

ABSTRACT

Title of Dissertation: A CASE STUDY OF INSTRUCTIONAL
SUPPORT AND EDUCATIONAL
TECHNOLOGY SERVICES AT THE
UNIFORMED SERVICES UNIVERSITY OF THE
HEALTH SCIENCES (USUHS)

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This case study traces the evolution of the Education & Technology Innovation Support Office (ETI) at the Uniformed Services University of the Health Sciences (USUHS). It probes the knowledge and experiences of the leadership and faculty, who use the ETI services. Through discussions with the USUHS leadership and faculty, this study opened up a greater understanding of the development and adoption of the USUHS ETI, addressing the question: “How is the work of the Education & Technology Innovation Support Office (ETI) perceived by the USUHS leadership and faculty members?”

Through interviews conducted with USUHS leadership and faculty members, the major findings were as follows. The chronology of the partnership development between the faculty members and the ETI team was comprised of several major elements. This chronology starts with unbundling as the project begins and the faculty member considers his or her multiple roles as an academician as well as how ETI members can support him or her. As the ETI/faculty member partnership grows, shepherding characterizes the mentoring relationship whereby the ETI staff members guide the faculty through necessary

instructional design and development stages. Once a strong trust and partnership have been forged, bridging occurs as the ETI continues to support faculty members as they cross into and integrate with new areas, expanding their understanding of instructional design methodology and helping them improve their overall teaching. The study also highlighted two other key findings: that innovation is different for each faculty member, depending on his or her experiences, and that development of a relationship between instructional designers, technical support teams and the faculty member they support is critical for success.

USUHS administrators could use this research to enhance their current practices but, more importantly, the research may aid in the operations of the ETI and other faculty support offices. It can help leadership, faculty, and support center staff integrate and provide instructional and educational technology support more skillfully. It can also influence the broader ways in which faculty support is conceptualized, planned, supported, implemented, and evaluated.

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TECHNOLOGY SERVICES AT THE UNIFORMED SERVICES UNIVERSITY OF
THE HEALTH SCIENCES (USUHS)

by

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DEDICATION

I lovingly dedicate this dissertation in memory of my grandparents,

Eva Furer

Anczel Furer

Anna Kurzweil

each of whom inspired me through their strength, enduring belief in me, and boundless love for our family.

I also dedicate this dissertation to my family,

Judith and Sheldon

Sean

Gale, Jonathan, Elana, Adam and Noah

for their support, encouragement, and constant love that have sustained me throughout my many journeys.

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CHAPTER ONE: INTRODUCTION

Background for the Study

Teaching has been chronically under-valued at postsecondary institutions despite numerous initiatives to provoke change (Knapper, 1997; Kreber, 2002; Louis, 2010; Martin & Ramsden, 2000). After all, many university faculty members choose to pursue an academic career path not because they yearn to teach, but because of their expertise in a particular subject and their desire to continue researching that subject (Evans & Tress, 2009; Kemp & O'Keefe, 2003; O'Sullivan, Niehaus, Lockspeiser & Irby, 2009).

Discipline-specific knowledge is a central focus, as well as the main criterion, for faculty advancement at many institutions (Boyer, 1990; Serow, 2000). A unique contribution to a body of knowledge is usually required for tenure or promotion, and, in research-intensive institutions, achieving distinction in the field is expected (Gaff & Simpson, 1994; Serow, 2000).

Academic institutions, however, are also responsible for educating learners, and so it is imperative that a research-focus does not lead to institutional myopia. The work of Ernest Boyer and the Carnegie Foundation for the Advancement of Teaching (1987, 1990) found that teaching is undervalued on college campuses. Boyer called for teaching to be recognized as part of the tenure process, as well as for aggressive support to be given to teaching at research universities and graduate schools. A consideration of teaching support leads to questions of how professors learn to teach. How should teaching knowledge be shared? How do faculty members secure and maintain an understanding of pedagogy/andragogy as well as knowledge in the uses of educational technology?

Mastery of instructional, curricular, and educational technology skills is more than technique; it involves understanding that their successful implementation is more complex than “knowledge transmission” by the faculty or “knowledge acquisition” by learners. Rather, effective teaching can be conceptualized as a conversation that changes as those who participate are changed by it (Ball, 2000; Pinar, 2002; Pinar, Reynolds, Slattery, & Taubman, 2004). Pinar et al. (2004) go on to suggest that the curriculum is a “highly symbolic concept” (p. 847), and that faculty and learner understanding of both the technical as well as the theoretical “lived space” of their conversation is part of the educational journey.

Teaching/learning conversations are subject to tension (Dewey, 1897/1974) if instruction, curriculum, and/or educational technology are not strategically employed by the faculty. How academic institutions deal with such tension, that is, how they develop and support faculty members’ strategic use of instruction, curriculum, and educational technology, impacts both teaching and learning. Despite this, at many universities, the School of Education is one of the few areas in which mastery of instructional, curricular, and educational technology skills is integral to the ongoing professional development of faculty (Ball, 2000). Kemp and O’Keefe (2003) believe faculty members want to improve their teaching and the implementation of educational technology but “presence of a will does not necessarily mean the presence of a way” (p. 112). Kemp and O’Keefe (2003) go on to say, “The task of an institution must be to reinforce the will by providing the way” (p. 112). In order to support strategic use of instruction, curriculum, and educational technology beyond Schools of Education, many universities have developed faculty

support centers (Kemp & O’Keefe, 2003; Souza, Kamin, O’Sullivan, Moses & Heestand, 2008) to reinforce the will and provide the way for the faculty.

In recognition of the need for academic institutions to provide support for instruction, curriculum, and education technology, many accreditation bodies, such as The Commission on Collegiate Nursing Education (CCNE), the Higher Learning Commission, and the Middle States Commission of Higher Education, require specific documentation of this support during the accreditation review process (CCNE, 2009; Middle States Commission of Higher Education, 2009; Higher Learning Commission, 2003).

While accreditation bodies have acknowledged the need for instruction and technology support in colleges and universities, there is limited research on the development and adoption of such endeavors, and different types of higher education institutions make use of instructional support centers in different ways. This study contributes to the research on instructional and technological support centers and offices by tracing the evolution of one specific center, the Education & Technology Innovation Support Office (ETI) at the Uniformed Services University of the Health Sciences (USUHS), and by exploring the barriers and levers to that center’s success.

The History of Faculty Support Centers

Many authors have discussed the history of supporting faculty members in their instructional techniques and use of educational technology (Bonk, 2001; Gaff & Simpson, 1994; Hannifan, 1992; Jones & Moller, 2002; Lee, 2001; Sorcinelli, Austin, Eddy, & Beach, 2006). Historically, faculty support (support provided to the faculty) is divided into two frameworks: support for faculty members who teach learners face-to-

face, and “distributed faculty support,” for faculty members who teach learners at a distance including but not limited using technology and blended forms of distributed learning. Various forms of faculty support centers have been in existence since the 1840s, when distributed learning (known at the time as correspondence courses) took root in learning institutions (Rossen, 2006; Simonson, Schlosser, & Hanson, 1999). The development of the postal service in the 19th century led to the growth of commercial correspondence colleges and universities with nationwide reach. The University of London was the first university to offer distance-learning degrees, establishing its External Programme in 1858.

Support for faculty members engaged in face-to-face instruction began to emerge on university campuses during the social and economic turbulence of the late 1950s and 1960s (Bergquist & Phillips, 1975; Sorcinelli, Austin, Eddy & Beach, 2006). By the 1970s, protests by learners against irrelevant courses and uninspired teaching drew attention to college instructional leadership and the need for improvement (Gaff & Simpson, 1994). A growing body of research on effective teaching and learning (Anderson & Carta-Falsa, 2002; Darling-Hammond, 2005; Gage, 1989; Seidel & Shavelson, 2007; Spitzer, 1976) reflect what practitioners and those in the Department of Education have known for decades: Teaching is a complex activity, and learning how to teach is important for the success of both learners and faculty (Angelo & Cross, 1993; Dick & Carey, 1990; Shulman, 1986, 1999; Sorcinelli, Austin, Eddy & Beach, 2006).

As early as the 1960s, according to Mehrotra, Hollister, and McGahey (2001), distributed education started to move away from pen and paper correspondence courses as media and technology (i.e., television, video conferencing, desktop and personal

computing devices) became sufficiently stable and cost effective to integrate into the classroom. The 1980s saw the development of formal “institutional faculty developers.” This heralded a dramatic shift in the 1990s to a focus on student learning, including such paradigms as “active learning,” defined by Prince (2004) as any instructional method that engages students in the learning process, and “inquiry-based learning,” defined by Oliver (2008) as learning that uses a problem or task as a catalyst for student engagement. Oliver goes on to note that inherent in both of these models of learning is a deliberate strategy that encourages and requires learners to engage in higher-order thinking and cognition – that is, abstract, critical analysis or evaluative thinking at higher levels of Bloom's Taxonomy (Hopson, Simms, & Knezek, 2001, 2002). Supporting new teaching paradigms while implementing them in distributed classrooms (including blended teaching environments) whose numbers are growing exponentially, and whose participants are increasingly diverse, is the challenge of faculty developers. As Mehrotra et al. (2001) point out, many scholars believe that personal computing devices and the Internet have radically changed the face of education, including how students learn and how faculty teach, and will continue to do so.

The combined push during the last decade for both educational technology and instructional support for faculty members has led to the convergence of face-to-face (residence) and distributed faculty support models, and the development of what is now known as faculty support centers. Many faculty support centers are now conceptualized to combine several support features, such as curriculum, technology, and evaluation, in one place (Kamin et al., 2008; Lovett, 1984; Schuster & Wheeler, 1990). Although some organizations focus only on technology integration and support for teaching, I use the

terms of Faculty Support Center and Education & Technology Innovation Support Office (ETI) generically, to describe organizations that provide both instructional and educational technology support to the faculty at institutions of higher learning for implementation into teaching.

Instructional Designers

Data gathered by Sorcinelli et al. (2006) indicate that there is a growing faculty body in institutional settings who may have not followed the traditional faculty career pathways, but who bring to the university environment specific expertise from the field of education, such as educational technology and instructional design. These individuals, often titled instructional designers, focus on how to maximize the effectiveness, efficiency, and appeal of instruction and learning experiences (Hannafin, 1992; Roytek, 2010).

Campbell, Schwier, and Kenny (2009) state that instructional designers work directly with faculty and other clients to help them think more critically about a range of issues related to instruction, including the needs of diverse learners, curriculum, access, social and cultural implications of the use of information technologies, alternative learning environments, and related policy development. Campbell and Schwier (2009) also suggest that “Clients working with instructional designers in instructional development projects are actually engaging, as learners, in a process of professional and personal transformation that has the potential to transform the participants and the institution” (p. 646).

The field of instructional design can be traced back to the late 1950s and early 1960s, but one did not refer to oneself as an instructional designer. Rather, those who

worked in this field were typically called educational psychologists, media specialists, or training specialists (Glover & Ronning, 1982). The 1970s highlighted the creation of the Systems Approach to Instructional Design. One of the best-known models, the Instructional Systems Development Model, was published by Dick and Carey (1978, 1985). The Dick and Carey approach was developed as a practical approach for novice instructional designers (Dick, 1978). Dick explains that technology, media, and research all impact the field of instructional design, and that consequently the instructional designer of the 1960s is very different from his or her modern counterparts in academic background, training, research, and tools (Glover & Ronning, 1987).

An instructional designer knows the research that supports the determination of the best instructional conditions or methods to deliver learning outcomes. He or she develops instructional strategies that are tailored to the learning objectives and the needs of the learners. The instructional designer is usually well versed in the uses of a variety of interactive media, models, and theories and is considered an expert in finding the right technology to support sound pedagogy.

Learners

Finally, and arguably most important, learners must be considered in order to understand the evolution of faculty support centers—and indeed of higher education as a whole. Considering the experiences, tools and skills that learners bring to the classroom improves the success of any teaching practice. Participants (the faculty or learners) who are not prepared for teaching can have a negative impact on other learners and on the instructor (Fink, 2002). Additionally, learners increasingly anticipate that universities will offer educational technology services. Student expectations, attitudes, and sensitivities

vary alongside changing technology, and so learners can be described in terms of various “generations,” each of which grew up with different technologies (Howe & Strauss, 2000; Oblinger, 2003; Tapscott, 1998). The primary groups are labeled Baby Boomers (born 1946-1964), Generation X (born 1965-1980), and Generation Y, also known as the Millennial Generation (born 1981-2001). The current term for those born after 2001 is the New Silent Generation, or Generation Z. Each generation/group is different in terms of its members’ abilities to adopt new ideas. For example, although Generation X and Generation Y learners are accustomed to technology-enhanced learning environments, Baby Boomers, who make up the majority of senior faculty members (Bickel & Brown, 2005) have less experience working in a technologically-enhanced learning environment. Therefore, the need to develop centralized university support for faculty use of instructional and educational technology is crucial to bridge inter-generational knowledge and skill gaps, with the ultimate goal of optimizing learning. While the need for such support is clear, offering effective support for meaningful use of instruction and educational technology in higher education is not a simple task. Most universities struggle with types of services, staff, integration and maintenance of services over the long term (Dede, 2005; Oblinger, 2003; Sorcinelli et al., 2006). The university context for this study is a very specialized curriculum that is military driven.

The Uniformed Services University of the Health Sciences’ Education & Technology Innovation Support Office

USUHS is the nation's federal health sciences university. Chartered by an act of Congress on September 21, 1972, USUHS is part of the U.S. Department of Defense, and is charged with providing the nation with health professionals (medical, nursing,

preventative medicine, etc.) dedicated to career service in the Department of Defense and the United States Public Health Service, and with scientists who serve the common good (Uniformed Services University, 2008). USUHS Curriculum Reform documentation (Uniformed Services University of the Health Sciences, n.d.) describes one of the focuses of the unique curriculum as to establish officers (medical and nursing) proficient in both clinical and operational military medicine. In many respects the clinical aspect of the USUHS curriculum is focused on traditional medical and nursing objectives while the operational practice of the curriculum is quite unique. The program includes courses in basic medical science and military-unique training. Learners attend school year round and receive an additional 500 hours of preparation compared to their civilian counterparts. Topics such as trauma and emergency medicine, infectious disease and parasitology, the humanities and behavioral science, and the principles of leadership and teamwork are the focus of the enhanced curriculum. Military medical practice represents the core of the operational military medicine component of the curriculum. It aims to develop those skills, knowledge, and attitudes that are not strictly medical in nature, but focus on the systems, populations, and leadership skills inherent to a successful career in military medicine. Topics covered include (but are not limited to) professionalism, combat medical skills, military unique medicine, medical intelligence, health service support, medical planning and logistics, the military decision making process, and stability operations.

Uniformed physicians and nurses must be able to practice medicine skillfully under difficult and often extraordinary conditions. Several unique measures are in place at USUHS to help meet the challenges of such a unique military medicine curriculum.

Lessons taking place on historic battlefields, starting IVs in mock warzones and triaging patients in the midst of a simulated mass casualty are part of the curriculum at USUHS. These innovative learning experiences are integrated into the curriculum beginning in the first academic year and continue throughout all four years (Uniformed Services University of the Health Sciences, n.d.).

It was not until 2006 that USUHS began to recognize a need for a centralized faculty support office. Two independent reports (Report of the *ad hoc* Committee on Academic Informatics and Computer Support, November 11, 2006, and Uniformed Services University of the Health Sciences Educational Technology Assessment, August 2006) highlighted the need for an instructional and educational technology support center or office. The reports gave the university administration evidence of the complex combination of factors affecting instructional and educational technology at the university. Many of the university's policymakers and leaders were interviewed for a needs assessment study, and their inclusion in the process helped them to understand the negative impact caused by the lack of support for instructional and educational technology. The decision was made to develop a support office, and the Education & Technology Innovation Support Office (ETI) became operational in 2006.

ETI's mission has a unique focus of partnership between the faculty and support staff. The support office's mission statement is the following:

The staff partners with USUHS faculty to incorporate innovative technologies and instructional techniques into courses in ways that advance course learning objectives. Instructional design and educational technology specialists at the ETI help faculty identify appropriate and effective ways to engage learners in courses and enable learners to take an active role in learning. (Uniformed Services University, 2008, para.1)

The dual emphasis of a faculty/support staff partnership and learner engagement presents a foundation upon which the current study attempts to build a multi-perspectival understanding of the ETI's mechanics and success. This understanding can then inform both current and future centers of support.

Due to the relative newness of this field, there is limited research on the development and adoption of faculty support centers. I used a case study methodology to examine how university leadership worked to develop a support office called the ETI at the USUHS, as well as to focus on the experiences of multiple leadership and faculty who have participated in this process of integration and change.

An Overview of the Study

This study seeks to explain the evolution of one specific support office: The Education & Technology Innovation Support Office at the Uniformed Services University of the Health Sciences (USUHS). It probes the knowledge and experiences of the ETI team as well as the faculty who use its services.

Purpose of the Study

The purpose of this study is to gain an in-depth understanding of the development and adoption of the USUHS Education & Technology Innovation Support Office (ETI). While there is research on faculty development, there is limited research on the support of faculty development through faculty support centers, and there are few studies that explain the complex process of creating such a center. This study helps to fill that gap.

This study has implications for support facilities in higher education, in general, and specifically to other higher education institutions that have a similar focus to USUHS. It provides insight into the instructional and educational technology support

offered to faculty members through support centers. The findings from this study offer valuable feedback to the USUHS program administrators for development and improvement of the support office and its staff, and continued integration of ETI and faculty teaching.

More importantly, however, this research may also aid in the operations of other support centers. This specific and detailed profile can help leadership, faculty, and support center staff at other universities to integrate and provide instructional and educational technology support more skillfully. It can also influence the broader ways in which faculty support is conceptualized, planned, supported, implemented, and evaluated.

Research Questions

The overarching research question for this study is: **How is the work of the Education & Technology Innovation Support Office (ETI) perceived by its leadership and faculty?** Sub-questions addressed are the following:

1. How and why was the ETI developed?
2. What has been the institution's context and commitment to the ETI over time?
3. What factors facilitated and hindered the development of ETI?
4. What are the characteristics of key roles played by those involved in the ETI's development?
5. What contextual factors support or constrain the ongoing work of the ETI?
6. In what ways has the ETI been most helpful to the faculty and leadership of the University?

These questions are intended to open up the complicated relationships between instructional and educational technology staff, university leadership, and the faculty, as a means to obtaining insight into the development, adoption, and functioning of the center.

Existing Research on Faculty Support Centers

A review of the relevant literature on instructional and educational technology support centers reveals a scarcity of well-documented research on how centers evolve, the membership and identity of those who work in them, and effective practices for developing such support centers. This study seeks to address that deficiency.

Many faculty support centers combine several support features, such as curriculum, faculty development, technology, and evaluation, in one place (Kamin et al. 2008; Lovett, 1984; Schuster & Wheeler, 1990). Sorcinelli, Austin, Eddy and Beach (2006) identify eight current issues believed to be the most important offerings by faculty support centers/developers. They are, in order of importance: “teaching for student centered learning, new faculty development, integrating technology into traditional teaching and learning settings, active inquiry based or problem-based learning, assessment of student learning outcomes, multiculturalism and diversity related to teaching, scholarship of teaching, and writing across the curriculum” (p. 72).

The integrated use of technology, the internet and the ubiquitous nature of networked computers, have transformed educational technologies from esoteric legacy applications used by a few pioneering faculty to mainstream applications integral to the medical school educational enterprise (AAMC, 2007). The adoption of appropriate technologies, as well as individualized, strategic integration of technology and instruction, is the charge of the ETI faculty support system.

What is Appropriate Support

The idea of appropriate support is the focus of the scant literature that exists on instructional and educational technology support centers. Souza, Kamin, O'Sullivan, Moses and Heestand (2008) provide an excellent examination of the organizational structure of educational technology support units within U.S. and Canadian medical schools. While much of their discussion identifies organization models that support educational technology, based on a survey of 88 schools, they also describe and discuss the key attributes, strengths, and challenges associated with the models of instructional and educational technology support. Shulman (1999) provides several illustrations of organizational entities that support, preserve, and enhance the scholarly work of teaching and learning on campuses. Shulman's is one of several studies confirming that where an institution does not provide appropriate specialized technical support, the adoption and integration of support centers by faculty is severely hindered (Bonk 2001; Chizmar & Williams 2001; Jones & Moller 2002; Lee 2001). Moreover, failure by an institution to establish and implement effective strategic plans for educational technology may further hinder adoption and integration of instructional and educational technology support centers (McLean, 2005).

The research related to the phenomenon of educational support centers is that of instructional innovation in the postsecondary setting, and it sets the stage for the research presented in this study. There is, however, the need to step back further still, to consider the broader parameters in which all of this research occurs. It is important to explicate the theoretical or conceptual framework of this research, in order to prepare and present data effectively, and to address appropriate educational issues more precisely and efficiently.

Additionally, in revealing elements of the conceptual framework, boundaries are defined, facilitating a critical reading of the present research by introducing assumptions and limitations. A separate section is dedicated to this purpose.

Overcoming Barriers to Integrating Support

Another critical element in the evolution of an instructional and educational faculty support center is the inherent shift in how teaching is recognized, valued, and rewarded (Surry, Ensminger & Haab, 2005). This shift is evidenced by an institution's commitment to overcome the barriers of high cost and resources (Chizmar & Williams, 2001) likely to be encountered in developing a center. Lee (2001) indicates that when faculty members are provided with sound support, a clear indication that teaching is valued, they use and embrace sound instructional practices and educational technology at higher rates. Other investigations of factors that influence academics' adoption and integration of educational technology, as well as factors that support their use of support centers, inform my research. For example, interviews by Ebersole and Vorndam (2004) with faculty leaders reveal that time, resources, and lack of confidence in the benefits of educational technology, were the leading barriers to adoption of educational technology for this stakeholder group.

The importance of considering the perspectives of multiple leadership and faculty is underlined in studies by Betts (1998) and Schifter (2002). In consulting the faculty and deans in postsecondary institutions, Betts (1998) found significant differences between each group's perceptions of factors inhibiting faculty participation in distance education. The data indicate that factors such as insufficient release time, lack of institutional technical support, scant funding for materials/expenses, and concern about excess

workload have a greater inhibiting effect on faculty participation than the deans had perceived. In Schifter's 2002 study, administrators consider financial support and release time issues to be most important to faculty, while faculty members themselves note more intrinsic motivators, such as intellectual challenge. Schifter (2002) states that "Overall, the administrators in this study did not appear to truly understand what would motivate faculty who do participate in distance education" (para. 30).

