programs. This problem was addressed by employing a Delphi mixed-method study, a

structured group communication method using expert participants to take part in several rounds

of questioning leading to a group consensus of essential competencies, tasks, and functional

areas of responsibility for OEAs. The information presented in this chapter explained the

methods and procedures that were used to examine OEAs' perceptions regarding their

competencies, tasks, and functional areas of responsibility employed during the administration of

online programs. Qualitative data were presented as direct quotes from participants about their

perceptions of operational tasks and competencies in their daily practice as OEAs. Quantitative

data were analyzed and calculated to determine descriptive statistics such as the mean and

standard deviation to establish importance of operational tasks and critical competencies. Data

drawn helped to present the research goal, implication and recommendations for practice and

future research.

Chapter 4

Results

Overview

The problem was the lack of useful information guiding the operational management of online education (OE) programs. The approach to solving the problem was to develop a resource for the administrator in charge of an online education program. The resource specified the areas of responsibility, the tasks to be accomplished and the skills and knowledge necessary to get the job done. While the literature revealed that the demand for OEAs will grow (Jaggars, 2013), little has been reported on OEAs and their functional areas of responsibilities, operational tasks, and essential competencies utilized to manage programs.

After the IRB approved request to proceed with the study (Appendix D) and participants acknowledged the invite letter (Appendix E) by signing and returning consent forms, data were collected using a three-round Delphi technique as described in Chapter 3 - Methodology. Round one consisted of an introduction letter (Appendix F) and questionnaire (Appendix G). Round two consisted of an introduction letter (Appendix H) and survey – Part I and II (Appendices I and J). Round three consisted of the consensus open-ended survey (Appendix L) requiring at least 60% of the expert panel to accept the results presented in the results letter (Appendix K).

The participants were selected by purposive sampling resulting in a subset population of OEAs within the larger set of higher education administrators. This selection strategy targeted OEAs who plan, guide, and control daily operational tasks with a criterion of managing at least

three functional areas. Creswell (2012) contends that criterion sampling is appropriate when the population mirrors the phenomenon.

Delphi Expert Panel

The Delphi expert panel consisted of five OEAs. Of this number, two participants were employed at two-year community colleges and three participants were employed at four-year colleges or universities. Donohoe and Needham (2009) suggested that the most important consideration for sample size is not the quantity but the quality of participants to provide expert information about the research problem. The geographic locations of the institutions were in the East North Central, South Atlantic, and East South Central. Table 6 is a summary of the expert panel's college classification and their main campus geographic locations.

Table 6

Expert Panel's College Classification and Geographic Region of Main Campus

Participants	College Classification	Geographic Region of Main Campus
5	Community College = 2 4-year College/University = 3	*East North Central Region = 1* (Ohio, Indiana, Illinois, Michigan, and Wisconsin) *South Atlantic Region = 2* (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida) *East South Central = 2* (Kentucky, Tennessee, Alabama, and Mississippi)

The expert panel of participants' position titles were Director of Distance Education, Director of Education Technology, Director of Online Learning, Director of Online Education, and Director of eLearning. The participants' experience as OEAs ranged from 5 to 11 years with degrees consisting of one Bachelor, two Masters, one Educational Specialist (Ed.S), and one Doctor of

Philosophy (Ph.D). Table 7 is a summary of the expert panel's position title, OEA experience, and formal education.

Table 7

Expert Panel's Position Title, OEA Experience, and Formal Education

Position Title	OEA Experience	Formal Education
Director of Distance Education	*Average years = 7.6*	Ph.D = 1
Director of Education Technology	• 11 years = 1	Ed.S = 1
Director of Online Learning	• 9 years = 1	Masters of Science = 1
Director of Online Education	• 8 years = 1	Masters of Arts = 1
Director of eLearning	• 5 years = 2	Bachelor = 1

The participants managed the functional areas of educational media, faculty development, learning systems administrator, instructional design, instructor/faculty, marketing, online content developer, program coordinator, and student services. Blackboard® was the predominate learning management system (60%) utilized at the participants' institutions, followed by Canvas Instructure (40%). Table 8 is a summary of the expert panel's functional areas managed and predominate learning management systems.

Table 8

Expert Panel's Functional Areas and Learning Management Systems

Functional Areas Managed by Participants	Learning Management System
Educational Media = 3	Blackboard® = 3
Faculty Development = 5	Canvas Instructure = 2
Learning Systems Administrator = 3	
Instructional Design = 5	
Instructor/Faculty = 5	
Marketing = 2	
Online Content Developer = 4	
Program Coordinator = 2	
Student Services = 2	

Findings

Delphi Round One – Panel Review of Questionnaire

Round one (Appendix G) invited the expert panel of the participants to review the

questionnaire #1 eight functional areas and associated operational tasks and competencies within

each one. The participants considered each item and modified any item they determined needed

to be changed. This round also encouraged comments based on their experience regardless if

they managed the functional area noted. Because this round did not provide enough text data in

the open-ended comments section, it proceeded with incorporating comments that shaped and

focused the study to delineate competencies associated with the administrator. The participants'

comments under the functional area of instructional design/development:

Participant 1: Task – Identify best practices in learning and technology in all instructional modalities Competencies: researching skills

Participant 2: I would add faculty development as part of this functional area or as a distinct functional area. I've noticed that it is a significant part of program administration.

Participant 3: Operational Task 3 – Mentor new online faculty

Participant 4: Another competency for Task 1 should include knowledge of designing instruction for online learning environment. Again here, competency needed is evaluating learning technology skills useful to online learning environment. The competencies need to be succinct for the online learning environment. Operational Task – Demonstrates strong ID skills; Operational task – Collaborates with media specialists, graphic designers to create interface design and enhance the aesthetics and feel of courses

Participant 5: Task - Manage the online course development process Competency – Project Management Skills

The participants' comments under the functional area of instructor/facilitator:

Participant 1: The title should include "Online Learning" instruction to differentiate the learning environment. The operational task associated with this new title is knowledge of online pedagogy. Competencies – Online teaching skills

Participant 2: For competency 3, I would specify career/academic advising skills. Competency 3 was listed on questionnaire as advising skills.

Participant 3: Integrate online learning into ongoing professional development programs.

Participant 4: Operational task – Know the content; utilize online pedagogy skills, manage learners

The participants' comments under the functional area of administrator:

Participant 1: Operational Task 2 – Ensure student receives learning materials and resources. Electronic text posted on online course platform. Operational Task 2 was listed as, ensure student received learning materials and resources

Participant 2: Task – Coordinate subject matter experts for review and update of training content; Task – Explore and develop new online offerings through collaborating with faculty; Task – Conduct training for online faculty task: proficiency with learning management systems; Competencies for Task 1: Knowledge of video capture, video teleconferencing, and social media tools for interacting with students. Comments referencing Task 1 competencies were associated with the operational task: manage/supervise distant learning staff and operations.

Participant 3: Task - Collaborate/communicate with other academic areas Competency - Communication Skills Task 2 – DL Administrators are responsible for the oversight of materials and resources related to distance learning. The above statement can be perceived as including curriculum materials.

The participants' comments under the functional area of support services:

Participant 1: Task – Assist students with overcoming barriers in online learning. Competencies: coaching skills; interpersonal skills; Task – Document and report success and challenges of students in online learning. Competencies – Researching skills, report-development/writing skills

Participant 2: within OT 1, I would add technical skills since sometimes student support

services overlaps with technical skills and technical knowledge of the student systems.

The participants referencing of OT 1 was the Operational Task of communicate class

schedule to students.

Participant 3: Provide online tutorial services

Participant 4: Task – Develop, implement and assess a campus online learning

orientation program competencies are needed: Effective oral and written communication

skills, including facilitation of group discussions and conducting large group

presentations

The participants' comments under the functional area of technical:

Participant 1: Pre-registration technology training

Participant 2: Above tasks are more related to Instructional Designers and Instructional

Technologists. The above tasks the participant is referencing were listed under this

functional area as advice in selection of technology for distance learning, analyze

instructional advantages of media, and manage technology setup and linkages.

The participants' comments under the functional area of evaluation:

Participant 1: for the competencies in this area, I would also add report writing skills

since once the data is analyzed, you need to be able to generate a report for your

stakeholders in such a way that they will understand the analysis. For OT 1, I would also

add as a competency: assessment tool development skills. You need to be able to develop

assessment tools and/or evaluate if pre-developed ones meet the needs of the study. The

OT 1 the participant is referencing: provide tools and evaluation instruments

Participant 2: Flexible gradebook tools to fit grading style

The participants' comments under the functional area of graphic design:

Participant 1: Task – Create visual print and digital design work that can be used across multiple platforms such as web, mobile, tablet, multimedia, interactive, infographics. Competencies – Advanced graphic design skills; integrated multimedia projects development skills.

Participant 2: OT 2 – Add to competencies: knowledge of multimedia design principles since there are specific principles that apply to multimedia design and leveraging them to maximize learning outcomes.

Participant 3: Easy to follow layout.

Participant 4: Task – Manage design projects; Competencies – Knowledge working on multiple projects at the same time; ability to prioritize and manage projects to completion.

Participant 5: More related to Instructional Designer role

The participants' comments under the functional area of web publishing:

Participant 1: Task – Monitors website for consistency, cross-referencing, and compliance with university standards. Competencies – Web publishing platform skills; skills in working with HTML, CSS, PHP, MySQL, JavaScript, and jQuery.

Participant 2: For competency 1 – I would say basic HTML skills are necessary I would move OT 2 to the administration functional area. Competencies 1 was listed as HTML authoring skills; graphic design skills; media attributes knowledge. The OT 2 the participant is referencing the operational task: participate in decision making process for distance learning environments.