Maguire (2005) shows that enablers of solid faculty support centers include the provision of organizational and administrative support, professional development and training, peer support, mentoring, and the presence of technology champions. He also reveals that institutional inhibitors include lack of time and impact on faculty workloads, lack of incentives and recognition, technological and resource limitations, lack of technical and instructional support, lack of formal institutional plans, policies and processes, and concerns about security issues. The failure of institutions to overcome a combination of barriers not only reduces the willingness or ability of the faculty to embrace educational and instructional technologies, but also suggests that optimizing instructional practice, valuing teaching, is not a priority. This, in turn, becomes another barrier to adopting innovation.

Conceptual Framework Elements

Having introduced the topic and presented an overview of the related research, this section addresses the conceptual elements that frame this study. Eisenhart (1991) describes a conceptual framework as "a skeletal structure of *justification*, rather than a skeletal structure of *explanation*" (p. 210). It is "an argument including different points of view and culminating in a series of reasons for adopting some points . . . and not others"

(p. 210). This section describes some of the relevant conceptual elements, and provides an argument that these concepts, as well as any anticipated relationships among them, are appropriate and useful given the research question under investigation. Eisenhart (1991) argues that conceptual frameworks are not constructed of steel theoretical propositions or practical experiences; instead, they are like scaffoldings of wooden planks that take the form of arguments about what is relevant to study and why, at a particular point in time. As changes occur in the state-of-knowledge, the patterns of available empirical evidence, and the needs with regard to a research question, the conceptual frameworks will be taken down and reassembled. Furthermore, conceptual frameworks accommodate both outsiders' and insiders' views.

In order to appreciate the existing state of affairs at USUHS, as well as to look beyond a single campus toward the needs of other universities in relation to instructional and educational technology support centers, multiple conceptual framework elements are necessary. Berquest and Phillips (1975) suggest that in order for faculty support to be effective it must become an interactive process along three dimensions: instructional, organizational, and personal. More recently, the Commission on Institutions of Higher Education (2007) defined “Best Practices” for online higher education programs. These have been developed by the regional accrediting commissions in response to the emergence of technologically mediated instruction offered at a distance as an important component of higher education. The Commission on Institutions of Higher Education (2007) states:

Best Practices, however, are not new evaluative criteria. Rather they explicate how the well-established essentials of institutional quality found in regional accreditation standards are applicable to the emergent forms of learning; much of

the detail of their content would find application in any learning environment. (p. 1)

Since the “Best Practices” are grounded in well-established essential indicators of quality education, they equally are applicable to faculty support centers. In the case of ETI, the following indicators are particularly relevant: Institutional Context and Commitment; Curriculum and Instruction; and Faculty Support¹. These conceptual elements, together with the element of innovation, are reviewed in the following sections, and elaborated in Chapter Two.

Institutional Context and Commitment

Institutional context and commitment are the grounding elements for any faculty support center. Though much of the language focuses on students, the same recommendations are required for faculty as they carry over in responsibility, though not explicitly stated many times in the report. According to the Commission on Institutions of Higher Education Best Practices Report (2007), institutional context and commitment are evident at every level of the institution, including the organizational, leadership, and teaching levels. At the organizational level, institutional context and commitment are evident when there is development and maintenance of an internal organizational structure that enables the development, coordination, and support necessary; institutional policies for evaluating courses and programs on their learning outcomes; the resources brought to bear for their achievement; and support. At the leadership level, institutional context and commitment shows when there is a focus on the alignment with the

¹ Note that the CIHE also lists “student support” and “assessment and evaluation” as indicators. I did not include these indicators in this study because ETI does not engage in student support, and, at the time of the research, was not involved in USUHS assessment and evaluation.

institution's role and mission; recognition of institutional change and its effects on accreditation and compliance; budgets and policy statements reflective of the commitment; and adequate technical and physical plant facilities—including appropriate staffing and technical assistance. Finally, at the teaching level the Commission on Institutions of Higher Education Best Practices Report (CIHE, 2007) notes institutional context and commitment in calls for a consistent and coherent technical framework for students and faculty; technological changes that are introduced in a way that minimizes the impact on students and faculty; provisions for reasonable technical support for each educational technology hardware, software, and delivery system required in a program; selections of technologies made based on appropriateness for the curriculum; and an explicit understanding of the legal and regulatory requirements (such as 508 compliance) of the jurisdictions in which it operates.

The benefits of faculty support can be most easily realized if the people driving the approach are guided by what Allison and Zelikow (1971) describe as the “organizational perspective.” The outcome of a plan driven by the organizational perspective tends to restore or maintain stability and ensure continued survival of the organization. According to organizational perspectives, the process of change (or in this case, innovation) is precipitated by a disturbance in the organization, and moves through stages including: prompt attention to the disturbance by members of the community; searching through standard operating procedures (SOPs) for a course of action that 'fits' the disturbance; resolving the situation; and incremental adjustments typically engendered through trial and error learning (Malen & Knapp, 1997). The desired outcome from the organizational perspective is to re-establish equilibrium within

the organization (Allison & Zelikow, 1971), having secured a place for the innovation within that new equilibrium. Lack of equilibrium and absence of sufficient and dependable organizational supports contribute to members removing themselves from the institutions (Ingersoll, 2001) and a slowing of innovation adoption.

The organizational perspective relies on the membership and the identity of those within the organization. The identity within the organization can grow into a community. As Etienne Wenger (2000) states, membership and identity are "at once one and multiple" (p. 242). Identities within an organization can take on various forms and "conflict with, influence, complement and enrich each other" (p. 242). As faculty members work at a university and sometimes hold different positions, their identities are changed as they must "combine, confront, or reconcile various aspects" of identity in an effort to produce "cohesion and growth within the organization" (p. 242). The work of identity "constantly reshapes boundaries and reweaves the social fabric of our learning communities" (p. 242). As such, faculty members can be constantly taking on different roles within the university community.

In the case of educational technology, one key element in the process of forming a cohesive and growth-fostering organization is the centralization of resources and support for instructional and educational innovation. The equipment needed to produce educational technology can be expensive, and learning how to integrate technology into the curriculum appropriately is not an easy task, so providing access to centralized resources (tools and experts) can hasten the spread of their use by faculty members (Clay, 1999). Beaudoin (2003) emphasizes the inefficiency of an institution that *lacks* a centralized educational technology support center:

In the absence of a focal point for such endeavors, individual faculty will likely tinker indefinitely and inefficiently on their own with a variety of instructional technology options intended to augment their classroom-based courses, but this approach will not ultimately result in a system-wide adoption of distance education in any comprehensive and cost-effective manner. (para. 37)

In a similar manner, Bates (2000) provides his own experience by adding that “There is evidence from my own province that when distance education is decentralized to Faculties and Schools, activity tends to decline compared with a centralized system” (Course Development and Delivery section).

Finally, providing a centralized resource allows for a team-based approach, so that a variety of people with specialized skill sets (such as faculty members, instructional designers, graphic designers, project managers, etc.) can be involved in creating high-quality educational technology products without each having to learn new, time-consuming skills (Bates, 2000; Smith et al., 2005). Carey and Dick (1990) support this idea by adding that the team approach gains the expertise of specialists to produce a product that none could produce alone, but they add a cautionary note that in these settings interpersonal skills are critical because seemingly everyone has ideas on how best to do what needs to be done. Overall, the organizational perspective supports efficiency, operating procedures, multiple perspectives, and flexibility.

Findings from Souza et al. (2008) support the organizational perspective and institutional context, as well as commitment, and they state:

The key success factors for centrally supporting medical education with educational technology include adequate staffing, key leadership closely aligned with the education team, cultivation of key relationships throughout the institution, involvement of students, decreased reliance on external contractors, the ability to support a technical infrastructure and provide educational technology services, and consolidation of funding. (p. 699)

The institutional context and commitment are critical for this study as they set up the foundation for the development and continued positive use of the faculty support center. Faculty members are keenly aware of the support organizations are given within their institution.

Abel (2005) in his article, *Implementing Best Practice in Online Learning*, selected 21 higher education institutions to participate in a research study. When academic leaders were asked to rate “ingredients for success” of their programs, the top 6 were as follows: 15% selected executive leadership and support, another 15% identified faculty and leadership commitment, followed closely by student services, technology infrastructure, course/instructional quality, and financial resources and planning. These top six elements from Abel (2005) all align with the institutional context and commitment elements described in the Commission on Institutions of Higher Education Best Practices Report (2007).

Curriculum and Instruction

Curriculum is derived from the Latin *currere*, to run the course. The traditional definition of curriculum is “course of study,” while a more modern definition provides an integration of cognitive, emotional, and environmental influences and experiences that can change a learner’s knowledge, skills, values, and world views (Gress, 2002). The collection of artifacts for promoting this integration of curriculum results in the instructional process used by faculty members. In order for any faculty member’s instruction to be effective, it must first be built on a sound instructional theory that identifies methods that, as Reigeluth (1983) states, will best provide the conditions under which learning goals will be gained. The faculty support center is a key element in

supporting this practice/theory link for faculty members who are unfamiliar with creating the instructional design and instructional process.

There are many ways to understand how to create the link between instruction and learning to promote the best curriculum and instructional development. Though there is ongoing scholarly work around many new and variously named instructional design frameworks, there are three that are widely recognized and used in the arena of technology and instructional support centers (McLeod, 2003). Kratochwell and Biju (as cited in Glover & Ronnin, 1987) discuss behaviorism as the observable individual behaviors in interactions with the environment. Reigeluth (1990) developed elaboration, the second theory, in the late 1970s. It argues that content critical to the learning process should be organized from simple to complex. Finally, the third, called constructivism holds that learners create knowledge and truth (Duffy & Jonassen, 1992). Each of these is further explained in the following paragraphs.

The roots of behaviorism as a theory are traced back to Thorndike, Pavlov, and Skinner, and even to Aristotle and Descarte (Kratochwill & Biju, in Glover & Ronning, 1987). Kratochwill and Biju (in Glover & Ronning, 1987), postulate that learning is a change in observable behavior caused by external stimuli in the environment. McLeod (2003) defines three assumptions of behaviorism:

First, learning is manifested by a change in behavior. Second, the environment shapes behavior. And third, the principles of contiguity (how close in time two events must be for a bond to be formed) and reinforcement (any means of increasing the likelihood that an event will be repeated) are central to explaining the learning process from a behaviorist perspective. In behaviorism, learning is the acquisition of new behavior through conditioning. (p. 36)

Elaboration theory argues that content critical to the learning process should be organized from simple to complex, while providing a meaningful context in which subsequent ideas can be integrated (Reigeluth, 1999). Elaboration theory holds that there are four types of relationships important in the design of instruction: conceptual, procedural, theoretical and learning pre-requisites. Thus, elaboration theory provides a paradigm shift from teacher-centered instruction to learner-centered instruction, and has shown “new needs for ways to sequence instruction” (Reigeluth, p. 427). According to Reigeluth, elaboration theory has many values. Foremost, it values a sequence of instruction that is as holistic as possible, to foster meaning-making and motivation, and it allows learners to make many scope and sequence decisions on their own during the learning process.

Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge or experience. Because learning in the constructivist view is so entwined with one's experiences, a primary role of the teacher is creating learning environments in which students' learning experiences are authentic representations of real practices in applied settings (Carey & Dick, 1990). Ormrod (2003) states, "Learning involves constructing one's own knowledge from one's own experiences" (p. 227). He posits that constructivist learning, therefore, is a very personal endeavor, whereby internalized concepts, rules, and general principles may consequently be applied in a practical real-world context. In light of this, situating the learning becomes an important aspect of providing authentic experiences (Duffy & Jonassen, 1992). Ormrod (2003) also states that in constructivism,

the faculty member acts as a facilitator who encourages learners to discover and construct knowledge by working to solve real life problems or examples.

Duffy and Jonassen (1992) echo these points by adding that constructivism is an important vehicle for establishing dialogue and the interchange of ideas. Working together the instructional designer, the development team, and the faculty look at how to establish learning environments that allow learners to situate and construct their own learning flexibility. According to Wilson, Teslow, and Osman-Jouchoux (1995), three core constructivist beliefs inform instructional design: 1) Reflection is a key component of learning to become an expert; 2) assessment should be based on multiple perspectives; 3) participation in establishing goals, tasks, methods of instruction and assessment should be done with learners.

Looking critically at the descriptions and methods used in the theories described earlier, instructional designers need to be aware that educational content is rooted in the actual experience and practice of the faculty members' lives and put into place for learners to engage actively in instructional activities. Yet the theories described earlier, if not attended to properly, can tend to lead an instructional designer to treat course and planning objectives and as if they had a clear, unproblematic, unambiguous ontological status.

The challenge for instructional designers and faculty members is not so much in following the theories properly, but in determining how a theory relates to the goals and objectives of the project. Olcott (1999) suggests that the traditional strategy of deliberation, consensus, and incremental change employed by learning institutions has become ineffective for dealing with the demands of a technology-accelerated culture.

Gordon and Zemke (2000) caution that the instructional designer approach (and theories that describe them) is a representation of what good designers do, but an oversimplification of these theories can be to the point of being too generalized to not be helpful for any specific learning requirement. McDonald's (2011) cautions are similar to Gordon's and Zemke's (2000), but highlight how designers can avoid unfavorable results in part by understanding and exemplifying the creative spirit of design and theory use. He examines the creative spirit of design, exploring its imaginative, creation-oriented, and inter-disciplinary character while describing how the creative spirit can help instructional designers remain flexible and perceptive in their practice, and by so doing be better able to create effective and innovative instruction of a quality consistent with their ultimate ideals. In defining this spirit, McDonald quotes Hokanson, Miller, & Hooper (2008): "To truly design is to extend understanding, to create something new and innovative" (p. 37). McDonald shares what he believes to be the properties of this creative spirit by describing three characteristics that exemplify proactive design: imagination, creation orientation, and inter-disciplinarity.

To define imagination, McDonald quotes Cross (2007): "Design is the ability to imagine that-which-does-not-yet-exist, [and] to make it appear in concrete form as a new, purposeful addition to the real world" (p. 10).

To discuss creation-oriented again, McDonald quotes Cross (2007): "Designing is a process of pattern synthesis, rather than pattern recognition. The solution is not simply lying there among the data... it has to be actively constructed by the designer's own efforts" (p. 24). In design work, there is no "right answer," and a complex design problem can be solved in infinite ways.

McDonald describes inter-disciplinarity through our interaction with other people, technologies, fields of thought, through which we actually develop new ways to solve problems. We expand our ability to solve problems and do new things. Collaboration with others often can create new opportunities and removes previous constraints.

It can be easy to become formulaic in design work - simply following the steps, checking the boxes, or following the processes prescribed by other individuals. However, with the Creative Spirit, a designer can use their own capacities proactively to create a positive influence on the faculty member's and student's experience.

Conceptual frameworks of instruction as well as learning theories act as mechanisms to help faculty members, instructional designers and support center staff to reflect on the situations and contexts in which learning occurs. Because many faculty members do not have knowledge of these frameworks, the instructional and educational technology support staff, whose training normally includes a grounding in these frameworks, supports diverse and innovative faculty instruction.

Faculty Support

Faculty support can be seen in many forms throughout higher education institutions spanning faculty development, instructional technology, distributed learning, curriculum development, instructional design, and evaluation and assessment support, as well as spanning various expertise (Abel, 2005; Souza, Kamin, O'Sullivan, Moses & Heestand, 2008; Sorcinelli et al., 2006). Faculty support is the vanguard of helping college and university faculty members incorporate innovative teaching practices (Ouellett, 2004). Various researchers (Abel, 2005; Olcott, 2002; Sorcinelli et al., 2006)

support the use of faculty support centers to bridge possible gaps in instructional skills that many faculty members, both new and seasoned, possess. According to Louis (2010), “Faculty who participate in distance education must possess skills and techniques in incorporating design, technology, pedagogy, and communication to provide online instruction in an effective manner” (p. 19).

Kang (2001) investigated collaborative course development and identified subject matter, design knowledge, resources, and technical skills as critical in the course design process. While some faculty members use their own time to develop these skills, the institution also bears responsibility in preparing and providing professional development opportunities for faculty. This responsibility is not to be taken lightly. Faculty members’ needs can vary across multiple dimensions that intersect with many aspects of teaching and learning. De Simone (2006) states that institutions have to acknowledge the need for faculty members to extend their understanding beyond how to use the technology; faculty members need to understand how technology affects their pedagogy.

Carefully designed faculty development approaches can facilitate and create a culture that supports a thoughtful focus on teaching, while at the same time, nurture a sense of connectedness and collegiality across the organization that is vital to continuous innovation and improvement. (Eib & Miller, 2006, p. 1)

While developing these approaches to support “thoughtful teaching,” Myers, Bennett, Brown and Henderson (2004) state that many authors believe faculty members must feel a sense of “ownership” of their new instructional or technological practices. Myers et al. (2004) also suggest that the usefulness of change may depend on an individual faculty member’s professional control in the way a new practice is incorporated into his or her existing teaching repertoire.

Faculty support comes from the collaborative nature between faculty and the support staff. Several studies (Byun, Hallett, & Essex, 2000; Meyen, Tangen, & Lian, 1999; Wright & Miller, 2000) offer other examples of partnerships between instructional designers or technologists and faculty. Hale (1999) identifies qualities for faculty support teams such as mentoring, sensitivity, the ability to suspend judgment, rapport building, goal setting, providing feedback, and monitoring. Partnerships between instructors and designers or technologists have not yet become commonplace, and there remains much uncharted territory.

The make-up of a faculty support center and how users of the resource perceive the support is critical to the success and use of the center, as the identity within the organization can foster growth of the center into a community. As Etienne Wenger (2000) states, members of a community come together when they pursue shared interests and engage in activities and discussions together, helping each other and sharing information that enables them to learn from one another.

Diffusion of Innovation

There are many elements that anchor the creation of an instructional and educational technology support center. One of the most basic elements is the diffusion of innovation. Everett Rogers' book, *Diffusion of Innovation* (DOI) (1995) offers insights into the evolution and support of innovation over time. DOI offers a solid framework for the process of moving an innovation through a social system. Diffusion theory is especially relevant to instructional and educational technology support center efforts, which are largely focused on fostering change, because by default, teachers teach as they were taught (Ball, 1990; Lortie, 1975). Based on his research, Rogers describes how

ideas are accepted, as well as the conditions under which new ideas are most likely to be implemented. Due in large part to technological change, what we know as “best practices” in instructional and educational technology are ever-changing, demanding a continuous cycle of learning, acceptance, and integration. Rogers’s work can help us learn how best to assist faculty in changing or adjusting their practices, as well as how to conceptualize a faculty support center as a resource for continual growth—not a place for one-time use.

Orr, Pennington and Williams (2009) echo the need for continuous innovation support. For example, they found that faculty members with several years of experience teaching online did not receive ongoing support tailored to those experienced in online course delivery. Finally, one of the unique aspects of Rogers’s (1995) DOI is his claim that innovation is relative: Innovation need not involve a brand new idea. It can be any idea, practice, or object that is “*perceived* as new by an individual or other unit of adoption” (p. 11). This perspective allows for faculty centers to support incorporation of not just new technology or techniques, but also older paradigms or technologies that, while proven effective, may be unfamiliar (new) to many faculty members.

Use of Innovations in Instructional Contexts

Ely (1999) proposed eight conditions that facilitate the use of technological innovations in various instructional-related contexts: Dissatisfaction with the status quo, presence of knowledge and skills, availability of resources, availability of time, rewards or incentives existing for participants, expectation and encouragement of participation, commitment by those involved, and evidence of leadership. According to Ely (1990), the presence of these eight conditions is necessary to *implement* change once an innovation

has been *introduced* and *adopted*. The presence of all the conditions would indicate a high probability of sustained implementation. Reduction of the conditions would lessen the probability of continuation. This means that these conditions are interrelated. They affect each other by either supporting or undermining one another (Ely, 1990; Surry & Ensminger, 2002).

An instructional and educational technology support center helps foster some of the conditions described by Ely (1990), by providing specialized and ongoing technical support (Bonk, 2001; Jones & Moller, 2002; Lee, 2001; Schifter, 2002). In particular, instructional and educational technology support centers provide specialized support in both the use of the technology and understanding how to integrate the technology into the curriculum effectively (Mishra & Koehler, 2006; Surry, Ensminger & Haab, 2005). For example, faculty members note the importance of the institution in providing support in how to teach effectively online (Bonk, 2001). This support is especially important for faculty members who do not have the time to develop and maintain online courses (Bonk, 2001; Dooley & Murphrey, 2000), another of Ely's (1999) conditions. Faculty use of the resources offered by support centers for course development may also result in a more current and relevant curriculum, innovation and new ideas, enhanced course quality, and diversification of academic programs (Maguire, 2005).

Overview of Methodology

Since all research methodologies impact the research process and results (Crotty, 1998), I chose a case study for this research because one of the greatest strengths of a case study design is its call for an "intensive description and analysis" of a specific case to gain an "in-depth understanding of the situation and meaning" (Merriam, 1998, p. 19).

A case study allows for the examination of a phenomenon as it occurs in its context. Stake (1995) includes in his definition of a case study that it is “something of a very special interest” (p. xi) to the writer. He further defines an ‘intrinsic’ case study as one in which we aim “not to learn about other cases or about some general problem, but [...] about that particular case” (p. 3). Merriam (2009) agrees, stating that a case study is “an intensive, holistic description and analysis of a single entity, phenomenon, or social unit” (p. 46).

The unique development of ETI, the subject of this research, was embedded in the specific context of the USUHS. Yin (2009) states that the “case study method allows investigators to retain the holistic and meaningful characteristics of real life events” (p. 4). Stake (1995) explains that a case study allows us to appreciate the uniqueness and complexity of the case and its embeddedness and interaction with its context. Intrinsic case study methodology allows me not only to study how the instructional and educational technology support center came about, in this particular instance, but to develop an understanding that is informed by what members of university leadership, faculty and staff articulate about their roles in the center’s evolution and current operation.

Specifically, this study draws upon data reported in the form of semi-formal interviews with members of the instructional and educational technology support staff, as well as USUHS leadership, and faculty. It also includes the results of a document review of relevant artifacts, such as process and historical documents, strategic plans, and USUHS website information and documentation. I maintained a focus on context, and then looked for relationships and patterns within the data. When there was conflict within

the evidence or patterns, deeper probing of the differences became necessary in order to identify the cause or source of conflict. Data collection and analysis are explained in detail in Chapter Three.

Chapter Summary

Developing centralized university support for instructional and educational technology resources is characterized as a complex endeavor (Angelo & Cross, 1993; Carey & Dick, 1990; Shulman, 1986, 1999; Sorcinelli, Austin, Eddy & Beach, 2006). The existing literature reveals that faculty support offices do not occur easily, and adoption of instructional and educational technology support centers in institutions of higher education takes on various forms.

Learning from a systematic analysis of developers' and users' first-hand experiences can contribute support for the development of future centers, as well as for the review of existing instructional and educational technology support organizations. With this in mind, the conceptual framework elements of institutional context and commitment, curriculum and instruction, faculty support, and diffusion of innovation, that are introduced in this chapter, help map the roles and interrelationships involved in creating and maintaining instructional and educational technology support centers. The methodology of intrinsic case study research allows for the complexity of the subject, and ensures that context specificity is understood.

Organization of the Study

In the next chapter, I review the literature on each of the conceptual elements listed above, in light of this current study. In Chapter Three, I describe the methodological approach of this study in terms of overall study design, timeline, data

collection, data management, and data analysis. In addition to description, the rationale behind each methodological decision is explained. Chapter Four outlines the context in which the support center emerged and in which this study takes place. Finally, in Chapter Five I interpret the results of the study, and conclude, offering implications of this study for university leadership, faculty and other faculty support organizations.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

The literature review in a research study accomplishes several purposes. It shares with the reader the results of other studies that are closely related to the study being reported. It relates a study to the larger ongoing dialogue in the literature about a topic... It provides a framework for establishing the importance of the study as well as a benchmark for comparing the results of a study with other findings. (Creswell, 2003, p. 29)

The purpose of this literature review is to explicate and flesh-out the conceptual elements that frame this study, through a comprehensive survey of the relevant literature. This provides the contextual background necessary to address the research questions and to understand the phenomenon of higher education faculty support centers. This chapter outlines and critiques what is known about how post-secondary faculty members acquire and maintain knowledge and skills in instruction and the use of educational technology. It reviews the literature pertinent to the following: the importance of institutional context and commitment in building and maintaining a support center for curriculum and instruction in relation to instructional design; innovation in the instructional context; and the role of faculty support. Each of these framework elements comprises a section of this chapter.

In 2007, the Commission on Colleges, the eight regional agencies recognized by the U.S. Department of Education for accrediting all U.S. colleges and universities, published the document *Best Practices for Electronically Offered Degree and Certificate Programs* (Commission on Institutions of Higher Education, 2007). The Commission (CIHE) addresses the need for planning and assessing high standards of quality in U.S. university online programs and provides a statement of what is considered current best practices in electronically-offered distance education degree and certificate programs

(2007). These best practices also are appropriate to faculty support centers, since the majority of faculty support centers play a central role in the development of distance education degree and certificate programs. CIHE's divides the best practices into five separate components, each of which addresses a particular area of institutional activity relevant to faculty support centers. The best practices from the CIHE are institutional context and commitment; curriculum and instruction; faculty support; student support; and evaluation and assessment.

As explained in Chapter One, this research used as framework elements the first three areas: institutional context and commitment; curriculum and instruction; and faculty support. These indicators were selected because they are directly relevant to the emergence of the Education Technology Innovation Support Office (ETI) at the Uniformed Services University of the Health Sciences (USUHS), the subject of this research. Since ETI is not involved in direct student support, and was not involved in evaluation and assessment in its early years, indicators 4 and 5 (above) are not relevant to the present study.

Institutional Context and Commitment in Building and Maintaining a Faculty Support Center

Institutional context and commitment is the first among a set of 'critical dimensions' defined by the Commission on Institutions of Higher Education (2007), and considered by regional accrediting commissions in evaluating technologically mediated instruction at postsecondary institutions. It is, therefore, applicable to faculty support centers charged with introducing, implementing, and supporting technologically mediated instruction. Institutional context and commitment are evident at organizational,

leadership, and teaching levels. They can be defined most simply as the when, where, why, and to-what-degree of the institutional activity (in the present case, the development of a support center). More specifically, institutional *context* describes the moment when the institutional activity occurred from a historical, sociological, political, and economical perspective. The institutional *commitment* describes the alignment of administration and faculty with the institution's role and mission, including institutional development plans (such as opening a faculty support center). The CIHE (2007) evaluates the institutional context and commitment through 9 specific areas, 4 of which are germane to this study:

- 1d) the institution assures adequacy of technical and physical plant facilities including appropriate staffing and technical assistance, to support its electronically offered programs.
 - 1e) the internal organizational structure which enables the development, coordination, support, and oversight of electronically offered programs will vary from institution to institution.
 - 1g) the institution strives to assure a consistent and coherent technical framework for students and faculty. When a change in technologies is necessary, it is introduced in a way that minimizes the impact on students and faculty.
 - 1j) the institution seeks to understand the legal and regulatory requirements of the jurisdictions in which it operates, e.g., requirements for service to those with disabilities, copyright law, state and national requirements for institutions offering educational programs, international restrictions such as export of sensitive information or technologies, etc.
- (Commission on Institutions of Higher Education, 2009, p. 2)

In sections 1d and 1e the emphasis is on the institution's role in the development and support of both faculty and students. Institutional commitment is rarely visible in the day-to-day experience of the primary leadership and faculty, the students. That is, what students might experience as a smooth learning experience, a well-articulated and seamless sharing of knowledge, likely relies on complex negotiations, supports, and technology that are invisible to the student. Institutional commitment demands alignment

with the leadership and decision makers at the institution. Bolman and Deal (2003) describe the alignment of leadership that is critical to faculty support centers, stating that the institutional leader must align the structure of the center to the task at hand (supporting instruction and educational technology), in support of the institution's larger mission or direction.

The USUHS implementation of ETI adhered to many of Bolman and Deal's recommendations (2003), as well as those of CIHE (listed above), from the appointment of leadership through the development of the ETI Support Office (described in Chapter Four). ETI staff included Dr. Sinclair, the Senior Vice President of USUHS, who acted as the Director of ETI. The assignment of senior leadership to direct the ETI made the institution's commitment clear, and was critical in the success to the program. In 2006, the final phase occurred, when a team of contractors who had worked at NDU was brought in to staff a faculty support center that was eventually named the Education and Technology Innovation Support Office (ETI) at USUHS.

Drawing heavily on Section 2 of the CIHE best practices, the rest of the ETI Office staff was comprised of program managers, task leads, instructional designers, graphic designers, and technical developers. All of the instructional designers, task leads and even the program manger selection emphasized solid backgrounds in education, instruction, educational technology, educational theory, and/or educational psychology.

Section 3 of the CHIE Best Practices are highlighted in faculty support provided by the ETI. This faculty support plays a critical role at USUHS. As the nation's federal health sciences university, USUHS provides the nation with health professionals (medical, nursing, emergency etc.) as well as research scientists, who serve the common

good (www.usuhs.mil), dedicating themselves to a career of service in the Department of Defense and the United States Public Health Service. The medical educators whose work it is to teach these future professionals are increasingly using technology to supplement the delivery of learning resources. The integrated use of technology, the internet and the ubiquitous nature of networked computers, have transformed educational technologies from esoteric legacy applications used by a few pioneering faculty to mainstream applications integral to the medical school educational enterprise (AAMC, 2007). The adoption of appropriate technologies, as well as individualized, strategic integration of technology and instruction, is the charge of the ETI.

The charge of the ETI does not stand in isolation. Educational theory helps inform the ETI's charge. The next section highlights the educational theory, in particular, as it relates to curriculum and instruction that guides the work of faculty support centers.

Curriculum and Instruction

Curriculum and instruction, the second critical dimension of successful educational technology in the postsecondary context, covers a broad swath of educational theory and teaching practices. Universities, colleges, federal, state, and local school systems, and research institutions devote entire departments to developing, implementing, monitoring and researching curriculum and instruction. Curriculum and instruction stakeholders include teachers/faculty, school administrators, politicians, parents, and students. Curriculum is developed to shape the instruction and learning in educational systems, but the political and policy elements that lead to the curriculum practices are related to larger issues of school change and improvements (Apple, 2004; Sears & Marshall, 2000; Wraga & Hlebowitsh, 2003).

From the dictionary definition found in the *American Heritage Dictionary* (2009), curriculum comes from the Latin *currere*, to run a course. It goes on to define curriculum as the courses offered by an educational institution and a set of courses constituting an area of specialization. The process of *currere* was introduced by William Pinar in the 1970s as a tool for penetrating curriculum moments in the past (regressive), and projecting them into the future (progressive), in order to analyze them into the present, and synthesize their significance upon the future. The practice of *currere* is not merely a rendering of a curriculum past, but reflectively, an active engagement as it is actually taking place. According to Pinar:

Through the years the word has come to have elaborate meanings, but on the whole curriculum often is taken to refer to materials, intended learning outcomes, and experiences, but experiences from the point of view of the other, whether this other be curriculum developer, designer, or teacher. Experience is what one senses, one feels, one thinks: it is, in a word, one's living through of one's life. So curriculum reconceptualized is *currere*; it is not the course to be run, or the artifacts employed in the running of the course; it is the running of the course. The course most broadly is our lives, in schools and out, and the running, is our experience of our lives. Because our lives tend to be progressive, we say that we evolve. This evolution is education; it is the synthesis of cognitive and psychosocial development. (Pinar & Grumet, 1976, p. 18)

Instruction is defined by the *American Heritage Dictionary* (2009) as imparting knowledge. From an educator perspective, Driscoll (1994) extends the idea of knowledge into a broader definition by stating:

Instruction is the deliberate arrangement of events to facilitate a learner's acquisition of some goal. The goal can range from knowledge to skills to strategies to attitudes; and so on....the basic assumption, no matter what the particulars of an instructional situation, is that effective instruction is informed by theories of learning. (pp. 21-22)

Gress (2002) discusses the arrangement and values that go into the creation of curriculum:

School curriculums mirror the values and priorities in their frameworks. Indeed, the school curriculum is an area for continuously addressing questions of value in our society. In address the question of, “What should students learn in school?” we are asking what is important to us in a school communication or as members of a larger community. Since knowledge is power, how the value questions are addressed has particular consequences for a democratic society. (p. 125)

While pondering the question of the hidden or obvious curriculum there are also very complex issues involved with delivering the curriculum through instructional strategies.

Most of the decisions made about what is taught and when it is taught (as well as who will teach it) are made by the university. How the instruction is provided is left to the faculty member. While there are many different types of instructional strategies, techniques and theories, the key in providing solid instruction lies in the effective engagement with knowledge where faculty members must be skilled in both the content and effective instructional techniques and principles (Shulman, 1986). Cochran-Smith and Lytle (1999) also echo Schulman’s statements on the importance of solid instructional techniques by stating that how educators understand subject matter and how they transform it into classroom instruction, are central constructs for successful instruction. These central constructs of instruction are at the foundation of the support that the ETI provides to faculty, which are described further in the faculty section, as well as in the instructional design section, of this chapter.

Both curriculum and instruction are defined in many different ways by many different theorists. Pinar, Reynolds, Slattery, and Taubman (2004) describe curriculum as a field preoccupied with understanding. They state that “Many degrees of complexity have entered our conceptions of what it means to do curriculum work” (p. 6), and that

curriculum is a “highly symbolic concept” (p. 847). They end their conversation on curriculum by stating:

So understood, curriculum is intensely historical, political racial, gendered, phenomenological, autobiographical, aesthetic, theological, and international. Curriculum [has] become the site on which the generations struggle to define themselves and the world. (pp. 847-848)

Dewey (1902, 1974, and 2001) describes curriculum as what prepares learners for the world. The complex nature of curriculum and instruction has developed into an understanding that the two cannot be completely separated (Reigeluth, 1983). As Pinar et al. state (p. 848), “Curriculum is an extraordinary complicated conversation.”

Governments have attempted to support large scale change in curriculum and the resulting instructional practices to a point where each has become less an activity in its own right and more a driver of educational change (Apple, 2004; Sears & Marshall, 2000; Wraga & Hlebowitsh, 2003). As a driver of change at the student, teacher and school levels, curriculum also reflects the needs and wishes of the community as a whole. Dewey (1902, 1974, and 2001), linking instruction to the “building up of the mind” (p. 400), states that the “education whole” (p. 387) is found not in curricula, but in the institutional and organizational forms that constrain and direct the practice (instructional activity) of schools.

Bruner (1996) developed a theory of instructional learning that is strongly linked to a constructivist perspective with a focus on cognitive development. He argues that learning is an active process where the learner constructs knowledge based on current and past knowledge. He believes that instruction should be cognizant of learner experience, in

order to ensure a state of readiness for learning. The learner should be able to understand and should then be able to go beyond the information given.

Bandura's theory of social learning emphasizes the importance of learning from others and not relying solely on one's own practices. Through observing behaviors, attitudes and reactions of others the individual can enhance his or her own learning. Bandura highlights the interrelationship between the environment and the learner's behavior and cognitive processes. As the process of learning is collaborative, social interaction is vitally important, and the nature of the activity in the context of the environment guides the procedures and learning process.

The Situated Learning Model is similar to social learning in that it stresses the integral link between context, social environment and learning. Learning is a function of the activity, and the context and culture in which it occurs. Therefore, knowledge is meaningful to the learner when it is learned in an authentic context and situation. Knowledge is linked to a specific task within a particular context in a given social environment: therefore, learning is situated. The emphasis is on providing meaningful and relevant learning experiences in authentic contexts. Lave (1991) believes that social interaction is a crucial part of situated learning and that the beliefs and behavior within the culture of a community of practice contribute to the learner's acquisition of knowledge. Etienne Wenger (1991) partnered with Lave in research studies of situated learning. Wenger also conducted work in the area of communities of practice, investigating how such communities present themselves as social systems of learning and knowledge management.

Michael Apple (1983) raises an important consideration when looking at curriculum, theories, and educational content:

There are competing conceptions of what everyone should be taught, of what knowledge will be the most valuable to students and to the society...Defining the basics will prove to be one of the most difficult issues that the schools will face, because schools will serve as arenas in which various groups will do battle their differing conceptions of what the society should value. (p. 322)

More than an organizing tool, university curricula and the resulting instructional theories and practices have changed in response to many major historical events (Sears & Marshall, 2000). The launching of Sputnik in 1957 spurred for the first time an intense focus in the United States on science and technology curriculum. Race and multiculturalism sparked changes in curriculum and instructional practices in the 1960s and 1970s. The shaping of curriculum in the 1990s and into the 21st century included both K-12, as well as university faculty, changing their classroom practices in response to scripted curriculum and certifications, such as medical and nursing exams required for practicing those fields (Au, 2011). During this same period, curricular change also occurred in multiple disciplines with the exploration of such ideas as culture, power, and identity (Sears & Marshall, 2000).

Macdonald (2003) highlights the historical changes in curriculum and instruction by stating:

The pursuit of education reform has a long history. Reform is normal, widespread, constant, and optimistic. Yet, underpinning curriculum reform is a contest over what is chosen, by what processes, by whom, with what intent, and with what result. Struggles over curriculum and its management are, in a sense, struggles over what education is for, and whose knowledge is of most worth—learners', parents', teachers', or curriculum authorities'? (p.140)

In the end, struggles over curriculum and instruction illuminate how society adjusts to change and to the growing needs of its learners. Faculty members eventually accept these constructions as beliefs of their own and make the necessary adjustments that they deem to be appropriate for the learners and their courses. Pinar, Reynolds, Slattery, and Taubman (2004) capture thoughts on this notion by stating, “There is no one definitive way of developing curriculum or of engaging in curriculum inquiry” (p. 19). Rogan and Luckowski (1990) assert that they would like to see curriculum texts explore, in some depth and with some measure of understanding, the alternative positions that exist, the basis for their existence, and what curricular form they might take in practice” (p. 19). The need for consistent improvement and development of quality education increases the need for people who understand curriculum, educational technology, and thus, the development of faculty support centers staffed by people with such skills. Apple (1983) supports these ideas:

Participation in such a curriculum is not merely an individual act; it is a profoundly social act as well. In an interdependent society, the curriculum should encourage cooperation and the testing of each individual's ideas against those of others. This requires countering at least to some degree the individualized instructional models now widely practiced in schools. (p. 325)

Kurzweil (1999) highlights shifts in education that parallel shifts in technology. The broad scale technology shifts have resulted in new learning tools and techniques at a rapid pace. By the year 2030, Kurzweil predicts that human learning will be “primarily accomplished using virtual teachers” (p. 221). Through such organizations as the ETI, faculty members are beginning to integrate technology into their classrooms with greater proficiency and speed. The ETI staff is able to support faculty through changing

curriculum and educational reform, and to support the development of new instructional techniques to meet the goals of reform.

Today we are beginning to see wide scale implementation of distributed learning, and many accrediting organizations, such as CIHE and the Middle States Commission on Higher Education (MSCHE), have begun to share best practices for developing programs and aligning appropriate curriculum and curricular support to the programs in distributed environments. The MSCHE report, *Interregional Guidelines for the Evaluation of Distance Education Programs (Online Learning)*, developed by the Council of Regional Accrediting Commissions or C-RAC (2011), assists institutions in planning distance education and provides an assessment framework for institutions already involved in distance education. The *Guidelines* are comprised of nine hallmarks of quality for distance education which MSCHE considers in determining accreditation of universities and colleges. The guidelines can also be used by institutions to benchmark or evaluate their own distance education curriculum and instructional programming (C-RAC, 2011).

The CIHE best practices report (2007) highlights five important components of the curriculum and instruction dimension: The quality of education; the actors, access and requirements; consortia and contractual relationships; as well as interactions between students. Most relevant to the development of the ETI at USUHS are the quality and actors components.

The first section of the CIHE report (2007) covers the quality of education:

Methods change, but standards of quality endure. The important issues are not technical but curriculum-driven and pedagogical. Decisions about such matters are made by qualified professionals and focus on learning outcomes for an increasingly diverse student population. (p. 4)

Over the past ten years, many have written about elements that make up the quality of online education (Chao, Saj & Tessier, 2006; Lockee, Perkins, Potter, Burton & Kreb, 2011; Moore, 2005; Oblinger, Barone, & Hawkins, 2001). Many of these elements such as quality teaching, student engagement, and curriculum and design overlap with the CIHE as well as the MSCHE reports. The design of curriculum and instruction is also among the components of a quality review of online education proposed by Chao, Saj, and Tessier (2006). Their quality framework also includes web design, teaching and facilitation, learning experience, and course presentation.

Lockee et al. (2011) in their presentation, *Defining Quality in Distance Education: Examining National and International Standards for Online Learning*, analyze standards related to the design of distance delivered courses. These standards are closely tied to the way that the curricular and instructional components are developed and implemented within the distance education courses. Lockee et al. (2011) reviewed 17 US-based and international organizations representing a broad array of national and international educational interests. In their analysis of quality distance education courses and programs, they reveal recurring curricular, instructional, and technological issues: the relative lack of emphasis on actual design standards, the comparative nature of standards with regard to campus-based instruction, mandates for interaction, media selection issues, faculty training requirements, and student support. All of these issues emerge in the 2007 CIHE report also.

Moore (2005) emphasizes principles and metrics that can help establish benchmarks and standards for quality. They identify five principles, known as the pillars of quality that guide a continuous quality improvement (CQI) process. The pillars are

learning effectiveness, cost effectiveness and institutional commitment, access, faculty satisfaction and student satisfaction. Oblinger, Barone, and Hawkins (2001) state that the measures of learning and quality are often elusive and controversial in higher education. The Council of Higher Education Accreditation (CHEA) in its glossary for *International Quality Review*, states that quality refers to "fitness of purpose—meeting or conforming to generally accepted standards..." and that quality assurance is a "planned and systematic review... of an institution or program to determine that acceptable standards of education, scholarship, and infrastructure are being maintained and enhanced" (CHEA, 2001).

Implementation of technology-based curricular innovations cannot be accomplished just by definitions or via transmission of best practices, but must also be enhanced by reflective dialogue in community committed to building knowledge and sharing experiences (Cohen, 1996). It is within this dialogue between professionals that decisions are made for the best possible learning outcomes.

The CIHE best practices report (2007) under the area of curriculum and instruction also highlights a section on the “actors” who participate in the distance education process:

Academically qualified persons participate fully in the decisions concerning program curricula and program oversight. It is recognized that traditional faculty roles may be unbundled and/or supplemented as electronically offered programs are developed and presented, but the substance of the program, including its presentation, management, and assessment are the responsibility of people with appropriate academic qualifications. (p. 5)

These actors make up the organizational support that addresses faculty needs within the university. These actors also constitute the fundamental element of the faculty support center such as the ETI.

Curriculum and Instructional Experts: Instructional Designers

Curriculum and instruction is sufficiently complex, such that in the last century a profession has emerged to support both instructors, and specifically the faculty, of colleges and universities. As the CIHE report states, “The important issues are not technical but curriculum-driven and pedagogical. Decisions about such matters are made by qualified professionals and focus on learning outcomes for an increasingly diverse student population” (p. 4).

Souza, Kamin, O’Sullivan, Moses and Heestand (2008) provide an excellent examination of the various models of educational technology support units within U.S. and Canadian medical schools. In addition to identifying models that support educational technology, they also describe the key attributes of these models, including the strengths and challenges associated with each based on a survey of 88 schools. The unique cataloging of Souza et al. offers a means to describe or classify existing organizational models, as well as guidance to burgeoning faculty support centers.

Models that Support Educational Technology

One increasingly common personnel model is that of a “distributed education team.” Rather than incorporating the responsibility for all technology and competency-based functions in a single faculty member, universities are “...disaggregating faculty instructional activities and [assigning] them to distinct professionals” (Paulson, 2002, p. 124). Doing this involves a “deliberate division of labor among the faculty, implementing

instructional design staff at different levels” (Paulson, 2002, p. 126). These distributed education teams can include administrators, instructional designers, technologists, and instructors/facilitators (Miller, 2001; Williams, 2003). This team can also be the basis for both face-to-face, as well as distributed education support.