Participant 3: Training in Web publishing skills to perform fundamentals of web page

authoring and design through reading materials, interactive quizzes, exercises, and

assignments.

Participant 4: This functional area "titled" is outdated? should be called Web Developer

– Expert in a variety of programming languages and platforms. Competency –

Knowledge of web scripting languages and other object-oriented languages; proficiency

with HTML, CSS, JavaScript, and SQL.

Participant 5: Task 1 – More related to Instructional Designer role. Participant is

referencing Task 1: Assist instructor in developing web-based documents.

Delphi Round Two – Operational Tasks and Competencies

Round Two – Part I (Appendix I) examined the importance of operational tasks to

administering OE programs through the lens of the expert panel of OEAs. A comment section

was provided at the end of this round; however, no participants commented. Statistical analyses

of the survey #2 results captured the mean to determine the importance based on the highest to

lowest mean rating. Table 9 are results from Delphi Round Two that consisted of 28 operational

tasks, ranked from high to low based on the statistical mean.

Table 9

Delphi Round Two – Part I Results of Most Important Operational Tasks

No.	Operational Task	Mean
1.	Develop/revise curriculum for distance learning platform	4.00
2.	Supervise distant learning staff and operations	4.00
3.	Contribute to distant learning policies/standard development & decision-making process	4.00
4.	Develop technology training for pre-registration	4.00
5.	Monitor program successes/problems	4.00
6.	Develop flexible gradebook tools to fit grading style	3.80
7.	Develop multiple evaluation methods/instruments	3.80
8.	Choose appropriate learning technology/best practices to meet needs of students and curriculum	3.60
9.	Mentor new online faculty	3.60
10.	Explore and develop new online offerings through collaborating with faculty	3.60
11.	Provide online tutorial services and online learning orientation program	3.60
12.	Manage the course development process	3.60
13.	Teach distance learning students	3.40
14.	Initiate and maintain interactive discussions	3.40
15.	Address issues with student learning systems using technical-know how	3.40
16.	Advise faculty how to prepare curriculum for distant learning platforms	3.25
17.	Integrate online learning into ongoing professional development programs	3.25
18.	Manage other related technology tasks in addition to those associated with instructional design/technology	3.20
19.	Assist students with overcoming barriers in online learning	3.00
20.	Design attractive, clear layouts that are easy to follow	3.00
21.	Oversee the materials, resources, electronic postings, and policies related to online course platforms	2.80
22.	Monitors website for consistency, cross-referencing, and compliance	2.80
23.	Collaborate with media specialists and graphic designers to create interface design	2.60
24.	Coordinate the review of subject matter experts to ensure training content is relevant	2.40
25.	Apply multimedia design principles that maximize learning outcomes	2.40
26.	Perform fundamentals of web page authoring and design	2.40
27.	Advise and counsel students	2.20
28.	Manage design projects	2.20

Round Two – Part II Competencies (Appendix J) examined the criticality of core competencies to effective program administration through the lens of the expert panel of OEAs. Therefore, participants rated which competencies they believe are critical to administrators' role in overseeing online education. This round also provided a comment section at the end. There was a single comment provided by Participant 1 as it related to OEAs competencies: f*acilitator training and student orientation training detail-oriented, and able to multi-task; be able to handle confidential information legal knowledge critical thinking skills.* This comment was incorporated into Round Three – Consensus for the other participants to reach a consensus on 'very critical'. Statistical analyses of survey results captured the mean to determine the criticality of competencies based on the highest to lowest mean rating. Table 10 is Delphi Round Two – Part II results of 46 critical competencies, ranked from high to low based on the highest statistical mean.

Table 10

Delphi Round Two – Part II Results of Most Critical Competencies

No.	Competency	Mean
1.	Budgeting Skills	4.00
2.	Collaborative/Teamwork Skills	4.00
3.	General Communication Skills	4.00
4.	Interpersonal Communication Skills	4.00
5.	Organization Skills	4.00
6.	Planning Skills	4.00
7.	Presentation Skills	4.00
8.	Project Management Skills	4.00
9.	Strategic Planning Skills	4.00
10.	Policy-Making Skills	4.00
11.	Handle confidential information	4.00
12.	Legal Knowledge Skills for OE programs	4.00
13.	Critical Thinking Skills	4.00
14.	Detail-oriented, yet able to Multi-Task	4.00
15.	Change Agent Skills	3.80
16.	Data Analysis Skills	3.80
17.	Public Relations Skills	3.80
18.	Knowledge of Distance Learning Field	3.80
19.	Knowledge of Support Services	3.80
20.	Evaluation Skills	3.75
21.	Knowledge of Learning Management Systems	3.75
22.	Coaching Skills	3.60
23.	English Proficiency	3.60
24.	Group Process Skills	3.60
25.	Writing Skills	3.60
26.	Basic Technology Knowledge	3.60
27.	Marketing Skills	3.40
28.	Needs Assessment Skills	3.40
29.	Researching Skills	3.40
30.	Editing Skills	2.80
31.	Knowledge of Online Pedagogy Teaching	2.80
32.	Online Teaching Skills	2.80
33.	Technology Access Knowledge	2.80
34.	Video Conferencing Skills	2.80
35.	Adult Learning Theory	2.60
36.	Instructional Design Skills	2.60
37.	Content Knowledge	2.60
38.	Facilitation Skills	2.60
39.	Training Skills for Technology	2.60
40.	General Education Theory Knowledge	2.50
41.	Computer Hardware Knowledge	2.40
42.	Designing Online Lessons Skills	2.40
43.	Instructional Design for Interactive Technologies	2.40
44.	Graphic Design Skills	2.20
45.	Multimedia Knowledge	2.20
46.	Career/Academic Advising Skills	2.00

Delphi Round Three - Consensus

Round Three – Consensus consisted of emailing participants the results summary of the top 12 operational tasks and top 14 critical competencies (Appendix K) along with a link to an open-ended consensus survey #3 (Appendix L). Round three's purpose was to obtain at least 60% approval of results by the expert participants panel. Therefore, the survey was an opportunity for participants to provide comments and to report any changes.

The results summary also presented four additional competencies that Participant 1 provided in the comment section of Round Two – Part II. Participant 1 commented that the additional competencies were very critical. This comment equated to a highest rating of 4. Therefore, the expert panel of participants now had four additional competencies to reach a consensus. Participants were given one week to review report and provide comments. Since no participants reported changes or denied results presented, the consensus was 100% approval of the study results, including the additional competencies suggested by Participant 1. The Delphi study had concluded and presented 14 most critical competencies, 12 top operational tasks, and nine functional areas for the OEAs.

Chapter 5

Conclusions, Implications, Recommendations, and Summary

The study examined OEAs' perceptions regarding daily administration of online education programs related to areas of responsibility, the tasks to be accomplished and the skills and knowledge necessary to get the job done. Data were analyzed using a modified Delphi technique consisting of structured group communication between an expert panel of participants. The panel engaged in three rounds of questioning that led to a final group consensus. Based on the results, this chapter presents conclusions, implications, and recommendations for future research and then culminates with a summary of the study.

Conclusions

RQ 1: What are the functional areas, operational tasks, and competencies associated with OE programs?

The answer is based upon an extensive literature review and validation by analysis of three Delphi rounds. A functional area is a section, division, or department within a work environment that is responsible for executing specific tasks or activities (Koontz, 1980; Pfeifer, Reissiger, & Canales, 2004; Skipton, 1983). The nine functional areas are presented below in alphabetical order. The expert panel added the functional area of faculty development and edited the functional area of web publisher to web development for clarity.

1. Administration

2. Evaluation

3. Faculty Development

4. Graphic Design

5. Instruction and Facilitation

6. Instructional Design and Development

7. Support Services

8. Technical

9. Web Development

   Operational tasks are intentional activities assigned as work to be done (Pich, Loch, & Meyer, 2002; Wysocki, 2011) with some activities performed daily (Abraham & Seal, 2001; Ingram & McDonnell, 1996) and recurring (Thomsett, 2009). Table 11 presents the relevant operational tasks as a 28-item table.

Table 11

Operational Tasks

Operational Task
1. Develop/revise curriculum for distance learning platform
2. Supervise distant learning staff and operations
3. Contribute to distant learning policies/standard development & decision-making process
4. Develop technology training for pre-registration
5. Monitor program successes/problems
6. Develop flexible gradebook tools to fit grading style
7. Develop multiple evaluation methods/instruments
8. Choose appropriate learning technology/best practices to meet needs of students and curriculum
9. Mentor new online faculty
10. Explore and develop new online offerings through collaborating with faculty
11. Provide online tutorial services and online learning orientation program
12. Manage the course development process
13. Teach distance learning students
14. Initiate and maintain interactive discussions
15. Address issues with student learning systems using technical-know how
16. Advise faculty how to prepare curriculum for distant learning platforms
17. Integrate online learning into ongoing professional development programs
18. Manage other related technology tasks in addition to those associated with instructional design/technology
19. Assist students with overcoming barriers in online learning
20. Design attractive, clear layouts that are easy to follow
21. Oversee the materials, resources, electronic postings, and policies related to online course platforms
22. Monitors website for consistency, cross-referencing, and compliance
23. Collaborate with media specialists and graphic designers to create interface design
24. Coordinate the review of subject matter experts to ensure training content is relevant
25. Apply multimedia design principles that maximize learning outcomes
26. Perform fundamentals of web page authoring and design
27. Advise and counsel students
28. Manage design projects

Competency is a skill set of knowledge and abilities acquired by individuals to enhance their ability to perform (Boyatzis, 1982, 2008; Woodruffe, 1993). In essence, competencies are skills and knowledge utilized to maximize performance of tasks (Thach, 1994).

The critical competencies were comprised of a 46-item list consisting of skills and knowledge.

Table 12 presents the relevant competencies as 46-item table.

Table 12

Competencies

Competencies	
Skills	**Knowledge**
1. Budgeting	26. Adult Learning Theory
2. Coaching	27. Basic Technology
3. Collaborative/Teamwork	28. Career/Academic Advising
4. Critical Thinking	29. Change Agent
5. Data Analysis	30. Computer Hardware
6. Editing	31. Content
7. Evaluation	32. Designing Online Lessons
8. Facilitation	33. Detail-oriented, yet able to Multi-Task
9. General Communication	Task
10. Graphic Design	34. Distance Learning Field
11. Group Process	35. English Proficiency
12. Interpersonal Communication	36. General Education Theory
13. Marketing	37. Handle confidential information
14. Needs Assessment	38. Instructional Design
15. Online Teaching	39. Instructional Design for
16. Organization	Interactive Technologies
17. Planning	40. Online Pedagogy Teaching
18. Presentation	41. Learning Management Systems
19. Project Management	42. Legal for OE programs
20. Public Relations	43. Multimedia
21. Researching	44. Policy-Making
22. Strategic Planning	45. Support Services
23. Video Conferencing	46. Technology Access
24. Writing	
25. Training Skills for Technology	

RQ 2: How do OEAs rate the importance of operational tasks for managing OE programs?

The answer is based upon validation by analysis of three Delphi rounds. Five of the 28-item operational tasks were identified as most important with a statistical mean of 4.00. They are presented below in alphabetical order.

1. Contribute to distant learning policies/standard development and decision-making process

2. Develop technology training for pre-registration

3. Develop/revise curriculum for distance learning platform

4. Monitor program successes and problems

5. Supervise distant learning staff and operations

Two of the 28-item operational tasks were identified as most important with a statistical mean of 3.80. They are presented below in alphabetical order.

1. Develop flexible gradebook tools to fit grading style

2. Develop multiple evaluation methods and instruments

Five of the 28-item operational tasks were identified as most important with a statistical mean of 3.60. They are presented below in alphabetical order.

1. Choose appropriate learning technologies and best practices to meet needs of students and curriculum

2. Explore and develop new online offerings through collaborating with faculty

3. Manage the course development process

4. Mentor new online faculty

5. Provide online tutorial services and online learning orientation program

RQ 3: Which competencies do OEAs perceive as being the most critical for managing OE programs?

The answer is based upon validation by analysis of three Delphi rounds. Fourteen of the 46-item competencies were identified as most critical with a statistical mean of 4.00. They are presented below in alphabetical order.

1. Budgeting skills

2. Collaborative/Teamwork skills

3. Critical thinking skills

4. Detail-oriented, yet able to multi-task

5. General Communication Skills

6. Knowledge of handling confidential information

7. Interpersonal Communication skills

8. Legal knowledge about managing online education

9. Organization skills

10. Planning skills

11. Policy-making skills

12. Presentation skills

13. Project management skills

14. Strategic planning skills

The critical competencies for OEAs echo Koontz (1980) and McNamara's (1999) OM approach about the fundamental knowledge of managing detailed daily activities and utilizing competencies related to planning, organizing, staffing, leading and controlling.

OM has been examined in DE through the e-learning maturity model (Marshall, 2012) which measures dimensions of e-learning activities including certain aspect of daily administration of programs. However, the maturity model does not cover competencies needed for the DE frontline administrators. Therefore, this question has now responded to the literature by identifying critical competencies for OEAs who oversee the daily administration of programs.

The interpersonal communication competency, noted by the panel as a critical competency, was clearly aligned with the literature. For example, Cook-Wallace's (2014) and Kelly (2002) studies suggested that interpersonal communication was a necessity and a foundational skill for OEAs. In terms of the overall 14 top critical competencies, the results differed in the literature that posited online pedagogy and instructional design principles were necessary competencies for administering OE (Cook-Wallace, 2012; Kinash, Knight, and McLean, 2015; Moller, Foshay, and Huett, 2008). Notwithstanding, online pedagogy and instructional design knowledge did place within the 46-item list of competencies as No. 31 and No. 36, respectively.

Another noteworthy critical competency was the legal knowledge skills associated with OE programs. This competency was primarily discussed when Edmonds (2004) pointed out that OE must adhere to the legal impact of administering online learning to learners with disabilities. The underlying message was aimed at OEAs becoming knowledgeable about federal laws protecting OE learners with disabilities: Vocational Rehabilitation Act of 1973, amended in 1998, Americans with Disabilities Act of 1990, and Assistive Technology Act of 1998. The legal knowledge for OE programs competency was No. 12 out of the 14 critical competencies.

Strength, Weakness, and Limitations of the Study

A strength of the study was the criterion sampling technique which targeted a specific group. A key characteristic of purposive sampling is the criterion selection strategy (Creswell, 2012).

Delbecq et al. (1975) and Stone, Fish, and Busby (2005) agreed that having a strong criterion for selecting expert participants helps to support the validity of the research design.

A weakness of the study was the small number of participants which may limit generalization. However, contrasting literature upholds the notion that sample size does not impact results. For example, Donohoe and Needham, (2009) suggested that the most important considerations for the Delphi sample size is not the quantity but the quality of participants to provide expert information about the research problem. Evidenced-based studies contended that the use of few participants in Delphi studies does not present any negative effect on reliability and validity of the processes (Murphy et al., 1998).

There were two main limitations of the study. First, the population focused solely on OEAs who were in higher education settings. Second, the time constraint was six weeks which more likely limited responses. Time is needed to establish substantial data.

Implication

Online program management providers are rapidly invading higher education (Chen, 2017). The OEA at a university must be in charge of all aspects of management. From the literature and the findings, a clear picture emerges of the functional areas of responsibility, tasks, and competencies that comprise the multiple aspects of the greater job. The OEA should have enough grasp of each aspect to find the right people to support his or her efforts as the program grows. Therefore, based on the findings, it is now possible to illustrate an operational management competency model as a resource for the administrator in charge of an online education program. Figure 3 illustrates the operational management competency model.

Operational Management Competency Model
for the Online Education Administrator

Most Critical Competencies

- BUDGETING SKILLS
- COLLABORATIVE/TEAMWORK SKILLS
- CRITICAL THINKING SKILLS
- DETAIL-ORIENTED, YET ABLE TO MULTI-TASK
- GENERAL COMMUNICATION SKILLS
- KNOWLEDGE OF HANDLING CONFIDENTIAL INFORMATION
- INTERPERSONAL COMMUNICATION SKILLS
- LEGAL KNOWLEDGE ABOUT MANAGING ONLINE EDUCATION
- ORGANIZATION SKILLS
- PLANNING SKILLS
- POLICY-MAKING SKILLS
- PRESENTATION SKILLS
- PROJECT MANAGEMENT SKILLS
- STRATEGIC PLANNING SKILLS

Operational Management of Online Education

Top Operational Tasks

- Choose appropriate learning technologies and best practices to meet needs of students and curriculum
- Contribute to distant learning policies/standard development and decision-making process
- Develop flexible gradebook tools to fit grading style
- Develop multiple evaluation methods and instruments
- Develop technology training for pre-registration
- Develop/revise curriculum for distance learning platform
- Explore and develop new online offerings through collaborating with faculty
- Manage the course development process
- Mentor new online faculty
- Monitor program successes and problems
- Provide online tutorial services and online learning orientation program
- Supervise distant learning staff and operations

Key Functional Areas

Operational tasks are assigned to the appropriate functional area.