A variety of methods have been used to investigate the characteristics of the staff that make up the faculty support center, and the specific types of support provided. For example, the analysis of job announcements for instructional technology service positions and educational developers has been used to identify the types of jobs available and the associated responsibilities and qualifications (Chaplan, 2004; Luck, 2001; Surry & Robinson, 2001; Wright & Miller, 2000). Generally, this literature shows that there is little agreed upon terminology for faculty support center positions (instructional technologist/instructional designer) focusing on instruction. Job titles in higher education and announcements also have long lists of many roles and responsibilities. Surry and Robinson (2001) state that instructional technologists provide a broad array of support to faculty in the integration of technology into the classroom, and that forty-three percent of all instructional technology jobs in higher education fall into this category.

Along with the differing terminology used to describe the work in instructional technology, there are also many different qualities required. Chaplan (2004), Luck (2001), and Youngman, Gotcher, Vafa, Dinsmore, and Gouher (2000) also note that the instructional designer often serves as the project manager which typically requires additional management responsibilities outside the realm of instructional design.

Wright and Miller (2000) analyzed 20 job-opening announcements posted in 1998 and 1999. Their study shows that the range of qualifications and the array of roles,

responsibilities, and qualities associated with these positions is very broad, and in the future, may get even broader. Responsibilities are linked to skills and qualities, and those too, are widely dispersed. Hale (1999) points out that staff should also have qualities for mentoring, such as sensitivity, the ability to suspend judgment, rapport building, as well as experience using diagnostic frameworks and developmental goal setting, providing feedback and monitoring.

The implications of the lack of standardized terminology and job descriptions befall the hiring and make-up of a faculty support staff. Depending on the leadership's view of the mission of the faculty support center, there are many potential roles for instructional designers. The role of instructional designer is not only multifaced, but can change drastically from project to project, from manager to manager. Sometimes the instructional designer will assume the role of project lead, content editor, technical developer or even curriculum developer.

Goolnik (2006) states that there is often a lack of well qualified staff with experience and understanding of both traditional and distributed learning environments. This is of concern since, with their unique backgrounds and skill-sets, instructional designers are often the single most specialized members of a support team. Successful collaboration between the faculty and the instructional designer is often alluded to (Chaplan, 2004; Luck, 2001; Youngman et al., 2000) as integral to the success of the support center as a whole. For this reason, if there is only one instructional design specialist offering faculty support, she or he must be comfortable working in both traditional and distributed learning situations. Also, the working partnership between the faculty and instructional designer within a collaborative multi-faceted group that might

include technical, instructional, managerial, and creative team members is critical for success.

For example, using interviews and observations of online course development teams, Kang (2001) investigated collaborative course development and identified subject matter, design knowledge, resources, and technical skills as critical in the course design process. Several studies (Byun, Hallett, & Essex, 2000; Meyen, Tangen, & Lian, 1999; Wright & Miller, 2000) offer other examples of partnerships between instructional designers or technologists and faculty. Many offer a starting place for considering means of collaboration; however, it is important that their examples are not considered comprehensive. Partnerships between instructors and designers or technologists have not yet become commonplace, and there remains much uncharted territory.

The Influence of Instructional Design

Instructional design is, in fact, a relatively new field within the education community. Much of the foundation for instructional design was laid in World War II, when the U.S. military faced the need to train large numbers of people rapidly to perform complex technical tasks. Drawing from B.F. Skinner's research on operant conditioning, training programs focused on observable behaviors. Tasks were broken down into subtasks, each of which was treated as a discrete learning goal. Training was designed to reward correct performance and remediate incorrect performance. After the war, the success of the wartime training model was replicated in business and industrial training, and, to a lesser extent, in the primary and secondary classroom. In 1956 Benjamin Bloom (1984) published his influential "Taxonomy of Learning Domains" (Cognitive,

Psychomotor and Affective), and this continues to influence the design of instruction today.

Learning theories were influenced by the growth of digital computers in the 1960s and 1970s. Many models adopted an "information-processing" approach. David Merrill, for instance, developed Component Display Theory (CDT), which concentrated on the means of presenting instructional materials (presentation techniques). Later in the 1980s and throughout the 1990s "cognitive load theory" began to find empirical support for the alignment of instructional materials with human cognitive architecture and the consequent development of instructional materials (Artino, 2008). The rise of constructivist learning theories (which suggest, to varying extents, that knowledge is socially constructed and that there is no objective truth) is manifest more recently as an awareness of limitations within the instructional design process (Merrill, 1992). However, debate exists about the role or influence of the instructional designer as an individual versus a repository of knowledge. Greenbaum and Kyng (1991) refer to the work of the instructional designer as *participatory design*, and Clancey (1993) recommends that "We must involve students, teachers, administrators, future employers, and the community as participants in design..., working with students and teachers in their setting, not just calling them into the lab to work with us" (p. 9, 20).

Most recently, instructional designers have approached educational design in accordance with new research on the brain and human learning. Gulpinar (2005) explains that brain-based learning theories are guided by the assumption that research in neuroscience should drive learning and assessment. He describes the brain as constantly searching for meaning and seeking patterns and connections. Brain-based education and

research emphasizes how the brain learns and is based on what we currently know about the actual structure and function of the human brain at varying developmental stages.

Sousa (2009) discusses brain research using imaging technologies. These technologies are able to map the brain's activities with increasing specificity, providing insights into how both children and adults learn. Sousa promotes the use of brain research to inform adult learning or the design of "brain-compatible professional development."

Through his brain-based research, Gulpinar (2005) finds that authentic learning situations increase the brain's ability to make connections and retain new information. Research also documents brain plasticity, or the brain's ability to grow and adapt in response to external stimuli. In using brain-based research, instructional designers need to think about designing learning around student interests, thus contextualizing the learning so that it feels authentic for students. As part of structuring learning around real problems, Gulpinar (2005) suggests that students should be encouraged to learn in settings outside the classroom. Instructional designers should create learning environments around teams, and use peripheral learning. The creation of assessments should allow learners to understand their own learning styles and preferences. This way, students monitor and enhance their own learning process.

How the brain works has a significant impact on the effectiveness of learning activities. Faculty and instructional designers working together can create appropriate experiences and capitalize on those experiences. Caine (2014) believes that in order to create and capitalize on those experiences, the brain-based instructional approach should include: Selecting teaching strategies; acknowledging the learners' states of mind;

understanding classroom management and a good classroom climate; creating learning objectives and outcomes; planning modes of assessment; planning use of time; creating the role of technology; and planning for connecting with the larger community. Sari and Novita (2014) also highlight the importance of using creative brain based research in the development of teaching and learning activities and assessment.

Caine (2014) echoes McDonald's ideas of the creative spirit of design, stating that designers of education must be artistic in their creation of brain-friendly environments. They need to realize that the best way to learn is not through lecture, but by participation in realistic environments that let learners try new things safely.

Pinar (2005) explains that there is a layered world of curriculum, and through this layered world, the world of the instructional designer becomes layered as well. "Multifold are the ways a person relates to the universe" (Schleiermacher as cited in Pinar, 2005, p. 360). The layers of the instructional designer's world include, but are not limited to, the university, learners, theories, technology and the curriculum. It is the job of the instructional designer to collaborate effectively within each layer, as well as with the rest of the support team.

Kang (2001), for example, provides a collaborative model for designing online courses that requires partnership between the faculty and instructional designers, as well as great interpersonal skills. Kang's model emphasizes the communication channels between a content expert (faculty), instructional designer, and "support personnel." In Kang's model, support personnel are envisioned as graphic designers, media specialists, programmers, and technicians, but all of the team must be able to collaborate with the faculty in a professional and positive manner. The importance of faculty support and

training to the success of any instructional or educational technology effort has been acknowledged in the literature (Andrews & Moulton, 2009; Beaudoin, 1990; Dillon & Walsh, 1992; Fein & Logan, 2003; Kalke, Macy, & Rooney, 1998; Seaman, 2009).

Establishing productive collaboration and clear communication can be challenging in the best of times, but is even more so when roles lack clear definition. Even with the rapid growth of the instructional design field, many instructional designers feel that they are still defining their roles and trying to become an integral part of the course development process (Pan, Deets, Phillips, & Cornell, 2003). The fact that instructional designers can take on many roles within the university environment further belies simple definitions. At the same time that instructional designers question the parameters of their roles, there is evidence that technology is leading to examination of more traditional roles as well.

All of this leads to explorations of collaboration, and new niches of expertise. For example, Cook-Sather (2001) and Boisselle, Fliss, Mestre, and Zinn (2004) have conducted workshops to explore and ‘unpack’ the roles of campus participants in teaching and learning – faculty, staff, instructional technologists, IT professionals, and learners. Youngman et al. (2000) state that “It is important initially to establish clear roles and responsibilities in order to facilitate systematic development. Otherwise, it is difficult for people to have clear expectations of what is required of fellow team members” (p. 54). Meyen et al. (1999) explored the responsibilities associated with the instructional and technical development of distributed learning courses. Their research suggests that a team should have explicit responsibilities, shared values, an understanding of expectations, and mutual respect for each other’s knowledge. They believe that the

faculty and faculty support center staff should be aware of their individual responsibilities. For the faculty the responsibilities include content, pedagogy, and the preparation of content to fit the design and technical requirements. For the instructional technologists, they often have instructional design knowledge that may not be present in the faculty skill set.

Lockee et al. (2011) in their analysis of quality distance education courses and programs found “no mention of instructional design as a term much less as a guiding framework for distance course planning and development particularly amongst US-based organizations. While instructional design did not appear as a process by which to guide distance course development, all of the groups identified one or more components of instructional design standards related to distance coursework” (p. 3). This highlights an understanding of the importance of the instructional design as a knowledge base for success. As the possibilities for alternative instructional methods expand, the work of instructional designers and faculty support center staff will continue to morph into new forms of support and collaboration towards fulfilling each university’s mission.

Instructional Design Team Skills

To date there are many different skills that can be provided within a faculty support center. Cifarellisi and Zinn (1998) suggest that a support center house onsite personnel, videos, computer-based training (CBT), online courses, hands-on computer tutoring and seminars, and a help desk support. Fink (2002), too, states that support is best to provide a complete range of client services. He provides a laundry list of services that he believes enable faculty to have the greatest opportunity to engage in the process of learning. Fink’s work supports similar research (Byun, Hallet, & Essex, 2000; Kang,

2001; Luck, 2001; Youngman et al., 2000) that emphasizes the critical role of the multi-disciplinary instructional design *team*. These roles include creating a complete course for the faculty member, including an instructional design, web-based content pages, photography, graphical imaging, original artwork, animation, video, and audio. Rhoda, Fink and Green (2006) state that a support group with a variety of skills can unload the burden usually placed on faculty to acquire ‘high-tech’ skills. Rhoda et al. found that the faculty response to such assistance has been overwhelmingly appreciative.

Faculty members want to be able to turn to technical experts when they need help (Chizmar & Williams, 2001), and the roles for the collaboration occur as the project evolves. As Hoegl, Weinkauff and Gemuenden (2004) state, project commitment, solidarity and identification emerge when the project members are proud to participate in the development. Such commitment changes the dynamics of the team and the roles that the team members are willing to take on, as well as the continued agility the team brings to work on the project over a long period of time. There has to be confidence in the support and technology being used. “Often there is a ‘cultural lag’ in appropriately pairing novel technology with effective use, making it essential that medical educators be confident that educational theory guides and supports their use of technology” (Association of American Medical Colleges [AAMC], 2007).

In their comprehensive research study, Sorcinelli et al. (2006) polled faculty support personnel to discern the three top challenges they saw facing the faculty and higher education institutions. The respondents provided a range of priorities, but five central priorities emerged across institution type and size: balancing increasingly complex and demanding faculty roles; assessment of teaching and student learning

(especially in the context of increasingly diverse students); the impact of technology; addressing the needs of part-time faculty; and the demands of interdisciplinary leadership development for chairs and institutions (pp. 104-105).

Administrators see instructional designers as a vital link between the traditional campus and the distributed campus:

“There's a rare faculty member who may be able to do it all himself or herself” says Graham B. Spanier, the university's president. “But the instructional designer brings it all together. The designers will help determine the success of online education”, he predicts: “The instructional designer will influence the extent to which students come back for additional courses.” (Carnevale, 2000, A37)

The use of faculty support center staff provides the university as a whole a link to areas that may be unfamiliar to the faculty or staff. Institutions have to acknowledge that faculty members must extend their understanding beyond how to use the technology. Faculty members need to understand how technology affects their pedagogy (De Simone, 2006). Carefully designed faculty development approaches and centers can facilitate and create a culture that supports a thoughtful focus on teaching, while at the same time, nurtures a sense of connectedness and collegiality across the organization. This culture and connectedness are vital to continuous innovation and improvement (Eib & Miller, 2006).

Understanding the faculty support center from an organizational perspective is critical to ensure that the structure of the center is a good fit within the larger university structure. Within the center structure, the role of the instructional designer deserves special attention, as this individual must encompass an uncommon combination of people (soft) skills and technical (hard) skills. Thoughtful development of an organization that fosters collaboration, both among center staff and between center staff and faculty, is

most likely to result in success. While this section explicated one part of that collaborative force (the instructional designer's), the next section reviews what is known about innovation in the instructional context.

Innovation in the Instructional Context

Everett Rogers's 1995 book, *Diffusion of Innovation* (DOI), offers insights into the growth and support of innovation over time and helps to create a road map for the development of instruction and educational technology support centers. Rogers defines diffusion as the process by which the communication of an innovation moves through certain channels, over time, among members of a social system. Rogers's broad social psychological DOI theory describes the patterns and mechanisms of adoption, and highlights whether and how a new invention will be successful. He writes that diffusion of innovations is "...essentially a social process in which subjectively perceived information about a new idea is communicated from person to person. The meaning of an innovation is thus gradually worked out through a process of social construction" (Rogers, 2003, pp. xx-xxi).

The object or idea of the innovation itself has no inherent meaning, and it generally does not come with instructions on all the possible ways it can be used. Meanings of the object or idea, and information about its proper use and its consequences, have to be worked out socially through communication, and it is through this communication between social groups that highlights how the innovation or idea is used and its longevity within the community.

Understanding Rogers' DOI necessitates understanding his definition of four elements present in the diffusion of innovation process. The first is innovation - an idea,

practices, or objects *perceived* as new by an individual or other unit of adoption. The second he calls the communication channels - the means by which messages get from one individual or group to another. Time is the third element, and there are three time factors: the innovation-decision process, the relative time within which an innovation is adopted by an individual or group, and the innovation's rate of adoption across multiple individuals or groups. The social system makes up the fourth and final element. It entails a set of interrelated units engaged in joint problem-solving to accomplish a common goal.

The Adoption Process

Rogers breaks the adoption process into five stages: awareness, interest evaluation, trial and adoption. Individuals are seen as possessing different degrees of willingness to adopt innovations, and the proportion of the population adopting an innovation is normally distributed over time. Understanding the adoption process can help leadership forecast how members of a community might “adopt” an education and educational technology support center: “The individual’s attitudes or beliefs about the innovation have much to say about his or her passage in the innovation-knowledge process” (Rogers, 1995, p. 167). The process can be easily mapped onto the education support center case. In the awareness stage, the faculty member is exposed to the innovation (center) but is lacking complete information about it. This stage may delay the work that occurs at the center, as complete information takes time to disseminate.

The interest or information stage is when the faculty member becomes interested in the new idea and actively seeks additional information. During this phase the faculty member may be interested, but not completely confident, that the center will stand the test of time.

The evaluation stage occurs when the faculty members mentally apply the innovation to their present and anticipated future situations, and then decide whether or not to implement it. For the faculty member, this stage is the springboard. Usually the faculty member has a specific interest, and begins to imagine implementation scenarios. This stage may also be considered one of gathering requirements and planning.

In the trial stage, the faculty member makes full use of the innovation. This is the first use of the innovation; the first time faculty member comes to the center to share ideas with support center staff. This is a critical stage. If faculty members can be part of a successful implementation of their idea, they are more likely to favor adoption of the innovation (in this case, the center). If, on the other hand, the faculty members have a negative experience at this stage, either experiencing too many issues or failing altogether, they usually do not return to the center.

The adoption stage is the point at which the faculty member decides to continue the full use of the innovation. Adoption in the case of organizations leads to what Roger's calls "institutionalization," and generally the term institutionalization is used only in reference to organizations. Essentially institutionalization refers to the fact that innovation is supported by other structures and personnel in the institution and becomes the "new norm" for the organization.

The Adopter Categories

Rogers (1995) also specifies five adopter categories, classifications of the members of a social system, on the basis of their innovativeness. Not everyone adopts an innovation immediately, which means that different audience members fall into different categories regarding when they adopt an innovation: innovators, early adopters, early

majority, late majority, and laggards. Adopter categories within Rogers' DOIO follow an "S-shaped curve" in terms of the relationship between time of adoption and types of adoption. The innovation diffuses fairly slowly as a small number of innovators adopt it. This first group of innovators adopts the innovation and understands that there is a great deal of uncertainty about an innovation and its consequences and usefulness when it first becomes available. This group of innovators, normally comprised of risk takers, tends to be venturesome, having connections with other innovators outside their networks that allow them to find out about new products and practices. If the innovation is successful, early adopters will adopt the innovation.

Early adopters are people who are role models and can be opinion leaders. This group is cutting edge by adopting innovation earlier than most of the population, and yet they face less uncertainty about the potential success and consequences of an innovation by learning from the experience of innovators. Early adopters tend to be connected to many people throughout their community, and, as such, they are a good target population for promoting an innovation. Diffusion hits the "tipping point" right when the early majority adopts the innovation.

The early majority members tend to be social, interacting frequently with peers. They need more time to deliberate and must feel more certainty before adopting an innovation. Diffusion continues at a high rate but starts to slow as the late majority adopts the innovation. The late majority is the group that adopts after the average person, and people in this category may adopt due to peer pressure. These adopters are risk-averse, skeptical and cautious, and they adopt after most of the uncertainty surrounding an innovation has been removed. Diffusion tapers off as the laggards slowly adopt the

innovation over time. Laggards may have traditional values and may be suspicious of innovations.

Like the adoption stages, the adopter categories are useful in thoughtful planning of an innovation like a faculty support center. Zayim, Yildirim, and Saka (2006) make a compelling case for understanding the differences between the five adopter categories, as well as what they call “mainstream faculty.” Zayim et al. (2006) also provide a crosswalk of characteristics across the categories of adopters that help compare an individual’s willingness to adopt an innovation. For example, they contrast the character of an early adopter (one who favors revolutionary change, a visionary, risk-taker and experimenter, a person who focuses on technology and is generally self-sufficient), with that of one who is in the ‘mainstream’ category (one who prefers evolutionary change, a conservative, problem-oriented and risk-averse individual, who will likely need significant support). Understanding the differences between early adopter and mainstream categories (for both faculty members and the administration) will help build programs and encourage different kinds of faculty members to pursue the adoption of instructional technology.

Conditions that Influence Innovation Success

Don Ely (1999, 1990) identified eight conditions that influence the success of innovation implementation. These conditions serve as a baseline for evaluating the change processes in educational technology. In describing the first condition, Ely writes about dissatisfaction with the status quo. This usually involves problems that cannot be solved. In the case of a postsecondary setting, this could be applied to the dissatisfaction from university leadership, faculty, or even the learners. It is usually expressed by individuals who want to bring about changes but do not know where to begin (Ely 1999,

1990). The second condition is acknowledgement that the knowledge and skills must exist in some form in order that the change/innovation might occur or be implemented. Those who will ultimately implement any innovation or technology change must possess sufficient knowledge and skills to do the job. People may believe that change is necessary, but lack the knowledge and skills to bring about the innovation. If faculty members are aware that a support center exists for them, then this condition for change is met. Bringing in members of the faculty support center lightens some of the resistance to the change or innovation by providing them with the skills to support the faculty. The knowledge and skills can be acquired through existing skill sets of the faculty support center team, thus allowing one group to start with the skills and then support, mentor, collaborate or share those skills with others in the community. In the end, it comes down to having someone with the knowledge and skills to use the innovation and share, mentor, and implement that innovation for lasting change to occur. Many researchers (Kampov-Polevoi, 2010; Kim & Bonk, 2006; Kyei-Blanksomn, 2010; Power, & Morven-Gould, 2011; Powers, 2009) have documented the importance of instructional design/ technology support centers and the support brought to faculty.

The third condition for change requires the availability of adequate resources for successful implementation. This corresponds with the CIHE indicator of institutional commitment: Adequacy of technical and physical plant facilities. Resources also include, for example, finances, hardware, software, and personnel. Though time is sometimes seen as a resource, Ely (1990) places it as a separate (fourth) condition for successful innovation or change. Implementers must have adequate time to become educated in how to use the innovation. This includes training time, as well as time to ‘try out’ an

innovation, practice it, and evaluate it. In the case of the faculty support center as innovation diffuser, it is critical to understand the time, collaboration and flexibility required to support faculty in the development of educational resources (Dreyfus, 2001; Maguire, 2005; Powers, 2009; Sorcinelli, Austin, Eddy, & Beach, 2006). This understanding of time is not only important for the administration and support center staff, but for the faculty, too, so that all members of the larger university system are working cohesively towards a shared primary goal of supporting the faculty (rather than at cross purposes with some actors focused on, for example, cost savings) (Power & Morven-Gould, 2011).

Ely also highlights the importance of the rewards or incentives provided to the participants. Everyone has different motivations for trying out an innovation or being part of an educational change movement. Intrinsic motivation is the most powerful factor influencing faculty investment in using a support center (Beggs, 2000; Betts, 1998; Bonk, 2001; Maguire, 2005; Parker, 2003; Wolcott & Betts, 1999). Motivation can also be achieved when faculty members feel a sense of ownership. This ownership is a result of the positive experience the faculty members have in their collaborations with support center staff, and will compel them to use the support center again, as well as suggest it to others.

Ely's sixth condition is the participation and involvement of stakeholders in decisions that involve planning and design of the innovation. In the case of a faculty support center, this would include the faculty, university administration, center staff, and even students. Campbell, Schwier, and Kenny (2009) also echo the importance of this,

explaining that interpersonal, professional, institutional and societal interactions play key roles in the participation and involvement of all stakeholders.

As found in the Commission on Institutions of Higher Education (CIHE) (2007), institutional context and commitment is the first among a set of “critical dimensions” defined by and considered by regional accrediting commissions and are the focus of Ely’s seventh and eighth conditions. The institutional commitment focuses on the alignment of administration and faculty with the institution’s role and mission, including institutional development plans (such as opening a faculty support center).