- Administration
- Evaluation
- Faculty Development
- Graphic Design
- Instruction and Facilitation
- Instructional Design and Development
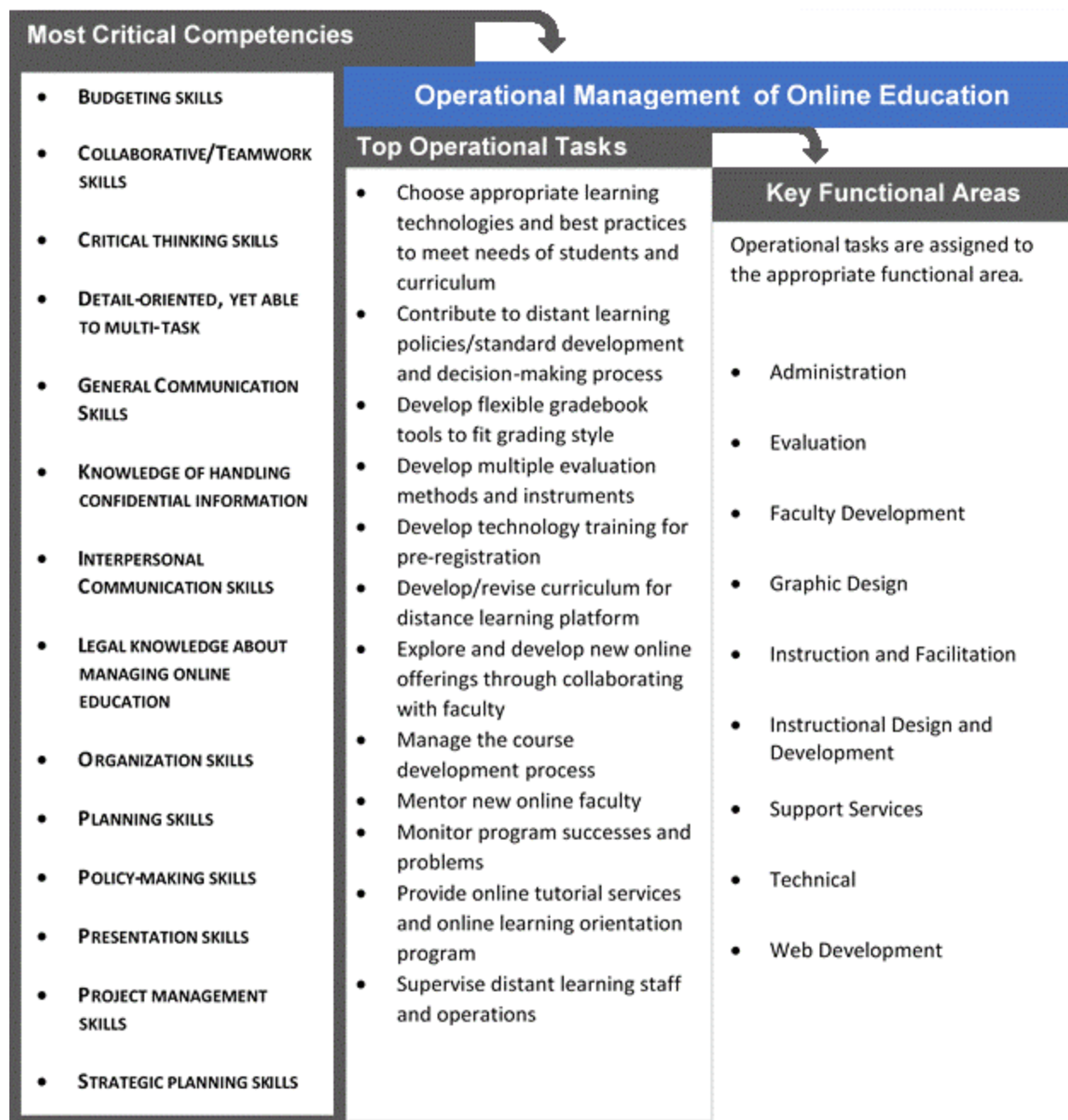- Support Services
- Technical
- Web Development

Figure 3. Operational Management Competency Model for the Online Education Administrator

The operational management competency (OMC) model for the online education administrator consists of two main columns: *most critical competencies* and o*perational management of online education.* The operational management column is further divided into top operational tasks and key functional areas.

This model is interpreted from left to right where emphasis is placed on the first column of *most critical competencies* the administrator must possess prior to performing the work of operational managing online education. Because the list of critical competencies is not ranked, each competency can be weighted as needed based on need for the skill-set versus task to be performed. To the right of the competencies column is the *operational management of education* column. Under this column is a sub-column labeled *top operational tasks*. The tasks presented are the kinds of responsibilities the administrator can be expected to oversee staff performing the work. As indicated by the arrow leading from the competencies column and pointing downward in the direction of the operational management of education column, achieving effective administration of operational tasks will require administrators to pull from their resource of critical competencies. The other sub-column to the right of the operational tasks column is labeled *key functional areas.* This column is a resource of areas of responsibility within a program such as departments, divisions, or sections. As indicated by the arrow leading from the operational tasks and pointing downward in the direction of the functional areas, achieving effective administration will require administrators to segment operational tasks into appropriate functional areas and once again, pulling from their resource of critical competencies to organize tasks under functional areas. Overall, the OMC model serves as a resource for the administrator in charge of an online education program. This resource specifies the functional areas of

responsibility, the tasks to be accomplished and the skills and knowledge necessary to get the job done.

Recommendations for Future Research

There are three recommendations for future research. First, further research into OEAs' functional areas, tasks, and competencies should expand to participants outside higher education such as organizations and other businesses with online education programs. Without further research into understanding these aspects related to the greater job of the administrator, it will not be possible to substantiate this study.

Second, further research into OEAs' functional areas, tasks, and competencies should be conducted as a large-scale quantitative study. Now that a core study has been completed, data from this study can be utilized to build robust instruments. Examining OEAs on a large scale will help maximize understanding about OEAs and their work, while adding value by informing the OE literature.

Third, further research should examine OEAs' lived experiences of performing their job to capture the essence of the daily administration of their programs. Creswell (2012) asserts that phenomenological research should align with the research problem that best portrays a goal of exploring individuals' common or shared experiences. However, the sampling strategy should remain purposive sampling, specifically the criterion sampling technique because it helps to ensure OEAs experts. Employing a phenomenological research will require a clear roadmap for design and the ability to concisely describe the data collection process. As a result, the outcome will be rewarding with rich, thick descriptions about the lived experiences of OEAs.

Summary

The research goal was to develop a resource for the administrator in charge of an online education program. The resource specified the areas of responsibility, the tasks to be accomplished and the skills and knowledge necessary to get the job done. The study participants were five higher education OEAs who managed as least three functional areas. Based on the findings, the resource was illustrated as an operational management competency model.

The research addressed the problem of the lack of useful information guiding the operational management of online education programs. The research technique most appropriate to inform the problem and achieve the goal was the Delphi method. This method is a structured group communication method that involves expert participants during several rounds of questioning leading to a group consensus. During each round and before sending to participants, data were analyzed, and the instrument was revised as necessary (Beech, 1999; Linstone & Turoff, 2002).

Because the literature was the source of core information as oppose to a pilot test, the questionnaire had become a modified Delphi technique (Hsu & Sandford, 2007). The instruments were developed by modifying a previously validated questionnaire from Thach's (1994) study that examined the roles, outputs, and competencies of the DE professionals.

Three RQs guided the data collection phase that consisted of three rounds of questioning about functional areas, operational tasks, and competencies. Data were analyzed before proceeding to the next iteration of the Delphi technique.

Round One was the qualitative portion where participants were invited to provide input related to functional areas and operational tasks. Open-ended comments were presented as direct quotes because there was not enough text to code and organize.

Round Two was a quantitative questionnaire (survey) #2 with a 4-point Likert scale rating where participants rated importance of operational tasks and ranked the criticality of competencies. Statistical software was utilized to calculate the mean, thus establishing the importance of operational tasks and frequency of most critical competencies.

Round Three was employed as a qualitative questionnaire that presented a summary of rankings for operational tasks and competencies and a comment box. Participants reviewed the results and achieved a consensus of 100% in favor.

The research answered three RQs and revealed

- nine functional areas of responsibility agreed by 100% of the panel,

- 12 operational tasks of which five were agreed by 100% of the panel and seven were agreed by 80% of the panel from a 28-item list of operational tasks, and

- 14 competencies of skills and knowledge agreed by 100% of the panel as the top critical competencies from a list of 46 competencies.

The research concluded with an implication that suggested the OEA at a university must be in charge of all aspects of management. Furthermore, they should have enough grasp of the areas of responsibility, tasks, and competencies required of the job to find the right people to support his or her efforts as the program grows.

Appendices

Appendix A: Dr. Elizabeth Thach's email communication

Fanniel deMarks

From:	Liz Thach <liz@lizthach.com>
Sent:	Monday, October 05, 2015 4:36 PM
To:	Fanniel deMarks
Subject:	Re: Permission to use your 1994 survey instrument - Competencies for DE Professionals

Dear Fanniel,

What a lovely email. Yes, you have my permission to use the questionnaire.

Best of luck to you in your research.

Warm Regards,

Liz Thach, MW

Dr. Liz Thach, MW
Distinguished Professor of Wine & Management
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Website: www.lizthach.wordpress.com
Office Hours for Fall 2015: Tues 6:30 - 7pm; Wed. 2 - 4pm & by appt.

On Mon, Oct 5, 2015 at 1:33 PM, Fanniel deMarks <fd216@nova.edu> wrote:

Hello Dr. Thach, hope this email finds you doing well.

The purpose of this email is to request use of your 1994 survey instrument you presented in your research report [cited as Thach, E.C. & Murphy, K. L. (1995). Competencies for distance education professionals. *Educational Technology Research and Development*, 43(1), 57-79].

I'm a doctoral student at Nova Southeastern University, School of Engineering and Computing, Department of Computing Technology in Education. My current education is MBA (management), MEd, Instructional Technology, and recent EdS from Nova - Computing Technology In Education. My dissertation chair is Dr. Gertrude (Trudy) Abramson who is a distinguished professor with honors such as professor of the year and journal editor.

I'm proposing to examine competencies of Online Education (OE) Administrators who manage at least three functional areas. Your foundational research is paving the way for a novice researcher (myself) to advance the field by now examining DE professionals who manage several functional areas of OE on a daily basis.

The working title for the proposed work is, An Operational Management Competency Model for OE Administrators. The research design being proposed is a three-round Delphi Technique using seven participants in higher education settings.

An overview of the research problem is that even though recent literature has improved discourse on DE administration, a pattern continues with grouping varies administrative professionals and their skills, including OE administrators, into a single category (Cook-Wallace, 2012). Further, the current literature still expresses some concern that DE continues to focus on the technology aspects, thus eluding discourse on administrators and their managerial skills (Nworie, 2012). Collectively, if these trends continue in the literature, the gap will progressively widen in understanding the skills required of OE administrators who are managing the daily administration of programs. To close this gap and respond to the increasingly demand for experienced OE administrators, the literature needs a toolbox of skills for OE administrators to utilize as a set of essential competencies to manage their programs.

In essence, your instrument will support the proposed work's research design and provided the following key information about DE professionals.

- Delineated key functional areas of the field, which your instrument identified as roles

- Identified key operational tasks for each functional area, which your instrument identified as outputs

- Identified core competencies for DE professionals

Dr. Thach, the work you conducted 21 years ago is timeless and available to influence the proposed work as a foundation resource to conduct the inquiry. I'm honored to have an opportunity to utilize the literature to advance the field, specifically in an area you found that was a gap and now has progressively widen. Your work was thoroughly researched and presented in a way that as novice researcher, I can understand the results.

Appendix B: Thach's Delphi Round 1 Instrument

OTHER ROLE?	
Outputs for ROLE	*Competencies to Perform Output*

OTHER ROLE?	
Outputs for ROLE	*Competencies to Perform Output*

OTHER ROLE?	
Outputs for ROLE	*Competencies to Perform Output*

OTHER ROLE?	
Outputs for ROLE	*Competencies to Perform Output*

THANK YOU FOR RETURNING REVISED FORM TO:

Distance Learning ROLE: INSTRUCTIONAL DESIGNER	
Outputs for ROLE	*Competencies to Perform Output*
* Develop curriculum for DL platforms.	* Objective Preparation
* Revise existing curriculum to fit DL.	* DL Curriculum Development
* Choose appropriate technology to meet needs of students and curriculum.	* Evaluation Skills
* Advise other instructors how to prepare curriculum for DL platforms.	* Needs Assessment
* Design appropriate evaluation processes.	
*	

Distance Learning ROLE: DL ADMINISTRATOR	
Outputs for ROLE	*Competencies to Perform Output*
* Communicate DL classes to students.	* Market DL Programs
* Register students.	* Records Management
* Insure students receive materials and feedback in a timely manner.	* Feedback Skills
* Insure all technology links are in place.	
* Obtain financial backing and support.	*Financial Management
* Insure evaluation processes are in place.	* Evaluation
* Communicate results to stakeholders.	*Negotiation Skills

OTHER ROLE?	
Outputs for ROLE	*Competencies to Perform Output*

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Exhibit 1: Round-One Survey. Reprinted from Competencies for Distance Education Professionals (p. 75), by E.C. Thach & K.L. Murphy, 1995, *Educational Technology Research and Development*, *43*(1), 57-79. Permission granted from JSTOR Stable URL: http://www.jstor.org/stable/30220112

Appendix C: Thach's Delphi Round 2 Instrument

Exhibit 2: Round-Two Survey

DISTANCE EDUCATION COMPETENCY SURVEY
Delphi: Round Two

DEMOGRAPHIC INFORMATION

1. How long have you worked in the field of distance education? _____ YEARS	2. What percentage of the time would you describe yourself working in the field of distance educ? _____25% _____50% _____75% _____100%
3. What is your current position? (Check the one item you do the majority of the time.) _____Professor/Faculty Member _____Instructor/Trainer _____Researcher _____Instructional Designer _____Administrator _____Other	4. Have you conducted any research in the field of distance education? _____YES _____NO 5. Have you published any research findings in the field of distance education? _____YES _____NO

TECHNOLOGY INFORMATION

Please describe the different media you use at your institution to deliver distance education by identifying the estimated percentage of time you use each medium. *(Exam: Videotape 25% Correspondence 50%, Satellite 25%)*- Should add to 100%-

CORRESPONDENCE	%	VIDEOCONFERENCING (Compressed or full motion)	%
COMPUTER CONFERENCING*	%	COMPUTER DISK	%
AUDIO CONFERENCING	%	LASER DISK	%
SATELLITE BROADCAST	%	RADIO	%
AUDIOTAPE	%	VIDEOTAPE	%
AUDIO-GRAPHICS	%	OTHER (list)	%

* Same as electronic mail

ROLES AND OUTPUTS FOR DISTANCE EDUCATION PROFESSIONALS

Following is a list of roles and outputs (products, services, conditions, and/or information) which professionals in distance education perform. **Please** indicate *how important* you believe these outputs are to *effective performance* by circling the appropriate number. Use the following code: ... *(DL = Distance Learning)*
   1 = not important, 2 = slightly important, 3 = important, 4 = very important 5 = critical

A. ROLE OF INSTRUCTOR/FACILITATOR

1. Facilitate information presentation	1 2 3 4 5	11. Provide students with timely feedback	1 2 3 4 5
2. Lead instructional design effort	1 2 3 4 5	12. Introduce student support services	1 2 3 4 5
3. Know audience learning styles/needs	1 2 3 4 5	13. Facilitate guest "experts" at a distance	1 2 3 4 5
4. Encourage peer learning	1 2 3 4 5	14. Monitor and evaluate student performance	1 2 3 4 5
5. Provide a variety of learning activities	1 2 3 4 5	15. Be clear and well organized.	1 2 3 4 5
6. Utilize technology in a competent manner	1 2 3 4 5	16. Advise and counsel students	1 2 3 4 5
7. Collaborate with technical/support staff	1 2 3 4 5	17. Plan and prepare before DL class sessions	1 2 3 4 5
8. Be competent in the subject matter	1 2 3 4 5	18. Establish learning outcomes/objectives	1 2 3 4 5
9. Initiate & maintain interactive discussions	1 2 3 4 5	19. Other?	1 2 3 4 5
10. Be personable & enthusiastic about teaching.	1 2 3 4 5	20. Other?	1 2 3 4 5

PLEASE PROCEED TO THE NEXT PAGE

CONTINUED --ROLES AND OUTPUTS FOR DISTANCE EDUCATION PROFESSIONALS

Following is a list of roles and outputs (products, services, conditions, and/or information) which professionals in distance education perform. **Please** indicate *how important* you believe these outputs are to *effective performance* by circling the appropriate number. Use the following code:
   1 = not important, 2 = slightly important, 3 = important, 4 = very important 5 = critical

B. ROLE OF INSTRUCTIONAL DESIGNER

1. Work with instructors to design courses	1 2 3 4 5	7. Promote teamwork in course design process	1 2 3 4 5
2. Conduct needs assessment of students	1 2 3 4 5	8. Ensure course design works with technology	1 2 3 4 5
3. Ensure course design fits DL environment	1 2 3 4 5	9. Ensure evaluation methods are included	1 2 3 4 5
4. Incorporate variety & interactive segments	1 2 3 4 5	10. Present workshops on DL instr. design.	1 2 3 4 5
5. Revise existing courses to fit DL environ.	1 2 3 4 5	11. Other?	1 2 3 4 5
6. Integrate support services into design.	1 2 3 4 5	12. Other?	1 2 3 4 5

C. ROLE OF TECHNOLOGY EXPERT

1. Advise in selection of technology for DL	1 2 3 4 5	6. Manage technology set-up and linkages	1 2 3 4 5
2. Analyze instructional advantages of media	1 2 3 4 5	7. Assure smooth operation of technology	1 2 3 4 5
3. Assess future changes in technology	1 2 3 4 5	8. Translate tech. terminology to lay terms	1 2 3 4 5
4. Evaluate effectiveness of technology	1 2 3 4 5	9. Provide orientation/training on tech.	1 2 3 4 5
5. Work cooperatively with instructors and instructional designers	1 2 3 4 5	10. Other?	1 2 3 4 5

D. ROLE OF TECHNICIAN (TECHNICAL SUPPORT)

1. Keep equipment in running condition	1 2 3 4 5	3. Respond to users' questions and problems	1 2 3 4 5
2. Provide demos, manuals, and training for users when needed.	1 2 3 4 5	4. Other?	1 2 3 4 5

E. ROLE OF ADMINISTRATOR

1. Manage/supervise DL staff & operations	1 2 3 4 5	12. Inform students of available classes	1 2 3 4 5
2. Act as an organizational change agent	1 2 3 4 5	13. Balance budget	1 2 3 4 5
3. Communicate results to DL community	1 2 3 4 5	14. Advocate and market DL programs	1 2 3 4 5
4. Coordinate with academia and industry	1 2 3 4 5	15. Provide faculty/student orientation to DL	1 2 3 4 5
5. Supervise selection of DL courses	1 2 3 4 5	16. Monitor program developmt/compliance	1 2 3 4 5
6. Ensure evaluation processes are in place	1 2 3 4 5	17. Oversee registration and scheduling	1 2 3 4 5
7. Select and hire DL personnel	1 2 3 4 5	18. Ensure all support services are in place	1 2 3 4 5
8. Act as a liaison with other groups	1 2 3 4 5	19. Possess basic understanding of technology	1 2 3 4 5
9. Build collaborative models and promote teamwork	1 2 3 4 5	20. Plan for optimal & future use of technology	1 2 3 4 5
10. Ensure student needs assessments are conducted	1 2 3 4 5	21. Contribute to DL policy/standard development	1 2 3 4 5
11. Ensure students receive learning materials and resources	1 2 3 4 5	22. Other?	1 2 3 4 5
Other?	1 2 3 4 5	Other?	1 2 3 4 5

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CONTINUED --ROLES AND OUTPUTS FOR DISTANCE EDUCATION PROFESSIONALS

Following is a list of roles and outputs (products, services, conditions, and/or information) which professionals in distance education perform. **Please** indicate *how important* you believe these outputs are to *effective performance* by circling the appropriate number. Use the following code:

1 = not important, 2 = slightly important, 3 = important, 4 = very important 5 = critical

F. ROLE OF SITE FACILITATOR/TUTOR

1. Assist students in learning at remote sites	1 2 3 4 5	5. Ensure remote site is properly prepared	1 2 3 4 5
2. Serve as liaison between central organization and remote site	1 2 3 4 5	6. Ensure equipment is operational and accessible at remote site	1 2 3 4 5
3. Distribute and collect material/assignments	1 2 3 4 5	7. Other?	1 2 3 4 5
4. Proctor tests and exams	1 2 3 4 5	8. Other?	1 2 3 4 5