Seventh on the list is the commitment by the university (i.e. presidents, vice presidents, deans) to support the implementation of the center actively. Additionally, leadership must be evident. That is Ely’s eighth condition. Ely specifies a two-pronged approach to leadership, involving the executive officer of the organization and the project leader (who is more closely involved in day-to-day activities).

Ely’s eighth condition holds true for both technological and non-technological innovations and can easily be transferred to the implementation of any faculty support center. Additionally, these conditions as a whole can be applied within institutional and cultural boundaries, allowing for better communication, collaboration and understanding. While presented independently, these conditions are interrelated. They affect each other by either supporting or undermining one another (Ensminger & Surry, 2002).

Similar to Ely’s list of the conditions necessary for change, the CIHE components provide another basis upon which to consider the faculty support center. By investigating the factors that Ely and CIHE highlight as relevant to implementing an innovation, change can be facilitated in a more positive manner for the leadership, the faculty, staff,

contractors, and consultants/change agents. Kirriemuir and McFarlane (2004) suggest that for the development of successful technology-based learning products, the “key to success is likely to be the development of effective collaborations between both educators and technical experts” (p. 25). Knowing whether faculty members believe that each of the eight conditions for change has been met can assist an institution in successfully implementing and supporting faculty through a faculty support center, thus minimizing potential roadblocks.

Support for Faculty: Partners in Learning

University faculty members acquire their teaching methodology through many different avenues. While many faculty members enter the university environment as experts in a specific content area, difficulties may arise if they are required to teach outside of their expertise, or, if they lack the technical and pedagogical skills necessary to design and teach effectively. During the 1900s, teaching expertise was assumed to be part of content expertise (Wilkerson & Irby, 1998; Major & Palmer, 2006). Today, it is known that faculty members’ instructional approaches are adaptations of their own learning experiences as graduate students (Jones, 2008; McQuiggan, 2007). Knapper (1995) and Wilkerson and Irby (1998) state that over time, teaching has come to be recognized as a skill associated with, but separate from, content expertise. Olcott (2000) states habit, tradition, and culture have kept faculty from addressing pedagogical practice and instructional innovations. He continues by adding that for faculty members to explore technology-enabled learning, they must first look at current instructional practices through a critical lens, and they must be given genuine institutional support in their efforts to assess and refine their own pedagogy.

Although many different types of support may be in place to facilitate faculty extending their understanding of technology and pedagogy, Dillon and Walsh (1992) discovered that faculty development programs designed to promote distributed teaching are usually provided as isolated training events. This generalization was buttressed by Olcott and Wright (1995) who found that the faculty continue to resist participation in distributed education due in large part to the lack of more comprehensive, ongoing institutional support. Their study further demonstrates that issues such as instructional support and development are not high priorities of the institutions or of the academic units within those institutions. This low priority persists through Rockwell, Schauer, Fritz, and Marx's (2000) study, which also found that instructional support and development activities were *high* on the list of services sought by faculty.

Olcott and Wright's 1995 study concludes with recommendations that institutions establish training models with departmental chairpersons and deans, as well as comprehensive faculty development programs. Betts' (1998) research emphasizes the demand for such programs at George Washington University, where 65% of the respondents stated that they would participate in faculty development programs. All of these studies support creation and use of a faculty support center. In particular, they highlight the need for institutional support for the faculty to engage in course development and to receive technical support. Institutional support includes seminars and workshops that focus on course design, pedagogical strategies, and new technologies, as well as faculty release time for training.

Conrad (2004) and McQuiggan (2007) suggest that issues of faculty instructional and technological savvy (or lack thereof) surface when, for example, the faculty do not

know about the transferability of instructional media or content. This impairs the faculty member's ability to transition from a face-to-face medium to a distributed learning environment. The faculty support center helps sustain quality instructional practices by using skilled and experienced staff to assist, train, and even mentor the faculty in educational technology tools and instructional strategies. Mentoring, either by professionals such as instructional designers, or by other faculty, provides relationships and support. Such support empowers faculty members to manage their careers better, and this is "essential for their academic success" (Thorndyke, Gusic, George, Quillen, & Milner, 2006, p. 668). Additionally, when an academic institution commits resources to, and promotes accountability in, the development of a support model, it provides "knowledge, skills, and resources, and a supportive environment that builds relationships" (Thorndyke et al., 2006, p. 672). This collegial and community view of group development supports the interests of the faculty members who want to improve instructional practices, as well as helps normalize a culture of learning and of quality instruction (which can improve the instruction of faculty members who do not show interest in explicit professional development).

Rockwell, Scheuer, Fritz, and Marx, (2000) examined the types of education assistance and support for faculty at two colleges in one Midwest land-grant university. Over the previous decade, these two colleges had emphasized developing distance education opportunities, and their strategic plans called for expanding the effort. Initial interviews with 16 administrators reveal concerns about faculty training, especially on using the technology and designing the instruction for distributed delivery. The researchers also surveyed the 207 faculty at whom the new efforts were aimed. Sixty-

seven percent of the faculty responded. The findings show that the faculty member must believe it is important to obtain further education about, and support for, many aspects of the shift to distance education. These include developing interactions, developing instructional materials, learning about newer distributed delivery strategies, using a mixture of different technologies, and marketing a course. Faculty members also express interest in getting help with developing the curriculum design, and evaluating the delivery process as well as the student outcomes.

The findings of a 1999 study by Rockwell, Scheuer, Fritz, and Marx emphasize that the integration of technologies into both the distributed and the face to face learning process reflects a shift in the classroom-based paradigm in which many educators are entrenched. The face to face model or classroom-based paradigm is often seen as rows of desks with a faculty member at the front of the room directing the learning. At times this faculty member can provide a dynamic discussion integrating the student into the conversation and developing dynamic learning environments while being a “guide on the side.” At other times the faculty member is seen as the “sage on the stage” where rows of students listen to the faculty member lecture. While some faculty members know when each is appropriate, some do not. The researchers also identify the types of education, assistance, and support needed by the faculty to develop educational materials for distributed *and* face to face delivery. An important aspect of the Rockwell et al. study is the revelation that there are substantive differences in the way that education, assistance, and support are understood by teaching faculty versus administrators. It is for this reason that the methodology for this dissertation includes data collection from numerous, diverse leadership and faculty members.

A study by the Alfred P. Sloan Foundation (Seaman, 2009) found that “Senior faculty are the least likely (by a small margin) to be currently developing an online course,” while mid-career faculty (6 to 19 years teaching experience) are both more likely to have developed an online course in the past, as well as to be developing one currently. Unfortunately, the Sloan study also found that overall, faculty members perceive their current campus support structures for online teaching as “not very good.” With the single exception of support for technology, faculty members rated all aspects of support as lacking, especially in regard to the incentives provided by their institution. The report explains:

In response to questions regarding faculty support, institutional participants commented on the value the faculty place on having access to good professional support, which were echoed by responses to similar areas of inquiry in the Faculty Survey. Many institutional participants, however, observed that these critical units are only able to maintain small staffs to provide both training for course design and delivery support—and this is a source of concern if demand for those services grows in the future. (Seaman, 2009, p. 30)

Research on faculty needs and perceptions highlights a number of challenges to providing assistance and support for faculty teaching via distributed education. These challenges include the need for faculty incentives, instructional support for multiple technologies (e.g., instructional materials, mixed technology training), and workload (e.g., adjusting faculty duties, providing additional financial support, and training). In the Rockwell et al. (2000) study, researchers conclude that as more and more faculty members teach via distributed methods, their changing needs for education, assistance, and support will require monitoring in order to adapt to institutional assistance.

A common theme emerging from studies (1992-2010) that focus on faculty support is the need for faculty support centers. The Commission on Institutions of Higher

Education (CIHE, 2007) called for a reexamination of the online practices of U.S. universities based on the newly established best practices. The document addresses faculty support in terms of workload, compensation, ownership of intellectual property, as well as, importantly, in the context of this dissertation, the provision of appropriate technical, instructional, and production support for participating faculty members. All of these findings either individually or together, either for face to face or distributed learning, support the need for, and evaluation of, established “faculty support offices.” There are significant challenges to ensuring that faculty members have access to the resources they need to deliver a quality education through both their distributed or face to face courses.

The previous sections have reviewed the research on how post-secondary faculty acquire and maintain knowledge and skills in instruction and educational technology, as well as literature focusing on faculty support centers, instructional design, and innovation and faculty support. The next section of this chapter addresses a final component that holds major influence over the future of the faculty support center movement: that of the tensions in the academic environment.

Tensions in Academia

When implementing innovative technologies or teaching techniques, overcoming the tensions that typically plague faculty has critical implications for the success of faculty support groups. The university system has remained largely centered around a professional reward system (tenure), skewed toward research and publication output (Boyer, 1987; Colbeck, Cabrera, & Marine, 2002; Colbeck, 2005; Fairweather, 2002). For example, Boyer (1990) asked faculty members what criteria they considered

important for the decision to receive tenure. Ninety-five percent of faculty employed at research universities stated that receiving tenure without having any publications is very difficult (if not impossible). Ninety-five percent state that the number of publications has a major influence on tenure decisions. Eighty-three percent consider article acceptance at a specific journal to be very important for the tenure decision. In contrast, only 10 percent consider student evaluations to be very important for tenure committees. The system of promotion and tenure, in many cases, has reduced faculty or institution-level investment in innovative teaching approaches. Some studies (Bess, 1977; Cravener, 1999; Cruz, Ellrn, Ford, Moss, & White, 2010; Puri, Graves, Lowenstein, & Hsu, 2012) have reviewed the disincentive effect of this system; in which faculty at research-intensive institutions historically do not view effort in innovative teaching as contributing to professional advancement, but instead see instructional effort as poorly invested time or money. While tensions still exist in the arena of promotion and tenure specifically regarding the belittling of teaching, there are some institutions acknowledging the importance of teaching and other activities beyond the “publish or perish” tenure model.

June (2013) highlights positive changes:

Other institutions, too, have taken steps to embrace nontraditional forms of scholarship. James S. Fairweather, a professor of higher, adult, and lifelong education at Michigan State who studies faculty roles and rewards, says conversations about how to best document and reward the full scope of faculty work have gained traction. (pp. 25-26)

How much traction these conversations have –or need—remains to be seen. Kreber (2003) believes that overall policy change in academe is more likely to ensue once the wider academic community reaches consensus on the value, meaning, and nature, of the scholarship of teaching.

Until there are changes in the values embedded in the tenure system, instruction will continue to be devalued, and this has implications for both the use of educational technologies, as well as instructional techniques. Olcott and Wright (1995) assert that faculty resistance to distributed education is mainly a result of the lack of institutional support frameworks for training, compensating, and rewarding distance teaching faculty, "commensurate with...traditional instructional roles" (p. 5). Clark (1993) describes administrative, economic, and technical barriers to faculty participation in distributed education. Similarly, Bonk (2005) identifies time to learn technology, shortages of instructional development grants and stipends, limited recognition by departments and institutions in promotion and tenure decisions, and minimal instructional design support as major barriers to faculty participation in online instructional settings. Hagenson (2001) reminds us that "If higher education wants to survive the expansion of technology, then it must be prepared and must prepare its faculty to implement the new technologies within their classrooms" (p. 2). Heinich (1995) provides many other reasons that technology use grows. He states that technology survives because of faith, continued internal improvement, an institutional structure that encourages and facilitates development, and an environment that permits technology to seek the best avenues for its growth.

In order to minimize or eliminate barriers to faculty participation in instructional technology, faculty members must be provided with both support and motivation. Many researchers have tackled the tensions specific to the subset of faculty (and support center staff) who provide distributed education (Beggs, 2000; Betts; 1998; Olcott & Wright, 1995; Parker, 2003; Wolcott & Betts, 1999). Their studies have ranged from quantitative studies to focused qualitative studies involving single programs on individual campuses.

These researchers identified a number of factors that could have significant influence on diminishing faculty tension and improving motivation. Like Ely (1999) and Rogers (2003), Beggs (2000), Betts (1998) Olcott & Wright (1995), Parker (2003), and Wolcott & Betts (1999) divided these factors into two broad categories: external (or extrinsic) factors and internal (or intrinsic) factors. Extrinsic factors include compensation (e.g., money), status (e.g., tenure status), resources (e.g., teaching and administrative support). Intrinsic factors include age and gender, as well as the attitude of individual faculty members. The intrinsic factors are usually more difficult to perceive, manipulate, and measure.

Institutional commitment or lack of commitment, whether real or perceived with respect to teaching activities, has the potential to cause tensions for faculty members, and thus to influence their use of faculty support centers. The faculty sees university support in two ways: tangible (e.g. facilities and support staff), and intangible (e.g., professional recognition, career advancement, and moral support). Investigations into the role of the faculty support centers as an instructional motivator have found both tangible and intangible categories to be relevant (Agnobiahor, 2006; Colbeck, Cabrera, & Marine, 2002; Cravener, 1999). Research also indicates that the less-tangible administrative support factors, like faculty perception of how leadership supports the teaching and learning mission of their campuses, also directly impacts *use* of faculty support centers (Frost & Jean, 2003; Frost & Teodorescu, 2001; & Lindholm, 2003). The more the faculty perceive administrative support for teaching, the more likely they are to invest additional time and effort in their instructional roles.

Faculty reaction to administrative support can also be influenced by how faculty support programs or initiatives are packaged and delivered. For example, in a study of programs at three large research universities, Fairweather and Beach (2002) found that the program's impact varied depending on the implementation level. While each faculty support program invested heavily in the teaching mission of its campus, the impact of the program was more positive when the program was implemented and managed at the departmental level. Conversely, similar programs resulted in little behavioral change when directed at the campus-level. This discrepancy may reflect an overall disconnect between what the administration thinks motivates faculty and what faculty members actually report as motivational (Wolcott & Betts, 1999).

Beyond extrinsic motivators, there is additional evidence suggesting that those who put more into their teaching are intrinsically motivated in general, while those who are less motivated respond better to extrinsic inducements (Wolcott & Betts, 1999). Put differently, those faculty who put more into their teaching—including technology—tend to do so for intrinsic reasons and are largely unaffected by external efforts of the administration to persuade them with money, resources, or temporary programs. On the other hand, those faculty members who are less likely to innovate and use technology in their teaching may try out new things, but only in response to external inducements, which as Maslow (1943, 1954) demonstrated decades ago, tend only to provide temporary behavioral change. Maslow's research shows that extrinsic factors diminish as a source of motivation, once basic human needs are met in the form of pay, food, housing, etc. From that point forward, self-directed, intrinsic motivational factors take

over. Thus, assuming that most faculty members' basic needs are met, those who enjoy teaching, and who want to try out new tools and techniques are intrinsically motivated.

Chapter Summary

What literature there is on the relatively new construct of the faculty support center suggests that there is great interest in developing better understanding and insights into the organizational support structures that address the university faculty's instructional and educational technology needs. There has been much focus on the personnel elements of support, such as university leadership, instructional designers, managers, and developers. Faculty learning, too, has been placed under the microscope in more recent years. Numerous studies have shown that faculty members who are most likely to spend time on their instructional and educational technology uses are intrinsically motivated in their efforts (Bess, 1977; Betts, 1998; Colbeck, 2005; Parker, 2003; Wolcott & Betts, 1999), but they can also benefit from extrinsic motivation, including the institution's prioritization of effective teaching.

The purpose of this study is to understand more fully the creation and adoption of instructional and educational technology support centers. As a qualitative study, its purpose is not to prove or disprove previous studies, or to generalize results, but rather to provide a richer understanding of a single case, including the context in which university leadership worked to develop the ETI support center at the USUHS. Having introduced this topic, explicated the conceptual framework elements, and reviewed the body of relevant literature, the next chapter explicates the case study methodology for this study.

CHAPTER THREE: RESEARCH METHODOLOGY

The research design and methodology of this study were selected based on the research questions, which lead this chapter. Following the reiteration of the research questions, this chapter explains the appropriateness of a case study design, and details the present study's design in terms of data collection methodology, participants, data analyses methods, data quality (validity and reliability), and study limitations. The chapter concludes with a discussion of the role of the researcher in qualitative research, issues of subjectivity related to this study, and ethical issues in case study research.

Research Questions

The driving question of this study is: **How is the work of the Education & Technology Innovation Support Office (ETI) perceived by the USUHS leadership and faculty members?** Sub-questions addressed are the following:

1. How and why was the ETI developed?
2. What has been the institution's context and commitment to the ETI over time?
3. What factors facilitated and hindered the development of ETI?
4. What are the characteristics of key roles played by those involved in the ETI's development?
5. What contextual factors support or constrain the ongoing work of the ETI?
6. In what ways has the ETI been most helpful to the faculty and leadership of the University?

These questions opened up the complicated relationship between instructional and educational technology staff, university leadership, and the faculty, as a means to obtaining insight into the development, adoption, and functioning of the center.

A qualitative case study design guided this study, and is explicated in the following sections. Qualitative research seeks “answers to questions that stress *how* social experience is created and given meaning” (Denzin & Lincoln, 2005, p. 10). Qualitative research offers the flexibility to explore different and/or unanticipated participant experiences. The natural interaction that is facilitated with semi-structured interviews can lead to a deeper understanding of complex situations –of the answers to *how* and *why* questions, and “being open to any possibility can lead to serendipitous discoveries” (Merriam, 1998, p. 121). Further, as Stake (1995) points out, qualitative researchers, “...are trying to remain open to the nuances of increasing complexity” (p. 21) which is integral to the concept of “progressive focusing” (Huberman & Miles, 1983; Stake, 1994). As data are gathered and themes emerge responsively throughout the course of the study, the “organizing concepts change somewhat as the study moves along” (Stake, 1995, p. 133).

Research Design

The design of this study was meant to provide guidance in accomplishing the characteristics of quality research outlined by Garman (1994): Verity (intellectual authenticity), integrity (structural soundness), rigor (depth of intellect), utility (professional usefulness), vitality (meaningfulness), aesthetics (enrichment), ethics (consideration of dignity and privacy of participants), and verisimilitude (sufficient detail to warrant transferability). Utility is of particular importance to me. Qualitative research can be used as a rationale or justification for a specific reform or change (Creswell, 2003). The findings of this study may be of interest to both the participants at USUHS, as well as the leadership, the faculty, and support staff at other universities. This research

succeeded in explaining many of the factors that went into the development of a faculty support center, as well as the faculty use of the center. It may help the leadership, the faculty, and support center staff at other universities to integrate and provide instructional and educational technology support more skillfully. It may also be able to influence the broader ways in which faculty support is conceptualized, planned, supported, implemented, and evaluated. The potential utility of research is, arguably, intrinsically linked to research quality. For this reason I frequently returned my attention to the above mentioned characteristics of quality research. Doing so helped to avoid the traps of tangents, irrelevance, data mismanagement or disorganization, shallow interpretation, bias, and weak analysis.

Qualitative Case Study

This dissertation employed qualitative case study research. Case study is “an essential form of scientific inquiry” (Yin, 2003a, p. xi) and has become a common research methodology because of its versatility, adaptability, and capacity to provide researchers, interested stakeholders, and the public alike with in-depth understandings and meanings of phenomena that might not otherwise be understood. Case study offers a natural fit for research exploring the development and adoption of an instructional and educational technology support center, a complex phenomenon. Case studies are used extensively in social science research, in disciplines like psychology, sociology, and anthropology, and in practical fields such as public administration, social work, and education. They are appropriate to study institutions, programs, processes, policies, decisions, and outcomes in such diverse arenas as business, government, and schools (Yin, 2003b). The development of case study as a research methodology evolved through

the latter half of the last century. Three of the leading voices among theorist-practitioners are those of Sharan Merriam, Robert Stake, and Robert Yin. Each of their approaches influenced the present study, and deserves further elaboration.

Merriam's Approach

In *Qualitative Research and Case Study Applications in Education*, Merriam (1988, 1998) explains that "...the single most defining characteristic of case study research lies in delimiting the object of study, the case" (p. 27). It is the bounded-ness and specificity of the unit of analysis that is the focus, rather than methodological approach. "Unlike experimental, historical, or survey research, case study does not claim any particular methods for data collection or data analysis. Any and all methods for gathering data, from testing to interviewing, can be used in a case study" (1998, p. 28). Merriam (1998) categorizes qualitative case studies based on the overall intent of the study. In her view, the three main case study purposes are particularistic, descriptive, or heuristic. Particularistic case studies focus on a situation, event or phenomenon and what it might represent. Descriptive case studies are used to present a detailed account of the case through a rich, thick description. Heuristic case studies are used to evaluate a program for the purposes of description, explanation, or assessment of impact or outcomes. Merriam's concept of descriptive case studies informed this research, because the uniqueness and complexity of the ETI phenomenon required a fine-grain focus and accounting.

Stake's Approach

Stake began writing about case study methods and education evaluation in the 1960s. His textbook, *The Art of Case Study Research*, was published in 1995. In addition

to this textbook, Stake authored two chapters on case study that appeared in both editions of Denzin and Lincoln's *Handbook of Qualitative Research* (Stake, 1994, 2000). In these chapters, he lists potential sources of information that researchers may consider in studying and developing the case: The nature of the case; the case's historical background; the physical setting; other contexts (e.g., economic, political, legal, and aesthetic); other cases through which this case is recognized; and informants through whom the case can be known. Stake (1995, 2000) also offers a framework for categorizing case studies. In his view there are three different types. Intrinsic case studies are undertaken because the researcher has some intrinsic interest in a case and wants a better understanding of it. Instrumental case studies are cases that are designed to provide insight into an issue or phenomenon. Collective case studies include multiple units of study rather than just one, and are typically "instrumental case studies extended to several cases" (2000, p. 437). This study is an instrumental case study. Stake (Merriam, 1998; Stake, 1995) also notes that any single case study has subsections (e.g., production, marketing, sales departments), groups (e.g., students, teachers, parents), occasions (e.g., workdays, holidays, days near holidays) –a multiplicity of domains. The "holistic case study calls for the examination of these complexities" (Stake, p. 239). The resultant rich narrative text, in this case, will aptly describe the experience of the faculty and leadership with faculty support centers.