G. ROLE OF SUPPORT STAFF

1. Communicate class schedule to students	1 2 3 4 5	3. Coordinate support service issues	1 2 3 4 5
2. Register students for DL classes	1 2 3 4 5	4. Other?	1 2 3 4 5

H. ROLE OF EDITOR

1. Proofread and edit instructors' work	1 2 3 4 5	4. Edit for style, clarity, grammar, & structure	1 2 3 4 5
2. Arrange text layout for presentation	1 2 3 4 5	5. Other?	1 2 3 4 5
3. Edit for reading level of audience	1 2 3 4 5	6. Other?	1 2 3 4 5

I. ROLE OF LIBRARIAN

1. Provide library assistance to DL students	1 2 3 4 5	4. Provide library skills training for students	1 2 3 4 5
2. Deliver library materials to DL students	1 2 3 4 5	5. Other?	1 2 3 4 5
3. Assist with library searches/research	1 2 3 4 5	6. Other?	1 2 3 4 5

J. ROLE OF EVALUATION SPECIALIST

1. Provide tools and evaluation instruments	1 2 3 4 5	3. Develop multiple evaluation methods	1 2 3 4 5
2. Monitor program successes/problems	1 2 3 4 5	4. Other?	1 2 3 4 5

K. ROLE OF GRAPHICS DESIGNER

1. Design attractive, clear layout	1 2 3 4 5	3. Other?	1 2 3 4 5
2. Ensure materials facilitate learning	1 2 3 4 5	4. Other?	1 2 3 4 5

L. ADDITIONAL ROLE

1.	1 2 3 4 5	3.	1 2 3 4 5
2.	1 2 3 4 5	4.	1 2 3 4 5

PLEASE PROCEED TO THE NEXT PAGE

COMPETENCIES FOR DISTANCE EDUCATION PROFESSIONALS

Following is a list of competencies for distance education professionals. Competencies are knowledge and skills that enable an individual to produce outputs. The same competency may be important in achieving one or more outputs. **Please** indicate which competencies are *critical to* the distance education roles by circling the appropriate number. Use the following code:

0 - Critical to NO role	1 = Critical to only one role	2 = Critical to a few of the roles
3 = Critical to half of the roles	4 = Critical to a majority of the roles	5 = Critical to all of the roles

ROLES: A) Instructor/Facilitator, B) Instructional Designer, C) Technology Expert, D)Technician, E) Administrator, F) Site Facilitator/Tutor, G) Support Staff, H) Editor, I) Librarian, J) Evaluation Specialist, K) Graphics Designer

1. Adult Learning Theory	0 1 2 3 4 5	28. Managerial Skills	0 1 2 3 4 5
2. Advising/Counseling Skills	0 1 2 3 4 5	29. Marketing Skills	0 1 2 3 4 5
3. Basic Technology Knowledge	0 1 2 3 4 5	30. Media Attributes Knowledge	0 1 2 3 4 5
4. Budgeting Skills	0 1 2 3 4 5	31. Modeling of Behavior Skills	0 1 2 3 4 5
5. Change Agent Skills	0 1 2 3 4 5	32. Multi-media Knowledge	0 1 2 3 4 5
6. Collaboration/Teamwork Skills	0 1 2 3 4 5	33. Needs Assessment Skills	0 1 2 3 4 5
7. Computer Hardware Knowledge	0 1 2 3 4 5	34. Negotiation Skills	0 1 2 3 4 5
8. Computer Networking Skills	0 1 2 3 4 5	35. Organizational Skills	0 1 2 3 4 5
9. Content Knowledge	0 1 2 3 4 5	36. Planning Skills	0 1 2 3 4 5
10. Data Analysis Skills	0 1 2 3 4 5	37. Policy-making Skills	0 1 2 3 4 5
11. Editing Skills	0 1 2 3 4 5	38. Presentation Skills	0 1 2 3 4 5
12. Engineering Skills	0 1 2 3 4 5	39. Project Management Skills	0 1 2 3 4 5
13. English Proficiency	0 1 2 3 4 5	40. Public Relations Skills	0 1 2 3 4 5
14. Evaluation Skills	0 1 2 3 4 5	41. Questioning Skills	0 1 2 3 4 5
15. Facilitation (Discussion) Skills	0 1 2 3 4 5	42. Software Skills	0 1 2 3 4 5
16. Feedback Skills	0 1 2 3 4 5	43. Strategic Planning	0 1 2 3 4 5
17. General Education Theory	0 1 2 3 4 5	44. Technology Access Knowledge	0 1 2 3 4 5
18. Graphic Design Skills	0 1 2 3 4 5	45. Technology Operation/Repair Skills	0 1 2 3 4 5
19. Group Process Skills	0 1 2 3 4 5	46. Telephone System Knowledge	0 1 2 3 4 5
20. Instructional Design (ID) Skills	0 1 2 3 4 5	47. Text Layout Skills	0 1 2 3 4 5
21. ID for Interactive Technologies	0 1 2 3 4 5	48. Training Skills (for technology)	0 1 2 3 4 5
22. Interpersonal Communication Skills	0 1 2 3 4 5	49. TV/Satellite Communication Skills	0 1 2 3 4 5
23. Knowledge of Dist. Lrng Field	0 1 2 3 4 5	50. Videoconferencing Skills	0 1 2 3 4 5
24. Knowledge of Support Services	0 1 2 3 4 5	51. Writing Skills	0 1 2 3 4 5
25. Teaching Strategies/Models	0 1 2 3 4 5	52. Other?	0 1 2 3 4 5
26. Learning Style and Theory	0 1 2 3 4 5	53. Other?	0 1 2 3 4 5
27. Library Research Skills	0 1 2 3 4 5	54. Other?	0 1 2 3 4 5

ADDITIONAL THOUGHTS/COMMENTS:

_____

_____

_____

YOUR NAME_____ INTERNET ADDRESS_____

Your answers to this survey will be kept confidential. Only the two researchers will see these data. However, we need your name and Internet address in the event that a third round of the survey is necessary.

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.

Please use the enclosed envelope to return the survey, or fax it to

Exhibit 2: Round-Two Survey. Reprinted from Competencies for Distance Education Professionals (p. 79), by E.C. Thach & K.L. Murphy, 1995, *Educational Technology Research and Development*, *43*(1), 57-79. Permission granted from JSTOR Stable URL: http://www.jstor.org/stable/30220112

Appendix D: IRB Permission Document

![NSU Nova Southeastern University Institutional Review Board logo]

MEMORANDUM

To: **Fanniel (Dede) deMarks**
College of Engineering and Computing

From: **Ling Wang, Ph.D.,**
Center Representative, Institutional Review Board

Date: **March 10, 2016**

Re: **IRB #: 2016-61; Title, "An Operational Management Competency Model for Online Education Administrators"**

I have reviewed the above-referenced research protocol at the center level. Based on the information provided, I have determined that this study is exempt from further IRB review under **45 CFR 46.101(b) (Exempt Category 2)**. You may proceed with your study as described to the IRB. As principal investigator, you must adhere to the following requirements:

1) CONSENT: If recruitment procedures include consent forms, they must be obtained in such a manner that they are clearly understood by the subjects and the process affords subjects the opportunity to ask questions, obtain detailed answers from those directly involved in the research, and have sufficient time to consider their participation after they have been provided this information. The subjects must be given a copy of the signed consent document, and a copy must be placed in a secure file separate from de-identified participant information. Record of informed consent must be retained for a minimum of three years from the conclusion of the study.

2) ADVERSE EVENTS/UNANTICIPATED PROBLEMS: The principal investigator is required to notify the IRB chair and me (954-262-5369 and Ling Wang, Ph.D., respectively) of any adverse reactions or unanticipated events that may develop as a result of this study. Reactions or events may include, but are not limited to, injury, depression as a result of participation in the study, life-threatening situation, death, or loss of confidentiality/anonymity of subject. Approval may be withdrawn if the problem is serious.

3) AMENDMENTS: Any changes in the study (e.g., procedures, number or types of subjects, consent forms, investigators, etc.) must be approved by the IRB prior to implementation. Please be advised that changes in a study may require further review depending on the nature of the change. Please contact me with any questions regarding amendments or changes to your study.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

Cc: **Gertrude Abramson, Ed.D.**

Appendix E: Invite Letter to Participate

NOVA SOUTHEASTERN UNIVERSITY
College of Engineering and Computing

Dear Distance Education Professional,

You have been identified as a leader in the field of distance education and directly involved with the administration of online education programs. Therefore, I am inviting you to participate as an anonymous panel member for an academic research study as part of a dissertation initiative. The online panel of experts will be using a structured communication protocol to address a research problem through a minimum of two rounds of questioning, reviewing, and feedback that eventually ends with a panel consensus. There are two instruments to streamline the communication process and optimize your time. Based on your expertise in online education administration, I estimate each instrument should take about 30 minutes to complete.

I am conducting this study to examine online education administrators' perceptions regarding their competencies utilized to perform operational tasks during the daily administration of their programs. Your eligibility as an expert panel member falls within the requirements of higher education administrators who are online education administrators that oversee at least three functional areas associated with daily activities of their programs.

The location of the research will take place on the Internet via an online survey tool that will capture text and numeric data while keeping your participation anonymous and confidential. This tool also provides hosting services that can send data to you as well as compile results. The results will come back to you when the data collection is completed, but there will be no identifiable information.

Thank you in advance for considering to participate! Your participation is 100% voluntary and you can opt out even after you have signed consent to participate. **Please let me know your response to participate by July 21.** Upon your acceptance response, I will send you an informed consent letter with details about the study for your review and signature.

If you have questions or would like additional information about this study, please contact me via email or phone, using the information below. Requesting more information does not obligate you to participate, so please feel free to inquire more about this study.

Sincerely,
Dede
(404) 368-2347

Principal investigator:

Fanniel (Dede) deMarks, Ed.S.
Emphasis: Computing Technology in Education
Nova Southeastern University
College of Engineering and Computing
Email: fd216@nova.edu

Co-investigator:

Dr. Gertrude (Trudy) Abramson, Professor
Nova Southeastern University
College of Engineering and Computing
3301 College Avenue
Fort Lauderdale, Florida 33314-7796
Email: abramson@nova.edu
phone: (954) 262-2070

Appendix F: Round One Introduction Letter

NOVA SOUTHEASTERN UNIVERSITY
College of Engineering and Computing

3301 College Avenue • Fort Lauderdale, Florida 33314-7796
(954) 262-2000 • 800-541-6682, ext. 2000 • Fax: (954) 262-3915 • Web site: *www.cec.nova.edu*

Dear Research Participant,

Thank you for your anonymous participation in this academic research survey. The survey 1 link is provided below in this email. This survey was compiled using distant/online education program administration literature to identify eight (8) functional areas and the operational tasks and competencies within each one. Based on your expertise in the field, I ask that you consider each item, modify any that seem to need change and add anything that appears missing. Because some of the items in this survey may not be used at your institution or exist under different functional titles, please answer those items from a global perspective. A comment box is provided at the end of each functional area so you can provide additions, corrections, or comments.

Survey Link: https://www.surveymonkey.com/r/OEA-Survey1 **This link will be available until Oct 2, 2016 (Sunday) at 11:59 a.m.**

If you have questions about the survey, need technical support, or about the research in general, please let me know so I can assist you.

Kind Regards,
Dede
(404) 368-2347

Fanniel "Dede" deMarks
Doctoral Candidate
Nova Southeastern University
College of Engineering & Computing
Department of Information Systems
Home: 461 Bear Cub Path
Social Circle, GA 30025
Direct: (404) 368-2347

Appendix G: Round One Questionnaire

A Survey of Online Education Administration

Welcome to the Expert Panel of Online Education Administrators!

Thank you for anonymous participation in this survey. Your feedback is important. This survey was compiled using distant/online education program administration literature to identify eight (8) functional areas and the operational tasks and competencies within each one.

Based on your expertise in the field, I ask that you consider each item, modify any that seem to need change and add anything that appears missing. Because some of the items in this survey may not be used at your institution or exist under different functional titles, please answer those items from a global perspective.

A comment box is provided at the end of each functional area so you can provide additions, corrections, or comments.

(1) Functional Area: Instructional Design/Development

Operational Task 1: Develop/revise curriculum for distance learning platform

Competencies 1: Instructional design skills, knowledge of instructional design for interactive technologies; knowledge of curriculum

Operational Task 2: Choose appropriate learning technology to meet needs of students and curriculum

Competencies 2: Evaluation skills

Operational Task 3: Advise other instructors how to prepare curriculum for distance learning platforms

Competencies 3: Needs assessment skills

The text box below is available to provide any additions, corrections, and/or comments.

(2) Functional Area: Instruction/ Facilitation

Operational Task 1: Teach distance learning students

Competencies 1: Knowledge of online teaching skills

Operational Task 2: Initiate and maintain interactive

discussions

Competencies 2: Group process skills; facilitation

skills

Operational Task 3: Advise and counsel students

Competencies 3: Advising skills

The text box below is available to provide your

additions, corrections, and/or comments.

```

```

③ Functional Area: Administration

Operational Task 1: Manage/supervise distant learning staff and operations

Competencies 1: Managerial skills; budgeting skills

Operational Task 2: Ensure student receives learning materials and resources

Competencies 2: Evaluation skills; strategic planning skills; support services knowledge

Operational Task 3: Contribute to the distant learning policy/standard development

Competencies 3: Policy-making skills; writing skills

The text box below is available to provide your additions, corrections, and/or comments.

> [text box]

(4) Functional Area: Support Services

Operational Task 1: Coordinate support services issues

Competencies 1: Knowledge of support services; Knowledge of distant learning field

Operational Task 2: Communicate class schedule to students

Competencies 2: Knowledge of distant learning field; Advising skills; Teamwork skills; Technology skills

The text box below is available to provide your additions, corrections, and/or comments.

> [text box]

(5) **Functional Area: Technical**

Operational Task 1: Advise in selection of technology for distance learning
Competencies 1: All technology knowledge

Operational Task 2: Analyze instructional advantages of media
Competencies 2: Learning style and theory skills; teaching strategies skills, general education skills

Operational Task 3: Manage technology set-up and linkages
Competencies 3: Managerial skills; All technology knowledge

The text box below is available to provide your additions, corrections, and/or comments.

A Survey of Online Education Administration

> [text box]

⑥ Functional Area: Evaluation

Operational Task 1: Provide tools and evaluation instruments

Competencies 1: Data analysis skills

Operational Task 2: Monitor program successes/problems

Competencies 2: Data analysis skills

Operational Task 3: Develop multiple evaluation methods

Competencies 3: Evaluation skills; Knowledge of general education theory

The text box below is available to provide your additions, corrections, and/or comments.

> [text box]

Prev   Next

4 / 4

7 Functional Area: Graphic Design

Operational Task 1: Design attractive, clear layouts

Competencies 1: Text layout skills; graphic design skills

Operational Task 2: Ensure materials facilitate learning

Competencies 2: Knowledge of general education theory

The text box below is available to provide your additions, corrections, and/or comments.

8 **Functional Area: Web Publishing**

Operational Task 1: Assist instructor in developing web-based documents

Competencies 1: HTML authoring skills; graphic design skills; media attributes knowledge

Operational Task 2: Participate in decision making process for distance learning environments

Competencies 2: Change agent skills

The text box below is available to provide your additions, corrections, and/or comments.

You have reached the end of the survey! Thank you again. The survey data collected from participating experts will be analyzed. The results will be presented to you anonymously as survey #2 so you can rank each item on a scale ranging from 0 to 5. Space will be provided again for commenting.

Prev   Done

Appendix H: Round Two Introduction Letter

NOVA SOUTHEASTERN UNIVERSITY
College of Engineering and Computing

3301 College Avenue • Fort Lauderdale, Florida 33314-7796
(954) 262-2000 • 800-541-6682, ext. 2000 • Fax: (954) 262-3915 • Web site: *www.cec.nova.edu*

Dear Research Participant,

Thank you again for your anonymous participation. This ***final* survey** was compiled using your comments/suggestions from the previous survey and distant/online education program administration literature of functional areas, operational tasks, and competencies. Per your comments/suggestions, I've added a faculty development functional area along with three operational tasks for you to rate and added "online learning" to instructor/facilitator to differentiate the learning environment. Also, I've added or revised competencies you suggested.

I'm now asking that you ***rate*** the importance of operational tasks associated with administering online education and ***rate*** the competencies you believe are critical for the administrator's role in overseeing online education.

Survey Link: https://www.surveymonkey.com/r/OEArating   **This link will be available until Oct 26, 2016 (Wednesday) at 11:59 a.m.**

If you have questions about the survey, need technical support, or about the research in general, please let me know so I can assist you.

Kind Regards,
Dede
(404) 368-2347

Fanniel "Dede" deMarks
Doctoral Candidate
Nova Southeastern University
College of Engineering & Computing
Department of Information Systems
Home: 461 Bear Cub Path
Social Circle, GA 30025
Direct: (404) 368-2347

Appendix I: Round Two Part I - Operational Tasks

Greetings Expert Panel of Online Education Administrators!

Thank you again for your anonymous participation. This *final* survey was compiled using your comments/suggestions from the previous survey, including your comments/suggestions. Per your comments/suggestions, I've added a faculty development functional area along with three operational tasks for you to rate and added "online learning" to instructor/facilitator to differentiate the learning environment. Also, I've added or revised competencies you suggested.

<u>Based on your expertise in the field, I ask that you now review each operational task (PART I) and competencies (PART II) and rate how important you believe these items are to effective program administration using the scale provided for each item.</u> Because some of the items in this survey may not be used at your institution or exist under different functional titles, please rate those items from a global perspective.

A general demographic information (anonymous) and comment box are provided at the end the survey. Note: Upon completion of the panel's input, I will provide you the results of the survey for final input.

PART I - Rate <u>how important</u> you believe each operational task is to administering online education.

Functional Area: Instructional Design/Development

1. Develop /revise curriculum for distance learning platform

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

2. Choose appropriate learning technology/best practices to meet needs of students and curriculum

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

3. Manage the course development process

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

4. Collaborate with media specialists and graphic designers to create interface design

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Faculty Development

5. Advise faculty how to prepare curriculum for distant learning platforms

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

6. Mentor new online faculty

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

7. Integrate online learning into ongoing professional development programs

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Online Learning Instruction/Facilitation

8. Teach distance learning students

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

9. Initiate and maintain interactive discussions

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

10. Advise and counsel students

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Administration

11. Supervise distant learning staff and operations

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

12. Coordinate the review of subject matter experts to ensure training content is relevant

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

13. Explore and develop new online offerings through collaborating with faculty

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

14. Contribute to distant learning policies/standard development & decision-making process

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

15. Oversee the materials, resources, electronic postings, and policies related to online course platforms

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Support Services

16. Assist students with overcoming barriers in online learning

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

17. Address issues with student learning systems using technical-know how

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

18. Provide online tutorial services and online learning orientation program

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Technical

19. Develop technology training for pre-registration

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

20. Manage other related technology tasks in addition to those associated with instructional design/technology

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Evaluation

21. Monitor program successes/problems

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

22. Develop flexible gradebook tools to fit grading style

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

23. Develop multiple evaluation methods/instruments

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Graphic Design

24. Apply multimedia design principles that maximize learning outcomes

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

25. Design attractive, clear layouts that are easy to follow

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

26. Manage design projects

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

Functional Area: Web Development

27. Perform fundamentals of web page authoring and design

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

28. Monitors website for consistency, cross-referencing, and compliance

1. not important	2. slightly important	3. important	4. very important
☆	☆	☆	☆

29. (OPTIONAL) Please provide comments/suggestions/thoughts

Appendix J: Round Two Part II - Competencies and Demographics

Part II: Rate <u>how critical</u> you believe each competency is to the administrator's role in overseeing online education.