Yin's Approach

The first edition of Yin's book *Case Study Research: Design and Methods* was published in 1984. Since then it has been updated in a revised edition (1989) and two subsequent editions (1994, 2003b). With the publication of the second edition of the

textbook, he developed a companion book called *Applications of Case Study Research* (1993) that has also been updated in a second edition (2003a). Yin's empirical and quantitative view of case study methodology stands in sharp contrast to his contemporaries, especially Stake (1994, 1995, and 2000) who is a strong advocate of approaches that are more qualitative in orientation, inductive in design, interpretive in analysis, and that use narration as a primary method of conveying findings.

Although this study did not follow Yin's quantitative approach, it benefited from some of the core tenets of his approach. Yin (2003) not only appreciates the role of context, but also recognizes that the boundaries between a phenomenon and context are often not clearly evident. Prior development of theoretical propositions to guide data collection and analysis can help with boundary definition. Yin also suggests that variables of interest must rely on multiple sources of evidence, with the data converging in a triangulating fashion (Yin, 2003 pp. 13-14).

This case study is situated within interlocking contexts relative to the faculty and leadership themselves: their experiences, their teaching or research assignments, other duties on the university campus, and the campus itself. This qualitative case study design helped to clarify the relationships and interactions between these contexts. In order to understand the case of the adoption and implementation of the ETI at USUHS, I used the data collection methods of semi-structured interviews and document review. Each of these is described in greater detail following the description of research participants.

Research Context

This study is situated at the only accredited degree granting military medical school in the United States, the Uniformed Services University of the Health Sciences

(USUHS/USU). USUHS is the nation's federal health sciences university. The faculty is comprised of both civilian as well as active duty military members. Chartered by an act of Congress on September 21, 1972, USUHS is part of the U.S. Department of Defense, and is charged with providing the nation with health professionals (medical, nursing, preventative medicine, etc.) dedicated to career service in the Department of Defense and the United States Public Health Service, and with scientists who serve the common good (Uniformed Services University, 2008). School of Medicine and Nursing curricula are similar to those at civilian institutions, but also focus on the specialized educational elements geared toward producing career uniformed military officers. Students attend year round, and those in the School of Medicine receive 700 additional hours of education that focus largely on areas such as epidemiology, health promotion, leadership and field exercise, disease prevention and tropical medicine. The unique background and experiences of the faculty provide unique properties and challenges to the research study.

Research Participants

The fourteen participants in this study volunteered to participate, and represent a purposive sample of USUHS leadership and faculty. Purposive sampling in case study research provides the researcher with the opportunity to select and learn from the most promising participants. “Purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned” (Merriam, 1998, p. 61). The sample in this study ensured insight from the key perspectives of the leadership and the faculty at USUHS. Each participant was actively engaged in the development of the organization,

or has worked with members of the ETI team. All study participants are given pseudonyms to help protect their identity in this study.

Leadership

The leadership sample was comprised of the highest levels of leadership within the university. It included those with appointments as department head or higher within USUHS. Three leadership members were interviewed. They include Rick who had been at the university for over 10 years, Sinclair who had been at the university for over 20 years and Ralph who had been at the university for over 7 years.

Faculty

For the purposes of this dissertation, the term “faculty” describes professors with at least 2 years of experience teaching at USUHS. The faculty members selected for this research had worked with the ETI on multiple projects. This selection criterion included only those faculty members who had some degree of familiarity with ETI support, policy, and procedures.

A diverse group of faculty members made up this study. George is a faculty member in the Department of Family Medicine (FM) and has taught in higher education environments for over 10 years. Lane works in the Radiology Department and has worked in higher education for over 4 years. Louis works in the Pediatrics Department and has worked in higher education for over 10 years. William and Shiller have each worked in the Department of Military Emergency Medicine (MEM) for over 6 years. Cam has worked in the Department of Preventive Medicine and Biometrics (PMB) for over 20 years. Lenny, Beth and Linda work in the Graduate School of Nursing. Lenny has 3 years of teaching experience in higher education, while Beth and Linda each have

over 10 years' experience. Harry and Ben work in the Chief Information Officers office and have worked in higher education for more than five years each.

Data Collection Methods

In accordance with the qualitative research tradition (Denzin & Lincoln, 2005; Merriam, 1998; Stake, 1995; Yin, 2003), data were collected from multiple sources, and organized into sets accordingly. The primary data source for this research was interviews with USUHS faculty and university leadership. Document analyses produced the secondary sources: USUHS curriculum reform documentation and historical documents such as the history of the ETI, Working with ETI, ETI and USUHS websites.

Interviews

The use of interviews is commonplace in qualitative case study research (Denzin & Lincoln, 2005; Fontana & Frey, 1994; Merriam, 1998; Stake, 1994, 1995; Yin, 2003). They are one manner of obtaining an insider, or emic, perspective of the issues being studied. The interaction between researcher and participant through the interview is, “the establishment of human-to-human relation with the respondent and the desire to *understand* rather than to *explain*” (Fontana & Frey, 1994, p. 366).

In-person, semi-structured interviews were conducted with USUHS faculty and leadership from both the university and ETI. A semi-structured interview provides for consistent investigation of particular topics with the participant and basic introductory questions, but also affords flexibility to engage in natural conversation that provides deeper insight. A semi-structured interview can also be more honest, morally sound, and reliable, because it treats the respondent as an equal, allowing him or her to express personal feelings, therefore presenting a more “realistic” picture than can be uncovered

using more traditional, structured interview methods (Fontana & Frey, 1994, p. 371). Moreover, Merriam (1998) notes that highly structured interviews do not afford a true participant perspective; they simply “get reactions to the *investigator’s* preconceived notions of the world” (p. 74). Fontana and Frey (1994) speak to the advantage of in-person interviews, when they discuss the observation and notation of body language, and how this helps to verify (or challenge) shared meanings during the interview. It is important that the researcher and participant fully understand each other and the particulars of the conversation.

Each of the 14 respondents completed two one-hour semi structured interviews, with the first interview including time for the participants to read, ask questions and complete the consent form (see Appendix A). The order of the interviews was carried out based on the availability of each participant. The interview process in its entirety was completed with one participant before the next interview was started. Opportunities were given for member-checking after each individual’s final interview. Member checking is described in greater detail in the Data Quality section. All interviews were conducted on the university campus. During the interviews, handwritten notes were taken for the purposes of extending questions or as the researcher’s personal notes for further investigation. Interviews were audio taped and transcribed using digital media. I reviewed each interview recording shortly after completion and was sure to note any preliminary themes or key observations. It can be helpful, once themes emerge, to express a key observation you have to future respondents to get their viewpoint. Prior to the interview, the interviewee signed a consent form permitting the taping of the session and verbatim transcription for data analysis. Interview protocols (see Appendix B), are

designed to investigate further the central research questions as well as issues raised by the literature review, and finally, to facilitate data analysis. All data gathered from participants were collected with explicit permission from the participants and in full compliance with Institutional Review Board (IRB) guidelines from the University of Maryland.

Document Review

Bogdan and Biklen (1982) identify documents written by participants or leadership as another important source of information in educational settings. Document review includes hard and electronic copies, and may include, for example, reports, program logs, performance ratings, funding proposals, meeting minutes, and marketing materials. Stake (1995) reminds researchers to remain open to finding documents available, including those that the institution itself may have generated as part of their normal activities. Documents can provide checks on perceptions and help open up new avenues that may “progressively focus” the study (Stake, p.133).

Using the Kellogg Foundation Evaluation Handbook (1998) guidelines for document gathering and review, the first step was to gather data on the history of the ETI by reviewing existing documents. Documentation from the ETI and the USUHS website provided primary background and basis for many aspects of this research. Also reviewed was a Curriculum Reform document (.pdf) that was found on the USUHS website. I was given access to and reviewed the Ad Hoc Committee on Academic Informatics and Computer Support report and the Uniformed Services University of the Health Sciences Educational Technology Assessment. Any documents about the ETI’s history, philosophy, organization and operation I reviewed through its website. I completed the

document review prior to beginning the interviews, so that I could ground my understanding of the school history as well as any tensions. Thus, the review of available documents helped generate some deeper questions as well as some initial themes. After conducting interviews with the USUHS faculty and leadership members, I returned to the document examination and interpretation in order to inform the data collected through interviews. I created a summary document to organize the data by providing the type of document, reference by title and type, and information that answered each applicable research question.

Data Gathering and Analysis

Huberman and Miles (1983) outline a detailed procedure for data gathering and analysis which aids the simultaneous nature of the work, where coding (organizing and theming data), policing (detecting bias and preventing tangents), dictating field notes (as opposed to verbatim recordings), connoisseurship (researcher knowledge of issues and context of the site), progressive focusing and funneling (winnowing data and investigative technique as the study progresses), interim site summaries (narrative reviews of research progress), memoing (formal noting and sharing of emerging issues), and outlining (standardized writing formats) make up the process. While these procedures were used in a large, multi-site study, the research process for this dissertation used a similar procedure to accomplish the smaller research task of this study, with a single researcher. For this study, I used transcribed interviews and written field notes (either typed on a laptop computer or handwritten in a notebook) rather than dictated field notes (per Miles and Huberman).

I hired a transcriptionist, who signed a confidentiality statement. The directions I provided before transcription were to format the interviews based on questions, and include a time stamp for each interview question, so that I could find spots on the tape after the transcription was completed. The interviews were transcribed verbatim (every utterance recorded). Background noises, interruptions and silences were not transcribed, but if an utterance were not understandable, the time code was recorded. Nonstandard grammar and slang were included in the transcription as spoken on the tapes. Upon receiving the final transcriptions for each interview, I did a word-by-word check against the audio recording for accuracy. After all transcription was completed and checked by myself, member checking and triangulation tasks were completed to maximize data quality. Specifically, all interviewees were emailed the interview questions and their transcribed responses in order to validate their responses. This process also allows research participants to provide alternate responses or to elaborate on the information they already provided. A few participants replied with suggestions for minor refinements, and these were incorporated into the data. Comparing or triangulating the interview data with data from the document review provided another means of validation. Data quality is addressed in a separate section of this chapter.

I maintained summaries, memos, and outlines in a single notebook (digital and hard copy). When I had important realizations during interviews, I wrote them down to help the reflection process after the interview. These summaries and memos allowed me to situate myself in the experience. The procedures that I used to record, transcribe, and validate the data facilitated simultaneous collection and analysis.

A high quality analysis must attend to all the evidence, address major rival interpretations, address the most significant aspect of the case study, and use the researcher's (expert's) prior knowledge (Yin, p. 137). These four tenets guided the data analysis. Qualitative case study research amasses huge amounts of raw data; therefore, it is essential to maintain the data in an organized and timely fashion (Denzin & Lincoln, 2005; Huberman & Miles, 1983; Merriam, 1998; Stake, 1994, 1995; Yin, 2003). Preliminary data analysis must be conducted immediately post-collection or better yet, "The right way to analyze data in a qualitative study is to do it *simultaneously* with data collection" (Merriam, 1998, p. 162). Stake (1994) also emphasizes that data are continuously interpreted since qualitative research is inherently reflective; "In being ever reflective, the researcher is committed to pondering the impressions, deliberating recollections and records....data [are] sometimes precoded but continuously interpreted, on first sighting and again and again" (p. 242).

I reviewed the data until I was able to recognize repeating ideas and larger themes, which I then I worked with to determine how they related to my research question(s). Looking at the interview data in this way I was able to find underlying factors that explain the observed themes and then construct a logical chain of evidence. Drawing on repeating ideas and themes, I summarized the findings in relation to my research question(s) as well as to previous research in the literature.

After reviewing all the data sources, the materials (interview transcripts, notes, summaries, memos, and outlines; and ETI/USUHS-related documents) I manually coded the data and preliminary themes emerged. Each time I completed three or four interviews, and prior to receiving completed transcriptions, I read over my interview notes and

created a one or two-page summary of themes I noticed and questions that had emerged. As I identified these from study participants' frames of reference, I attempted to explain the patterns (Creswell, 2003) or to understand the essence of participants' experience (Creswell, 1998). Analyses proceeded as Miles and Huberman (1984) describe, from noting patterns and themes to comparing and contrasting, to determining conceptual explanations of the case study. The data analyses and collection proceeded in parallel, and I was able to add probes to ongoing interviews, as a way to further explore emerging themes.

Moustakeas (1994) states that data should initially be divided into statements in a process known as horizontalization. This allows for categories of data to be developed where responses are clustered together. Response clusters should align to some extent with the research questions, as this is how the interview protocol is organized. The categories of clusters suggest themes within the data. I sought to develop two distinct upper-level categories of data: one textural, dealing with the "what", and the other structural, dealing with the "how" of the experience. This involves distinguishing between the actual experiences of what happened to the participants and how they interpreted the events. I developed codes for the data through a process of reading and rereading the interview transcripts and documents. Through several readings of the interview data, I reflected on the responses of individual participants and coded them for similar experiences. These codes were categorized as textural or structural, and then placed into subcategories, some of which became major themes, such as "shepherding" and "unbundling". The overall purpose of the coding process is to gain an understanding of the participants' experiences (Creswell, 1998).

Data Quality

Several mechanisms were built into this research design in order to maximize data quality, and minimize study limitations. Data triangulation, data validation through member checking, and third-party transcription were the major data quality mechanisms. This study was designed to maximize opportunities for data triangulation. “Triangulation has been generally considered a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation...triangulation serves also to clarify meaning by identifying different ways the phenomenon is being seen” (Stake, 1994, p. 241). Data can be triangulated among interview respondents. Specifically, throughout the overlapping data collection and analysis, I determined whether different respondents or different types of respondents offered mutually supportive accounts, or whether their accounts suggested a more complex phenomenon. Similarly, I looked for instances when the document review yielded any consistencies or inconsistencies between reports, types of reports, authors, etc. I sought triangulation not only within each data collection type (interviews and document reviews) but also between types. I compared interview data and ETI document reviews for synthesis or dissonance. Throughout the analysis process, dissonance prompted further exploration. When data converged, and data collection did not yielding any new or dissonant information, data saturation (Creswell, 2003) was achieved and I drew the collection process to a halt.

Member checking is an important part of validating the researcher’s observations and interpretations. When research interview participants review transcripts, observation notes, or narrative text, they often provide corroboration and feedback (Stake, 1995). In this study each research participant was given one opportunity to review data materials

and provide further response to the research questions (see last section). Member checking is generally considered an important method for verifying and validating information observed and/or transcribed by the researcher (Merriam, 1998; Stake, 1995) and is meant as a check and critique of the data. “They [the participants] also help triangulate the researcher’s observations and interpretations....The actor [participant] is asked to review the material for accuracy and palatability” (Stake, 1995, p. 115).

Member-checking allows participants to correct errors, add to their responses, and also to contradict what the researcher has written. In the latter case, the researcher can choose to reconsider his or her interpretation or to leave the interpretation as-is, but note that a respondent disagreed. In the present study, each interviewee was asked to review the transcriptions and notes from each round of his or her interviews.

In this study, data quality emphasized repeating ideas that led to major themes that informed conclusions and implications. The common types of codes and categories of Bogdan and Biklin (1998) provided the initial point of view I took in reviewing my coding schemes in terms of the setting/context, situation, perspectives, ways of thinking, sequences of events and changes over times, recurring informal and formal types of behaviors, events, strategies, relationships and methods/procedures.

Research Limitations

Conducting research requires that limitations are acknowledged by the researcher upfront. The connection between the research, data and the results are all tied to possible limitations of the research. The direct involvement of the researcher in the data collection and analysis is one of the key challenges of qualitative research (Creswell, 2003).

Knowing this, I made every attempt to limit the impact of any bias that I may have had.

In addition to data triangulation and member-checking, I employed a third party to make certain of the accuracy in the transcription and to diminish potential bias in the theme creation process. My use of a third party followed Merriam's (1998) suggestion that an independent party can authenticate the findings of a study by following the trail of the researcher. For this study I asked an education evaluator and former doctoral student in both instructional design and evaluation to serve as my third party auditor and authenticator. She had completed research methodology classes at the doctoral level and has conducted formal government research and evaluation of educational programs at a variety of levels. Her primary role as auditor was to meet with me to review my data, methodology notes, and data analysis processes, and to engage in discussions with me about the trustworthiness of my emerging findings and interpretations.

Case Study Limitations

There are several limitations associated with case study, in particular as a research methodology. Case studies can be extremely time-consuming and can require significant resources to carry out adequately. In addition, because case study research methodologies incorporate thick description, there is a risk that the final product "may be too lengthy, too detailed, or too involved for busy policy makers and educators to read and use" (Merriam, 1998, p. 42). Another risk is that the case study report might "oversimplify or exaggerate" (p. 42) a situation, which could lead to inaccurate conclusions about the case. Additional challenges relate to "the sensitivity and integrity of the investigator [as the] primary instrument of data collection and analysis" (p. 42), and overall issues of trustworthiness and ethics.

This case study design was bound by the limitation of its singular-case (university) focus. This singular university focus risks precluding certain issues that inform the study in general, but that may not exist at USUHS. It also risks overstating features of the study that may be endemic to one context, but are not inherent to the phenomenon itself (Merriam, 1998). In other words, because each university has its own unique culture and mission, faculty members' experiences with faculty support groups are always situated within that context and can hold less power for translation to other contexts.

This case study does not include the voices of the staff members who work in the ETI support office. While this maintains the focus of the dissertation on the leadership and faculty perceptions, it limits the perspectives of the ETI. In the future, expanding the current case to include interviews with ETI staff members would provide more views of the ETI, and perhaps a better understanding of the functioning of educational and technology faculty support organizations.

Finally, there is a familiarity between myself, the researcher, and the organization. As I am a contractor at the organization that staffs the ETI, I was mindful of my familiarity with the organization, its employees, and the contracting element. To minimize any bias that this might have caused, I included only data and information found within the interview transcripts and document review data. In the document review process I did not include specific elements of the contract. In the future this may be a source of additional information.

Researcher Positionality

As introduced in the Data Quality section, my own presence in the research presented a limitation, “All researchers have great privilege and obligation: the privilege to pay attention and the obligation to make conclusions drawn from those choices meaningful to colleagues and clients” (Stake, 1995, p. 49). Stake’s assertion of the researcher’s obligation extends to the need for the researcher to disclose his or her position relevant to the study. In an effort to facilitate transparency, the researcher should disclose his or her position not only to research participants, but also to readers of the final research ‘product.’

I approached this dissertation study as someone who has worked in the faculty support center at USUHS for the past 6 years and at other universities prior to that in a similar role. I have over ten years’ experience providing faculty instruction and technology support. Having also worked as an adjunct faculty member at various universities over the last 15 years, I also have a faculty perspective. My interest in conducting this dissertation was instigated by my experience in the development of faculty support centers. This interest was further fueled by the instructional challenges I encountered as a faculty member, which were mirrored by other faculty members who spoke with me about their struggles to connect theory to practice in implementing effective technology. Having considered the potential for conflict-of-interest between the study participants, in the context of our respective scholarly obligations, and myself as researcher, I concluded that the data collected and findings of the study may have some affect on my current or future work with faculty. Since the data from this study provides me with insights into the research participants’ experiences and perceptions of the ETI,

this information will inform my current as well as future work practices. I spoke to university leadership about my conducting this study and they said that they believe this work will be helpful in my current and future duties. The willingness of my colleagues to volunteer as study participants is evidence that there was not a conflict-of-interest present. Still, given the interdependent nature of my work and that of the study participants, and the fact we all represent the university to the community, it was critical to conduct the study with the utmost consideration for research ethics by respecting the participants, the research process, and the community involved.

Research Timeline

The study began in the fall semester of 2012. Artifact collection and review took place during the fall of 2012 as well as the first round of interviews. By spring semester of 2013 both rounds of interviews were completed. While transcription occurred for the first round of interviews before the second round was completed, all transcriptions were completed by the end of spring 2013.

Preliminary organization and analysis of data occurred concurrently. According to Merriam (1998), it is important to analyze data in a qualitative study simultaneously with the data collection. The on-going analysis of the data while collection occurred allowed me to develop tentative themes and categories while comparing new findings and refining as necessary the impact of new data. On-going analysis of the data also allowed me to make important and unforeseen adjustments to the data collection process, such as rewording or adding interview questions for example, and ultimately made the analysis of a large number of transcripts and documents a much more manageable task.

Data analysis continued through summer and early fall of 2013. Editing and revising commenced in the fall of 2013 and extended into the winter of 2013. The final review and dissertation defense took place in the spring of 2014.

Chapter Summary

Through the use of rigorous qualitative case study research, the purpose of the study is to uncover how the work of the instruction and educational technology support center is perceived by perceived by the USUHS leadership and faculty members. This research opens up the complicated relationship between instructional and educational technology staff, university leadership, and faculty, as a means to obtaining insight into the development, adoption, and functioning of the ETI center. Ultimately, Stake's (1995) assertion that "The function of research is not necessarily to map and conquer the world but to sophisticate the beholding of it" (p. 43) is the goal of this dissertation: to illuminate and understand the development and use of the faculty support center.

Next, in Chapter Four, I use the semi-structured interviews to open up the voices of the USUHS leadership and faculty members whose perceptions are the focus of my dissertation. This chapter tells the stories of the leadership's and faculty members' personal, professional and educational experiences with the ETI. Their reflections reveal how their personal experiences with members of the ETI team have shaped both their adoption and perceptions of the ETI.

CHAPTER FOUR: FINDINGS

Having provided the context for the study, including the conceptual framework elements and related research literature, and having discussed my methodological approach, this chapter draws on my semi-structured interviews to reveal the voices of the leadership and faculty members whose perceptions are the focus of my dissertation. This chapter is organized by the voices of the leadership and faculty, respectively, which illuminate the development and use of the Educational & Technology Innovation Support Office (ETI) while providing answers to the main research question, “How is the work of the ETI perceived by its leadership and faculty?” This chapter’s organization follows three main sections. The first section describes the unique social and historical context of the Uniformed Services University of the Health Sciences (USUHS), within which the case (ETI) exists. The second section examines the voices of leadership at USUHS, which provide the historical context for the development of ETI, insights into the USUHS community, and perceptions of the ETI support office. The third section turns to the faculty member voices to learn about their experience with the ETI team, and their perceptions of the ETI support.

In assembling all of the interviews and reviewing all the artifacts, a larger and more complex picture emerged of the perception of the ETI. As Denzin (1989a) states: “No self or personal experience story is ever an individual production. It derives from larger group, cultural, ideological and historical context” (p. 73). The individual accounts from each of those interviewed uncover the motivation to work with the ETI team, as well as the experiences along the way. Denzin (1989) also suggests that people’s lives have meaning, and the meaning gives value to their life experiences.