Having reviewed some functional areas and associated operational tasks and competencies related to administering online education, following is a general list of competencies for distance education professionals arranged in alphabetical order and in sets of 10. Competencies are skills or knowledge that enables individuals to maximize their performance of tasks. Therefore, the same competency may be important for more than one operational task and functional area.

Based on the following rating scale from 1 to 4, please indicate which**<u>competencies you believe are critical </u>**to administrators' role in overseeing online education. At end of this section is an optional comment box so you can list other critical competencies not listed.

1 = Not Critical to Administrator's Role
2 = Slightly Critical to Administrator's Role
3 = Critical to Administrator's Role
4 = Very Critical to Administrator's Role

30. **Criticality Rating of 10 Competencies (Set 1 of 5)**

	1	2	3	4
Adult Learning Theory Knowledge	○	○	○	○
Basic Technology Knowledge	○	○	○	○
Budgeting Skills	○	○	○	○
Career/Academic Advising Skills	○	○	○	○
Change Agent Skills	○	○	○	○
Coaching Skills	○	○	○	○
Collaborative/Teamwork Skills	○	○	○	○
Communication Skills	○	○	○	○
Computer Hardware Knowledge	○	○	○	○
Content Knowledge	○	○	○	○

1 = Not Critical to Administrator's Role
2 = Slightly Critical to Administrator's Role
3 = Critical to Administrator's Role
4 = Very Critical to Administrator's Role

31. **Criticality Rating of 10 Competencies (Set 2 of 5)**

	1	2	3	4
Data Analysis Skills	○	○	○	○
Designing Online Lessons Skills	○	○	○	○
Editing Skills	○	○	○	○
Engineering Skills	○	○	○	○
English Proficiency	○	○	○	○
Evaluation Skills	○	○	○	○
Facilitation Skills	○	○	○	○
Communication Skills	○	○	○	○
General Education Theory Knowledge	○	○	○	○
Graphic Design Skills	○	○	○	○

32. **Criticality Rating of 10 Competencies (Set 3 of 5)**

	1	2	3	4
Group Process Skills	◯	◯	◯	◯
Instructional Design Skills	◯	◯	◯	◯
Instructional Design for Interactive Technologies	◯	◯	◯	◯
Interpersonal Communication Skills	◯	◯	◯	◯
Knowledge of Distance Learning Field	◯	◯	◯	◯
Knowledge of Support Services	◯	◯	◯	◯
Knowledge of Learning Management Systems	◯	◯	◯	◯
Knowledge of Online Pedagogy Teaching	◯	◯	◯	◯
Multimedia Knowledge	◯	◯	◯	◯
Marketing Skills	◯	◯	◯	◯

1 = Not Critical to Administrator's Role
2 = Slightly Critical to Administrator's Role
3 = Critical to Administrator's Role
4 = Very Critical to Administrator's Role

33. Criticality Rating of 10 Competencies (Set 4 of 5)

	1	2	3	4
Needs Assessment Skills	○	○	○	○
Online Teaching Skills	○	○	○	○
Organization Skills	○	○	○	○
Planning Skills	○	○	○	○
Policy-Making Skills	○	○	○	○
Presentation Skills	○	○	○	○
Project Management Skills	○	○	○	○
Public Relations Skills	○	○	○	○
Researching Skills	○	○	○	○
Questioning Skills	○	○	○	○

1 = Not Critical to Administrator's Role
2 = Slightly Critical to Administrator's Role
3 = Critical to Administrator's Role
4 = Very Critical to Administrator's Role

34. Criticality Rating of 10 Competencies (Set 5 of 5)

	1	2	3	4
Strategic Planning Skills	○	○	○	○
Online Teaching Skills	○	○	○	○
Technology Access Knowledge	○	○	○	○
Text Layout Skills	○	○	○	○
Training Skills for Technology	○	○	○	○
Video Conferencing Skills	○	○	○	○
Writing Skills	○	○	○	○
Other? (please specify in comment box below)	○	○	○	○

35. List other competencies critical to Administrators and label as "critical" or "very critical". Also use this text box for comments.

DEMOGRAPHICS

36. What type of Learning Management System does your Institution PRIMARILY use?

○ Blackboard

○ Canvas Instructure

○ D2l (Desire2Learn)

○ Moodle

○ Pearson eCollege Learning Sudio

○ Sakai

Other (please specify)

37. In which region of the United States is your Institution's 'Main Campus'?

○ 1. New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut)

○ 2. Middle Atlantic (New York, New Jersey, Pennsylvania)

○ 3. East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin)

○ 4. West North Central (Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas)

○ 5. South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida)

○ 6. East South Central (Kentucky, Tennessee, Alabama, Mississippi)

○ 7. West South Central (Arkansas, Louisiana, Oklahoma, Texas)

○ 8. Mountain (Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada)

○ 9. Pacific (Washington, Oregon, California, Alaska, Hawaii)

38. What type of institution?

○ 2-year community College

○ 4-year College or University

39. About how long have you been in your current position?

Years

40. What is the highest level of education earned and advanced degree you are pursuing, if applicable?

Education Earned

Degree you are pursuing

THANK YOU FOR COMPLETING THE *FINAL* SURVEY!

Now I will conduct a statistical analysis of the results and provide the top operational tasks you believe most important for administering online education and the top critical competencies you believe are necessary for administrators overseeing online education. You can also use this time to provide final input and/or changes.

Please select **DONE** below to close the survey

Appendix K: Round Three Results Report

NOVA SOUTHEASTERN UNIVERSITY
College of Engineering and Computing

3301 College Avenue • Fort Lauderdale, Florida 33314-7796
(954) 262-2000 • 800-541-6682, ext. 2000 • Fax: (954) 262-3915 • Web site: *www.cec.nova.edu*

Dear Research Participant,

Thank you again for your anonymous participation as an expert panel! Below is the "results" of the study for your review. If you would like to provide comments and/or thoughts, please do so at the link provided.

https://www.surveymonkey.com/r/OEA-SurveyRESULTS   **The link will be available through next Monday. Dec. 5.**

FUNCTIONAL AREAS (AREAS OF RESPONSIBILITY) FOR ONLINE EDUCATION ADMINISTRATORS

9 functional areas agreed by 100% of panel

1. instructional design/development
2. faculty development
3. instruction/facilitation
4. administration
5. support services
6. technical
7. evaluation
8. graphic design
9. web development

OPERATIONAL TASKS FOR ONLINE EDUCATION ADMINISTRATORS

Top 12 Operational Tasks out of 28:

(Tasks 1 thru 5 agreed by 100% of panel)

1. Develop/revise curriculum for distance learning platform
2. Supervise distant learning staff and operations
3. Contribute to distant learning policies/standard development & decision-making process
4. *****Develop technology training for pre-registration
5. Monitor program successes/problems

(Tasks 6 thru 12 agreed by 80% of panel)

6. Choose appropriate learning technology/best practices to meet needs of students and curriculum
7. Mentor new online faculty
8. Explore and develop new online offerings through collaborating with faculty
9. *Provide online tutorial services and online learning orientation program
10. *Develop flexible gradebook tools to fit grading style
11. Develop multiple evaluation methods/instruments
12. Manage the course development process
* tasks provided by panel members during Round One

COMPETENCIES FOR ONLINE EDUCATION ADMINISTRATORS
Top 14 Competencies out of 46

(Competencies 1 thru 10 agreed by 100% panel)

presented below in alpha order
1. Budgeting Skills
2. Collaborative/Teamwork Skills
3. General Communication Skills
4. Interpersonal Communication Skills
5. Organization Skills
6. Planning Skills
7. Policy-making Skills
8. Presentation Skills
9. Project Management Skills
10. Strategic Planning Skills

(Competencies 11 thru 14 have been submitted by panel member as "very critical" – highest rating 4 and agreed by 100% panel)

11. *Detail-oriented, yet able to multi-task
12. *Handle confidential information
13. *Legal knowledge associated with administering online education programs
14. *Critical thinking skills
* provided by panel member during last Round (#2)

Note: the following competencies was agreed by 80% of panel members as also a necessity for administrators.
• Change Agent Skills
• Data Analysis Skills
• Knowledge of Distance Learning Field
• Knowledge of Support Services
• Public Relations Skills

If you would like to review the entire research report, please send your request to me, F. (Dede) deMarks, via email: fd216@nova.edu

Kind Regards,
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Appendix L: Round Three – Consensus Survey

Round 3: The Results

Thank you again for your participation! You've been an outstanding panel and expert resource on the subject matter.

Having reviewed the "results" of the top operational tasks and competencies of Online Education Administrators, please use the comment box below to report any changes, including the new competencies provided by a panel member as very critical (highest rating 4). However, if you accept the "results" as-is, then no feedback is required.

If you would like to review the entire research report, please send your request to me, F. (Dede) deMarks, via email: fd216@nova.edu

1. Comments on Research Results

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