One of the important elements of analyzing the interviews was sensitivity to linkage between the four conceptual framework elements drawn from CIHE's *Best Practices for Electronically Offered Degree and Certificate Programs* (2007) and Rogers' *Diffusion of Innovation* (1995), both of which are described in detail in Chapter Two. These conceptual framework elements are institutional context and commitment; curriculum and instruction; faculty support; and diffusion of innovation. Together these were evident throughout the interview data, and are recognized in the results.

This chapter tells the stories of the faculty members' and leadership's personal, professional and educational experiences with the ETI. Their reflections reveal how their personal experiences with members of the ETI have shaped both their adoption and perceptions of the ETI.

The Uniformed Services University of the Health Sciences (USUHS): A Unique Context

USUHS is the nation's only federal health sciences university. This fact, as well as its connection with the military, make USUHS a unique institutional context for educational technology and support. Chartered by an act of Congress on September 21, 1972, USUHS is part of the U.S. Department of Defense, and is charged with providing the nation with uniquely dedicated individuals: health professionals (medical, nursing, preventative medicine, etc.) who are dedicated to career service in both the Department of Defense and the United States Public Health Service; and scientists who are similarly dedicated to serving the "common good" (Uniformed Services University, 2008).

Following World War II, in the wake of military physicians who, having done their civic duty, were returning to civilian life, leaders in Congress and the Department of

Defense debated the merits of establishing a federally-run medical school to address the impending void of military medics. It was not until President Nixon called for an end to the draft in 1970 that the debate was settled. The military could no longer rely on “conscripts” to provide medical care, and the imminent end of a reliable supply of physicians would affect the services. Congressman F. Edward Hébert from Louisiana heavily championed what he called a "West Point for doctors" (Uniformed Services University, 2012a). On September 21, 1972, legislation to create USUHS was passed by Congress, and President Nixon.

While there are many types of accredited military schools that provide higher education programs and degrees such as the Naval War College, Naval Post Graduate School, National Defense University, Air War College, USUHS is the only military accredited degree-granting medical school in the United States. Its unique mission is described as follows:

The university specializes in military and public health medicine which is more than practicing medicine in the military or public health service, and differs significantly from civilian medicine. Military/public health medicine focuses on keeping the people healthy and especially in the military, involves disease prevention, diagnosis and treatment by medical personnel who are integral to the operations they support. Simply put, the focus is practicing good medicine in bad places. (Uniformed Services University of the Health Sciences, 2011)

The uniqueness of USUHS is reflected in its faculty and its curriculum. The faculty is comprised of both civilian and military members. While the civilian faculty has a more traditional role at the university, the military faculty members are appointed to USUHS for their current duty assignment and subject to annual review by the appropriate department chair. Active duty military cannot hold a tenured position. Military faculty members are typically at USUHS for a specific period of time, usually no more than four

years. Also military faculty members are not required to have, and typically do not have, the same teaching experience as their civilian faculty colleagues (Uniformed Services University of the Health Sciences, 2003).

In addition to this distinction in teaching requirements, there are distinct service expectations of faculty at USUHS. Civilian faculty service agreements include obligations to duties as clinician, federal service employee, university employee, researcher, and other medical roles. Military faculty members have similar obligations, but also have extended military duties and responsibilities, including those required for military promotion. Importantly, military service members at USUHS must work on their promotion requirements outside of their faculty duties at USUHS in order to advance in the service.

The curriculum at USUHS is another factor that distinguishes it from other medical schools, since it is dedicated to producing medical military officers, specifically “...designed to develop students’ expertise in clinical medicine as well as operational medicine and military medical leadership, and includes lessons based on real-life experiences in deployed and combat settings” (Uniformed Services University of the Health Sciences, 2012b). Thus, military training is an integral part of the USUHS curriculum.

The uniqueness of the USUHS context is manifest in its curricula and its faculty. The mission of the university permeates every aspect of the USUHS context, including the work of supporting the faculty and promoting successful teaching and learning.

ETI in the USUHS Context

In 2005, UHUHS leadership attended a conference held at the National Defense University (NDU) on distance learning. Sinclair, who was interviewed for this study, is the only leadership member still at USUHS who was actively involved in the evolution of the ETI. He discussed how conversations between leadership and staff from both USUHS and NDU sparked interest in providing some form of teaching and technology support for faculty. The USUHS implementation of ETI adhered to many of Bolman and Deal's recommendations (2003), as well as the CIHE criteria 1d-1 g, as identified on p. 40 of this dissertation. The development of the ETI occurred in phases, over several years. According to the ETI website, the institutional context of the ETI was described in terms of phases of institutional commitment. Sinclair described the phases, beginning with the first phase in 2004, when members of National Defense University (NDU) in Washington DC held a small educational technology conference for various organizations and military higher education institutions. As Sinclair described:

My institution was one of many that were invited to attend, and Captain Jane Mead attended the conference for our university. The purpose of the conference was to share ideas about educational technology support for higher education institutions, with a focus on government/military higher education institutions. This conference was important because it represented some level of awareness among NDU leadership that educational technology and faculty support in instructional techniques were both necessary and ever-changing. The occasion of the conference also suggested that a college or university situated within a larger government/military context has unique needs in relation to supporting the use of educational technology.

The next phase began in 2005. Sinclair explained:

We asked a small group of contractors who provided instructional and educational technology at NDU to visit USUHS, in order to discuss the management and functioning of the support office at NDU. The following phase occurred almost a year later when this same NDU team was asked to return to USUHS to provide a

‘needs assessment’ of USUHS support for instruction and educational technology. The resulting report, based on interviews with USUHS stakeholders including faculty, administrators, and staff members, found faculty and staff were interested in, and recognized the need for, the advancement of innovative instructional techniques and educational technology. They wished to integrate these techniques and technology into their curricula, but there were limited (or scattered) support structures in place to enable advancement or integration. As a case was built for an instructional and educational technology support center, leadership, the faculty and staff from USUHS came together, organically, to support the need for change.

After the conference, USUHS leadership commissioned two independent reports (Report of the *ad hoc* Committee on Academic Informatics and Computer Support, and Uniformed Services University of the Health Sciences Educational Technology Assessment) that highlighted the need for an instructional and educational technology support center. The Education and Technology Innovation Support Office (ETI) became operational in 2006. It held a small staff (less than 10 people) of instructional designers, graphic artists and developers. The ETI staff held lunchtime brown bags to facilitate staff introductions to the faculty members of the USUHS community. Leaders whom I interviewed acknowledged that prior to 2006, there were some efforts to implement educational technology at USUHS, but there was not a coordinated effort like the one made for the ETI.

The ETI was (and still is) funded by end-of-year dollars (money remaining at the end of the year), and staffed by a cadre of contractors. The funding of the ETI was seen by leadership as a key indicator of commitment by the university, and is discussed later in this chapter.

Voices of Leadership

The university leadership interviewed for this dissertation included Ralph, Rick, and Sinclair, who had been at the university for 7, 10, and 20 years, respectively. Ralph, Sinclair, and Rick were both at the University when the ETI was first established, though Sinclair is the only leader who was actively involved in its creation. As described in CIHE's 2007 *Best Practices for Electronically Offered Degree and Certificate Programs*, providing institutional context and commitment and faculty support are key functions of leadership, in addition to initiating and sustaining transformation at the institution.

Active Leadership at USUHS for ETI

In order to understand the institution's context and commitment to ETI over time, I asked Ralph, Rick, and Sinclair about how they understood the impact of their leadership on the learning culture of USUHS. Ralph, Rick and Sinclair each represent the highest level leadership for their organizational element at USUHS and they were the only members of USUHS leadership interviewed for this study. Each was ready with an answer that included himself –that is, while these leaders focused on different aspects of the impact of leadership, they all spoke about their own commitment to a learning culture. Rick stated that he hoped that he could "...impart a sense that we are all students for life. That we all must be continuing to learn throughout our careers and that we instill in our students the understanding that they have embarked on a career of lifelong learning." Further, he said that he aimed to provide, "...constant encouragement and appreciation that this [lifelong learning] is hard, and [I'm] doing the best I can to make sure the resources are available to support what my vision is of where we need to go." Ralph discussed the importance of understanding faculty needs:

Obviously there's the underlying tools that the faculty are gonna use...So I think there's potential for a great impact on our learning culture. In other words, if myself or my staff don't really understand what the requirement is, and deliver something that's just completely off target, [faculty are] not going to be able to do their jobs as effectively.

Sinclair stated that he often wondered himself about his impact on the learning culture, in part because he believes he had

A disproportionately significant impact because I was a faculty member before I became an administrator—and I remain a faculty member. I continue to teach the students in all classes every year. So I'm seen by my peers as an administrator who is also a faculty member and teacher. I was acknowledged by a variety of both faculty- and student-driven awards as a teacher. So that my endorsement of teaching carries greater weight than would someone who was simply an academic administrator or who is primarily an academic administrator, and had not built a reputation as a teacher. It's not to say that other people couldn't do it, but it lends a credibility and ground-truthing [*sic*] to what I say.

Overall each member of leadership demonstrated awareness and accountability when discussing his role in the university community, and therefore, in the institutional context and commitment as a whole. Rather than speak passively about generalities or abstract ideas of “what leaders do,” each actively described his own credibility and influence, and actively questioned his overall impact or ability to do the task.

When asked specifically about what impact he had on the learning culture of USUHS Sinclair replied:

As a senior member of the faculty, I believe I have a certain amount of personal influence that comes from over 30 years of teaching in this environment...but probably the biggest encouragement is seeing...that assets are made available without cost to the department or the faculty member.

Rick shared his hopes that he imparted

A sense that we are all students for life. That we all must be continuing to learn throughout our careers and that we instill in our students, the understanding that they have embarked on a career of lifelong learning...But it's much more

important for the faculty, who see them far more often than I do, to embrace that and impart it.

This active stance taken by key leaders, whereby they both acknowledge and question their influence on the learning culture of their institution, underpins the institutional commitment to the ETI. Bandura's (1986) social cognitive theory posits that self-efficacy is the key variable affecting how a leader functions in his or her environment. Bandura (1986) suggests four sources that shape an individual's efficacious beliefs: mastery experience, vicarious experience, social persuasion, and affective state. Each of these four elements can be seen in the responses provided by USUHS leadership. Bandura (1986) explains that mastery experiences, or the individual's perception that he or she has been successful, raise (self) efficacy beliefs. Ralph described a mastery experience when he talked about the successful implementation of technology at USUHS. A vicarious experience occurs when an individual identifies with experiences modeled by someone else. When that model performs well, the efficacy beliefs of the observer are enhanced. Sinclair's statements about his teaching are an example of Bandura's vicarious experience. Social persuasion usually occurs when an individual receives specific performance feedback from a supervisor or colleague. The potency of persuasion depends on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1986). Rick's statements about lifelong learning show the influence of social persuasion. Finally, these statements made by Ralph, Rick, and Sinclair reveal a level of anxiety and excitement -- the affective state described by Bandura. The affective state refers to the level of arousal, either negative (such as anxiety), or positive (such as excitement) experienced by an individual. It stands to reason that the design support of the ETI could affect or has

affected the four elements that in turn shape efficacious beliefs. If the leaders' perceived self-efficacy was improved, and this was reflected in the successful accomplishment of leadership goals, then it is likely that leaders' feelings toward the ETI would reflect this. While each leader's answers reflected hopefulness and questioning, there was a distinct sense of self-efficacy as each described areas he felt he could impact, and believed that his leadership had an effect on institutional context and commitment, and ultimately the overall teaching at USUHS.

Recognizing the Need for Faculty Support

Sinclair opens up the idea of faculty support by highlighting the difference between faculty members' experience with teaching versus primary or secondary teachers. He stated:

Unlike secondary education and primary education, post-secondary education has limited requirements that faculty be knowledgeable in educational theory or technology. [The fact that] You are conveying extraordinarily complex subjects and proving you are a master of the subject in order to teach it, has been classically much more important than proving you have the ability to teach it. In the past few years, it's becoming increasingly apparent that both are important.

Ralph, and Rick, and Sinclair each talked about the impact of workload on the faculty. Sinclair observed that "Between the obligations that exist in teaching, in service, in research... the faculty day is fairly full." This is especially true given the added expectations related to military service that are placed on USUHS faculty. Sinclair further pulled apart (or "unbundled") the faculty role in the paragraph that leads this section, in which he differentiates two distinct aspects of teaching: mastery of the subject matter, and the "ability to teach." In that passage he also explained that the ability to teach was gaining recognition at USUHS. While all three leadership members touched on how the

ETI supports the faculty members, Sinclair's statement provides insights into how the ETI actually supports faculty members' change:

The result is that ETI could, in general find out how a faculty member wanted to use technology and be allowed to support that, while at the same time...collaborate with the faculty member to teach them about technological and instructional processes that were perhaps more enriching that the faculty member didn't know about.

Like several experts in the field (Hagerott & Ferezan, 2003; Neely & Tucker, 2010; Paulson, 2002; Sheets, Crawford, & Soares, 2012), these USUHS leaders believe that supporting the faculty role (including the teaching role) allows faculty to concentrate on their core functions such as expertise, leadership, instruction, and curriculum quality.

Support faculty can also expose gaps in a faculty member's ability to teach, as well as the need for help in filling that gap. Sinclair explained that "Without the knowledge of the tools and methods available, many of the faculty members are left without the ability to move towards innovation." He went on to say:

The recognition that innovation requires creativity and support was a little harder to come to, and that is what led us to build ETI, was the recognition that it was more than just hardware and software—you needed skilled people to help faculty to be innovative in using the things that they didn't know.

Rick, too, made a point of discussing leadership's understanding of where, specifically, the faculty's teaching skills required work:

I think that what we're missing at the moment is a cadre of faculty who are well versed in the newer pedagogical techniques and approaches that incorporate these technological changes. Getting faculty to change the way they've been teaching a subject for 15 or 20 years is hard. Their argument would be, "Look, I've got a whole generation of people that have been successful, so I must be doing something right." And it takes a little while to overcome that argument. And the key thing is, "yes, but you now have a new substrate that you're trying to affect."

Having a team in place to support faculty change, essentially nudging them into unknown areas, is necessary for success (Golightly, 2012). Sinclair pointed out that “leading [faculty] to see that there are alternative ways, is a real skill in and of itself.” This recognition of the importance of faculty support is aligned with the CIHE (2007) best practices, as well as the conceptual framework of this study.

Leadership Perceptions of ETI

Sinclair described what UHUHS leadership sees ETI contributing to in the way of culture: “Creativity, a desire to do more, a commitment to empowering other people.” He went on to refer to the importance of the ETI team’s “understanding of the needs of faculty members, their ways of thinking and being,” in addition to “sound processes and approaches, as well as appropriate personalities.” He reiterated the importance of appropriateness later in our interview:

That sense of professionalism that’s so hard to document, almost impossible to quantify, and takes tempering a team over time—some people have worked out and some people haven’t worked out....And this, the shaping of the professionalism, is critical.

Ralph, too, highlighted professionalism as an important aspect of the ETI team and his overall perceptions of their work style:

I [think] they are very professional, very knowledgeable of the domain that they’re working in and able to provide insight to the customer in a pretty effective manner....For me I think it’s just really a “can do” attitude. The willingness to actually embrace and work with the customer and figure out exactly what the requirements are and what they’re trying to do, you know, without making assumptions.

The leaders with whom I spoke seem to see a strong need for interaction between the faculty and members of the ETI to support both pedagogical as well as technological change. The importance of collegial interaction between the ETI and faculty members is

a crucial finding in this study, and will be expanded on in the section on Voices of Faculty.

Wiesenmayer, Kupczynski, and Ice (2008) state that leadership at the university needs to explore how personal and pedagogical characteristics can be cultivated in faculty. Sinclair provided insight into the importance of the right ETI staff in order to cultivate USUHS faculty's pedagogy:

Learning to teach with a technology that you have not taught with before, and that you do not personally use in creative ways, is very hard. And the need to do that is not always self-evident. And so, faculty development issues and acquiring personnel who can help faculty without pushing them too far, too fast, is a constant challenge.

Faculty members, in turn, must be willing to examine their teaching styles and be open to collaboration and feedback. Rick articulated leadership's understanding of the challenge that can emerge in asking experienced faculty members to change what they do.

Yeah, I think probably the biggest challenge is persuading faculty who have taught more or less the same way for a number of years, that there is a different approach that the next generation of learners expects, and actually works better. The large lecture format has been around since about the 11th Century. This generation of learners just is not interested.

Sinclair echoed this:

I think the long term biggest issue is generational or cultural. A faculty that grew up being lectured to and reading out of books doesn't quite understand what has happened in the learning process in secondary schools and undergraduate education—because we are, as a free standing academic health center, essentially isolated from those changes in pedagogy.

Sinclair, in particular, also discussed how the ETI bridged theory and practice in their work, turning their learning about teaching and technology into research opportunities, linking the team-work between members of the ETI and faculty into

research aligned with the researcher role of faculty, thus coming full-circle and re-bundling the faculty roles.

It seemed that Rick minimized the role of ETI when he said, “The ETI is there to support the faculty in developing contemporary approaches to education. The ETI is not an end in itself.” Sinclair, however, maximized the role of ETI, explaining that “In addition to helping people with education and technological innovation when they ask for it, ETI has helped us as a senior leadership cadre, to build programming to encourage people to modify their educational techniques and their technological tools.”

When asked how leadership thought that the ETI could improve, both Ralph and Sinclair explained that the ETI support office should be part of the USUHS full budget. Sinclair stated that the ETI should become baseline-funded, rather than funded year-to-year and staffed by contractors. Both Sinclair and Ralph expressed that the instructional and educational technology support being provided through the ETI office should be part of the institution’s baseline capacity, and staffed by government workers. Making the ETI part of USUHS’ baseline capacity not only would allow for consistent funding, it also would represent greater institutional commitment. ETI funding through direct USUHS budgets instead of year end remaining funds, and staffing by government workers, would allow for longer-term and more strategic planning, with a more consistent and obligated staff. Given the fact that, when asked about potential improvements to the ETI, all leaders interviewed said only that it should be a permanent fixture; their high level of support is clear.

The commitment and support shown by USUHS leadership toward the ETI reflect the framework elements of commitment and faculty support found in the CIHE 2007 best

practices, as well as elements of Rogers' Diffusion of Innovation (1995). In the case of the latter, USUHS leaders show an understanding that innovation and change may not involve a brand new idea, but that any idea, practice, or object that is 'perceived as new' must be considered as part of an adoption and change process.

Voices of Faculty

Eleven faculty members were interviewed for this study. They teach in eight different areas: Departments of Family Medicine, Radiology, Pediatrics, Military Emergency Medicine, Preventative Medicine and Biometrics, and Nursing, and the Chief Information Office. Pseudonyms are used to protect each faculty member's identity. In examining how each faculty member navigated his or her adoption of the ETI, and the role of ETI in his or her instructional practice, the quality of individual ETI/faculty member relationships emerged as a theme resonant of what was shared by USUHS leaders.

In addition to parallels between leadership and faculty members' experiences with the ETI, certain differences surfaced as well. Responses related to work projects completed or in-progress, in particular, yielded distinct responses from individuals. The three major themes that emerged from data on the faculty perceptions of the ETI can be described as Unbundling, Shepherding, and Bridging. Each of these themes is explained fully in its own section. In general, these themes follow the chronology of the partnership development between the faculty members and the ETI team: Once a faculty member's project is identified, clarified, and approved, one of early support features is a consideration of that faculty member's multiple roles as an academician (unbundling), and how ETI members can support him or her. As the ETI/faculty member partnership

grows, shepherding characterizes the mentoring relationship whereby the ETI staff members guide the faculty through necessary instructional design and development stages. Once a strong trust and partnership has been forged, the theme of bridging describes how the ETI continues to support faculty members as they cross into and integrate with new areas.

Unbundling: A Critical First Step

While faculty members recognize the multiplicity of their roles in terms of research, instruction, and service, (as well as military service in the case of many UHUHS faculty) they do not always recognize or address the multiple roles within their instructional capacity. Alternately, as several studies have shown (Christensen & Eyring, 2011; Cowan, Neil, & Winter, 2013; Gillespie, & Robertson, 2010), they understand that they have been hired for their ability to fill the role of subject-matter expert and researcher, and therefore their role as teacher is not seen as a priority.

Both the ETI instructional designers and educational technology experts help USUHS faculty unbundle their roles as well as complex tasks in order to identify the skills they do not currently hold. Unbundling as a concept, normally is one of the earliest stages in the development of a relationship between a faculty member and the ETI team. As a concept, unbundling carries across all interviews and reinforces an important aspect of providing faculty the support they need to be innovative and effective teachers. Unbundling elements included (but were not limited to) curriculum, course set-up, course creation, activity development, assessment, evaluation, instructional design, educational technology, distributed learning, George, stated, “They brought knowledge and abilities that I certainly did not have,” and continued, “I would not have known where to even

start.” George came to the university with little teaching experience, and while he is a faculty member, he also has military duties that can take him away from the university at a moment’s notice. His ability to teach (and his conceptualization of teaching) was largely shaped by what he had seen done in the past. In working with George, the ETI team members developed a partnership around conversations about where George wanted to take his teaching.

Web site documentation provided on the ETI process shows that working with faculty (the starting point) revolves around conversations. Members of the ETI work with faculty to gain an understanding of what the faculty member would like to accomplish as well as provide suggestions. When given the opportunity to teach, many who come to the academy have only seen traditional teaching and have no alternative models to reference. This becomes a problem for those faculty members like George, who want to innovate, but do not know what opportunities are available.

Louis also acknowledged the gap in the faculty’s ability to “find ways to use technology,” and the support needed to locate and use those tools. He stated that the ETI was in place for the following purpose:

Find ways to use technology to better provide curriculum to our students... support faculty in creating and improving their educational instruction, their presentations, their educational products that they develop. But mostly to help with instruction.

As Louis explained, the ETI supports and helps the faculty with instruction and technology. The ETI provides unbundling in the dimensions of instruction as well as educational technology capacity and creativity. The CIHE best practices (2007) also

discusses the unbundling of the faculty role, stating that academically qualified people should participate in decisions and support. CIHE (2007) also recognizes that

Traditional faculty roles may be unbundled and/or supplemented as electronically offered programs are developed and presented, but the substance of the program, including its presentation, management, and assessment are the responsibility of people with appropriate academic qualifications. (p. 5)

In discussing the ETI work, many faculty members described the centers as providing a support mechanism that was desperately needed: Instructional design and technology educational support provided by those with experience and appropriate academic qualifications. William expressed this in much the same way as many other faculty:

The staff at the ETI is able to help use fill a gap we just don't have inherently as faculty, especially as junior faculty with limited experience. Our work together is always reminding me that I need to be "academic" when I do things and have been able to use those with the academic qualifications at ETI to support me.

The CIHE (2007) emphasizes the need for faculty support that is a critical function of faculty support centers and relevant to the emergence of the ETI at USUHS. Campbell, Schwier, and Kenny (2009) describe the fact that many novice faculty members may lack capacity with instruction, curriculum, or technology, but they still have reasonable levels of confidence about their content. As described earlier, many of the faculty members at USUHS come to the university not because of an abundance of teaching experience, but because they are experts in their field. Faculty members interviewed for this case study described separating the roles of subject matter expert and instructional expert, with the help of the ETI. Schiller, a faculty member with six years' experience stated:

Because, quite frankly, in this department... we have very minimal formal training in education. And so, so ETI has been very helpful in, in looking at what we do as professional educators to help us really think through what it is we're

trying to do, and are we doing it the right way, and how to better evaluate [the] measure of what we're doing, and so forth.

Lenny, who is a relatively new faculty member (3 years), described his situation as follows:

What you [at ETI] have to offer is very important for the professors here, like myself, who come and go. We don't have formal training in curriculum development. So, when we come here, we depend on mentoring and then the mentoring is not always from the best mentors, maybe from the person who preceded us, and they learned by the seat of their pants too.

Lenny is one of the many faculty members who came to the university because of a particular subject matter expertise. His time at the university is for a limited engagement (3-5 years) through his military service. Unbundling is, arguably, of particular importance in cases like Lenny's, so that gaps in instructional technology (in its broadest sense) can be identified and addressed readily. His knowledge gap in teaching and curriculum is compounded by the issue of short-term engagements common in the USUHS context. He describes the ETI team in this way:

Educators—they are educators of the educators. They need to be able to work with a variety of different experience levels of educators. This university has a lot of professors, like myself, who come and go. We don't understand curriculum well, don't understand curriculum development as well as we should, and certainly don't understand the tools used to develop curriculum. ETI, for me was instrumental in educating me actually, for the potential for setting up curricula in the numerous ways that you can get tools for the curriculum.

Rotating faculty like Lenny are (as he describes) often mentored by either the individual from the last rotation, or by senior faculty, who can be even less equipped to advise on how to teach.

The ETI mission suggests an understanding of many faculty members' lack of formal teaching and technology skills. The mission states that the main purpose of the

ETI is to partner with USUHS faculty to incorporate innovative technologies and instructional techniques into courses in ways that advance course learning objectives. Though innovation is a key emphasis here, it is innovation as described by Rogers' landmark *Diffusion of Innovation* (1995): "Innovation need not involve a brand new idea. It can be any idea, practice, or object that is 'perceived as new' by an individual or other unit of adoption" (p. 11). Through appreciating the multiple roles played by faculty, the need for faculty support in both educational technology and instructional/curricular techniques, as well as the faculty's need for innovation, ETI was born.

Schuster and Finkestein (2006) indicate that technology may be another contributing factor to the unbundling of the faculty role as higher education institutions are pressured to increase the speed at which they deliver content to keep up with student demand. Louis acknowledged the gap in the faculty's ability to "find ways to use technology," and the support needed to locate and use those tools. He stated that the ETI was in place to "find ways to use technology to better provide curriculum to our students. [To] support faculty in creating and improving their educational instruction, their presentations, their educational products that they develop. But mostly to help with instruction." As Louis explained, the ETI supports and helps the faculty with instruction and technology. The ETI assists with unbundling the dimensions of instruction, as well as with educational technology capacity and creativity. The ETI website (2013) highlights these areas of unbundling as: case-based activities and interactive media, development of distributed learning (DL) courses and course materials, games, implementation of instructional techniques, remediation, small group activities, consultation on course

redesign, the development of new activities, or other topics relating to teaching and learning, evaluation and assessment support and the use of DL tools and techniques.

Unbundling and Taking a New Direction

Interviews conducted with Ben, Beth, Cam, George, Harry, Lane, Lenny, Linda, Louis, Schiller, and William elicited descriptions of how the ETI acted as a support unit to extend their knowledge and move into new areas. Linda rated what she called creative capacity as one of the top five elements of support offered by the ETI, stating, “The collaboration has led to a lot of creativity in looking at the teaching environment, how we promote learning, learning activities, teaching materials, learning materials.” The way in which Linda talks about collaboration resulting in creativity highlights the social and collaborative approach of her dealings with members of the ETI. George, too, stated that one of the most important elements brought to him by ETI is creativity:

I think that it’s useful to have people [outside] of faculty or experts within your field, to come up with creative solutions and creative ideas. And so because I think the ETI folks bring such a different perspective, I think it’s extraordinarily valuable for promoting good ideas.

Harry added another perspective:

One thing that ETI does that’s important that I can’t really put a “term” on, is... teaching people how to think about what they’re doing. So, it’s entirely easy and possible to put together a bunch of Power Point slides with a bunch of graphs and pictures and words on them. But that doesn’t necessarily make it something that will engage students and allow them to better acquire the content. And so, I think that ETI has begun to engage faculty in discussions of the methodology behind what they do and why they want to do it, as opposed to just doing it. I think ETI provides some avenues to innovation because they’re able to work with faculty to do new things.

All of the faculty members interviewed discussed how the first ETI project they partnered on allowed them to create a new aspect of their course, due to the trust they had developed in their relationship with the ETI team members, particularly during the process of unbundling. The comfort of sticking to the familiar comes at a cost when students and leadership have expectations beyond a faculty member's comfort level or knowledge base (Koslowski, 2006). USUHS leadership and students have expectations for how the faculty members provide educational materials. The leadership discussed how students' previous learning experiences shape students' expectations of the USUHS faculty, in terms of its ability to integrate teaching techniques and educational technology. The USUHS leadership also acknowledged that the faculty members may not have the skills necessary to implement leadership and student expectations. Bates and Sangra (2011) argue that resistance is often a response when an instructor's goals, pedagogical style, and epistemological assumptions are at odds with innovations proposed by the university. Rogers (2003) also talks about resistance to innovation calling out the importance of leadership's involvement in adoption, as well as how support structures can help improve the adoption of innovations.

One way to provide the support structures is by unbundling teaching and support through professional development. Unbundling teaching necessitates professional development of faculty in instructional goals, pedagogy, and epistemology, as well as tying this professional development to support for instructional design and technology integration. The complexity of such an endeavor highlights a capacity issue: Without adequate capacity in teaching, even well-designed policies, the best subject matter experts in the field, and the most sophisticated technologies would not be able to achieve

the desired results. Unbundling offers a path for faculty to go into areas unfamiliar and achieve results (Golightly, 2012).

Beth, a faculty member with over 10 years' experience found that "Working with the ETI team has sort of opened up avenues for me in terms of different ways to deliver the curriculum." She went on to describe how the ETI opened up more than curriculum delivery. She listed the use of educational technology elements, different teaching styles, and ways to provide remediation to her students as areas of critical help from ETI. The collaborative relationship between Beth and members of the ETI fostered creativity, a phenomenon supported by the work of Thomas and Brown (2011). Louis also expressed:

The ETI helped me create a better instructional program and plan of instruction for a rather static Power Point presentation that I had. We turned it into a dynamic, web based, interactive, learning tool. And that's what I wanted to do. First, they all say up-front, "We're not subject matter experts." They make it clear that that's important. But they are experts in Instructional Design, Technology Enhancement, and Integration within the Curriculum.

Lane, a faculty member with 4 years' experience in higher education, pointed out the questions and struggles that occur when developing creative projects: "Just the fact that they were willing to listen. I tried to listen and speak your language, and you tried to do the same with me, and we met somewhere in the middle." It seems that the process of collaboration and creativity involves a struggle to understand and develop both from within and from the outside. Focusing on a goal throughout this struggle allows the faculty and ETI members to work together to create a product for teaching. Achieving a successful product is not accomplished by simply meeting and talking, but through carefully organized methods that the ETI staff use to collaborate with faculty in the creative process. These methods involve (but are not limited to) consistent

communication with the faculty, agreed upon project timelines, reviews by both the faculty member, as well as peer reviews within the ETI team, and testing of the product multiple times. George spoke about facilitating creativity in a thoughtful and organized way, lauding ETI staff for its “creativity and the organizational skills and time management skills of the folks, and the willingness to exchange ideas, incorporate ideas, and ultimately, to follow through with goals that are set.” Linda, too, described the guided creativity offered by ETI members:

[They are] thinkers, very [Socratic] in meetings, open, creative, grounded, and again, they have that 30,000 foot view with a recognition of the practical application. Very fruitful collaborators, so the characteristics of plasticity, and collaborative nature. Being able to gently guide without taking ownership or having an agenda have been really very fruitful in the collaboration.

The Expertise and Teamwork Required for Unbundling

The issue of expertise is evident among the responses from all of the faculty interviewed for this study. Each of the faculty members (as well as the leadership) at USUHS discussed the fact that the ETI team members are respected experts in their field. The faculty members acknowledged that the ETI team contributes skills and knowledge that are not part of most faculty members’ repertoire, and that are often missing from overall university support. The division between the subject matter expert and the instructional designer or educational technologist is a dividing line in the sand that the ETI team has been shown to understand. Respecting this line is explained by Barnstrom (2006), “Instructional designers need to respect faculty members’ content expertise. I tell them straight up, ‘You’re the expert on your subject, and I will never question your expertise in this area.’ It has to be a partnership” (p. 8). Barnstorm (2006) also states that a major part of being an instructional designer is developing a relationship of trust with

the faculty members you serve. Campbell, Schwier, and Kenny (2009) share this perspective about the importance of the instructional designer's role to help faculty and clients think more critically about the needs of all learners, instruction, and the role of teamwork in a successful collaboration.

The importance of partnership or teamwork is highlighted in ETI correspondence between the director and faculty members. When a project is accepted by the Director of the ETI, a message is sent to the faculty stating, among other things, that "The ETI works in partnership with faculty and staff to provide education and technology support. In order for the partnership to be effective, the ETI is relying on you for certain things as well." The understanding of the partnership and support between ETI members and the faculty is critical to success. The message to the faculty goes on describing time responsibilities, goals and objectives identification, and collaboration. The message also describes actions that may occur if faculty members do not meet commitments.

Hoegl, Weinkauff and Gemuenden (2004) state that project commitment, solidarity and identification emerge when the project members are proud to participate in their development. Such commitment changes the dynamics of the team and the roles that the team members are willing to take on, as well as the longevity the team needs to continue to work on the project over a long period of time. Louis recognized the importance of teamwork:

A good instructional design is a team effort and each of the team members has their expertise, which, under the direction of the faculty, can be brought together to make a really good product. So I learned that doing it by myself was a mistake. And I'm not an expert in instructional design by any means, even though I'm a clinical teacher.

As a team working together, the instructional designer and the faculty member have to understand each of their roles. Kirriemuir and McFarlane (2004) suggest that for the development of successful technology-based learning products, the “key to success is likely to be the development of effective collaborations between both educators and technical experts” (p. 25). This is normally a small group activity and at times a one-to-one activity. Cowan, Neil, and Winter’s (2013) study brings forth the elements of professional development that occurs through collaborating with experts: “Despite the ethos of collaboration and sharing typified in online learning, from the tutors’ perspectives, in the main, the process of professional development is more individualistic and person-centred” (p.17). This collaboration between instructional designers, educational experts, faculty, and others is also seen through the Team-Based Design approach discussed by Bass (2012). He describes how the team-based model brings together instructional experts, technology experts, etc., and considers how they all might collaborate with faculty on a new design, but also how some of them (e.g., embedded librarians) might play a role in the delivery of the course to decrease the burden of delivering a new instructional model on the instructor.

As the faculty members are able to work with teams they begin to think about the capacity of those teams. Many of the faculty interviewed discussed ETI as a “force multiplier” (i.e., capacity builder). Although some faculty members identified the need for team members with specific medical content expertise, William, a faculty member with six years of experience also suggested, “If there was a bigger team, we’d [as a team] get to do more [with the ETI].” The unbundling of support requires staff resources, as discussed earlier, as well as interventions at the institutional level, especially through

enabling of appropriate partnerships and resources. Although faculty members interviewed were generally positive about the capacity of ETI to provide support, some of the resources devoted to the infrastructure (i.e., institutional capacity) were described by the faculty as problematic. The resources provided to the infrastructure for faculty support play a major role in how the faculty members perceive the ETI. Issues of office space and funding for the contractors who staff ETI had a notable presence in the interview data. Many discussed how the year-to-year contractual funding cycle affected the perceived commitment of the university to ETI faculty support. Linda, Louis, and Beth all spoke of how the year to year funding affected their ability to plan their projects. Faculty members' critique of uneven funding, on top of their overall support for unbundling and the subsequent team effort illustrates the positive perception that these faculty members have of the ETI. As Beth exclaimed, "They just make me a better teacher!"

Shepherding Approach

Once the faculty member's roles, and perhaps a complex task-at-hand, have been unbundled, the partnership evolves as the faculty member expands his or her instructional capacity. I chose to use the word shepherding to describe the engagement between the ETI staff and faculty member as their partnership grows. It is during this time that they unify both in the engagement and conditions that occur. Shepherding is not a passive engagement or movement of the faculty as sheep, but rather the facilitation of innovation. Shepherding sets up the conditions (including collaboration with ETI) necessary to enhance a faculty member's success with any innovation he or she may choose. Many of the faculty members talked about the ETI teams' deep understanding of their needs,

including ways of thinking and being, and commented on how ETI performs its functions and fulfills the mission of the project. Developing this deep understanding is part of the shepherding approach.

The work of the members of the ETI allows for the faculty members to work their way through multiple aspects of their jobs. Linda, for example, explained that being shepherded through all the elements of her job allows her to expand her teaching: “My main purpose in using the ETI is really to expand what I’m offering, multi-faceted, and really produce the best course product that I possibly can. One person has one lens, many people have many lenses.” Linking shepherding to mentoring, Linda stated, “I think one of the untapped goldmines within ETI is that kind of shepherding and mentoring of academic and course preparation and evaluation.” Many of the faculty members who were interviewed made this connection. For example, Beth said, “So for me it was about the technology piece, but also the coaching piece and ideas of what *could* be done.” While faculty support efforts have strong roots in faculty professional development, it is actually the approach and process –the relationship, that faculty cited as critical for the ETI’s success.

Shepherding Partners, Projects, and Products

The ETI team uses what it calls a “partnership” approach collaborating with faculty members to reach a determined goal. A review of the ETI documentation highlights the partnership approach. In the working with *ETI* document (2007), the ETI states that the work starts with a consultation between the faculty member and the ETI staff to discuss ideas. This is in-line with Moser’s (2007) research on the importance of a solid and efficient process for consulting with individual faculty members in order to

foster a relationship. After the consultation phase, during which ETI and faculty members develop a strong sense of goals, members of the ETI and faculty work on what is called a project paper (Appendix F). This project paper highlights possible elements of support, the project goals, staffing requirements, and a rough timeline. This project paper is written first by members of the ETI, reviewed by the faculty for accuracy, and then given to the director of the ETI for approval. The Director and Deputy Director of the ETI review the project paper for alignment to USUSH core missions and for availability of ETI staff to reach the goals and timelines. One of the key elements of the project paper is that it articulates accountability for both the faculty and ETI members. The formalization of the partnership through the ETI project paper allows for the shepherding of *projects*, helping faculty members recognize their roles, responsibilities and timelines. As Louis, who has over 10 years in higher education stated:

And then the second project, the developmental project—I fell behind my timeline, and ETI said ‘We can help you. We have a semi-subject matter expert who can start writing some of the scripts for you.’ And that helped move the project along such that it’s completed now.

While the use of a shepherding approach with faculty members has been critical to ETI, it is the shepherding of the projects themselves that has resulted in the outcomes for faculty members. This shepherding is evident in the planning, scheduling, and timelines of the ETI process. Van Rooij (2010) also discusses the importance of project management skills as requirements in instructional design jobs and the need for these skills to be taught in core instructional design curriculum. The perception of project management as a skill is also seen by the faculty at USUHS. As Lane highlighted, one of the key aspects of the ETI was “keeping me on a schedule.” Cam, a faculty member with

over 20 years in higher education, also discussed how the partnership with the ETI facilitated progress: “I think the innovations in education would stop if we didn’t have somebody behind the scenes, not somebody behind the scenes, but a partner that allows you to continue to grow and to maintain that sort of progress.” William cited the importance of the ETI having processes in place, when he stated, “On another level, it’s been kind of reassuring in a way, or kind of useful, to know that there is a process. And once I understood what that process was, it’s helped to set my expectations better.” Moser’s (2007) recommendations for fostering faculty support include, but are not limited to, a “solid and efficient process for consulting with individual faculty” (p. 69). He goes on to say, “To establish a support network, an institution must initiate a strategic process to establish favorable support conditions and a support culture” (p. 69).

Fortney and Yamagata-Lynch (2013) echo the consultation elements and the problem solving nature involved in shepherding:

Most instructional designers viewed themselves as consultants who partnered with clients to solve performance problems, some viewed instructional design more as a project management function, where their primary role was to organize and present information that the client provided. . . Most of those with a project management focus were observed to have good skills at dealing with clients during interactions, but also made statements indicating more issues in demonstrating the value of instructional design to their clients. (p. 100)

While the process, timelines, and project paper are all important aspects of shepherding, many faculty members found the organizational elements that the ETI brought to the table were critical for success, as described by Fortney and Yamagata-Lynch. Linda highlighted the organizational and timeline elements stating, “The scheduling was essential for me. I work on a deadline and having other people that I am responsible to and with, has been critical, with so many distracting things going on.” William brought

forth how the ETI organizational elements helped him reach goals stating, “We talked about goals and timeline and the ETI team helped me reach those goals without making me feel pressured.”

In order to think about how the ETI supports the faculty, one must think about organizational elements (e.g. timelines, process, reviews, etc.) recognized by faculty and experts cited thus far, and what organization as a whole means. The word organization, from Latin *organum* (instrument, organ), also has ties to the Greek *organon* (implement, tool for making or doing) (Online Etymology Dictionary, n.d.). Organization can, therefore, be viewed as the instrument that needs to be strong in order to produce an end result, a product. Without a tool for making or doing, the result will not occur. So when the faculty member wants to know such things as, how long will this take? Can this be done in a month? What will I need to do? The ETI members must work together with faculty members to understand the organizing elements of project creation.

The ETI support is also manifest in the shepherding of organizational elements for the faculty. This is done in many ways, and is individualized for each faculty member based on the goals of the ETI support, as well as the relationship between the ETI support team and the faculty member. In short, Schiller stated that members of the ETI “improve faculty preparedness.” Many faculty members said that after working with ETI, they are organized as never before. Cam, for example, said:

I remember before I had [that experience with ETI], I would have everything in my office somewhere—in a file cabinet here and a shelf over here.... But having everything as a course that’s completely set-up, it makes it easier to go ahead and create the next version which I’m already in the process of doing for next year.

Sorcinelli (2007) emphasizes the importance of opening up opportunities for faculty to consider new ways to organize their course, learning material, and work. The ETI must work carefully with faculty in order to facilitate their consideration of new ways to organize their work and enhance their coursework. Cam continued his comment on organizational support, explaining, “The fact that we have somebody that can sort of stand behind the faculty member and get them, you know, get things organized and planned appropriately allows us to get things going.”

But the shepherding of the ETI team that is evident in organizational support extends beyond time management and planning to include a systematic way to look at instructional materials. Cam credits the ETI with teaching him this skill:

I think that it allowed me to see what fit and what didn't fit. Sometimes you'll have a slide or an idea that you stick in a lecture because you like it, but it doesn't really fit. It doesn't really flow and [do] what you want [it] to do. And I think if you actually sort of organize it [you will find], this doesn't work here. Maybe it works somewhere else, but I need to pull it outta here. So it's not just a collection of random slides, it's a thought process that goes behind what you're doing and you need to sort of think about that when you prepare the lectures.

Members of the ETI work hard to collaborate with faculty to create both online and face-to-face products, including animations and graphics, course activities, assessments and evaluations, and distributed courses. How the ETI shepherds the development of these products lies in staff members' backgrounds and education in different models. George explained how the ETI supported him in the production of a course:

Course design can be complicated, and take a lot of time. And ideas that are simple can actually be very complicated to implement, and having a team of individuals with different perspectives and with experiences working in this field [is] key for making, for developing those complex [courses], teaching the course and doing it in a way that works.

George's recognition of the complexity of course design, and its relationship to a whole field of instructional design is in accordance with Fink's (2013) belief that faculty need to learn about (among other things) design of instruction. Fink stresses that a curricular structure should coordinate and connect multiple opportunities for students to achieve the intended learning goals. All of this is also in accordance with the CIHE Best Practices (2007) which emphasize curriculum and instruction. "The important issues are not technical, but curriculum-driven and pedagogical" (CIHE, 2007). The focus of the ETI is on instruction/pedagogy and instructional products, and the degreed instructional designers and technical developers that make up the ETI team have many different models and frameworks at hand to shepherd the development of faculty skill and products.

ETI team members' education and professional development include the theories, models, and frameworks they were taught and continue to learn. One of the most famous processes for instructional design organization is the Analysis, Design, Development, Implementation and Evaluation (ADDIE) process. Gustafson and Branch (2002) reviewed selected instructional design models and concluded that most of them contain at least five elements of the ADDIE in one shape or form. While ADDIE is often described as a model or paradigm, many (Bichelmeyer, 2005; &Van Rooij, 2010) believe that ADDIE does not hold true to the definition of a model or paradigm because it does not prescribe how to practice ADDIE, nor a process for use (Bichelmeyer, 2005). Therefore the notion that ADDIE is a linear process model or paradigm is a common misconception. What ADDIE does for those creating products is provide an organizing

element or framework for the members of the ETI team to work with the faculty to meet their needs. While the faculty did not describe the ADDIE model in particular, the faculty described the support of the ETI in the development of their products in many ways that link to the ADDIE model. Linda, George, Schiller, Lenny, and Louis all talked about the organizing element or framework the ETI team brought to them and in some cases how this process (ADDIE) helped them meet their needs. Lenny said, “ETI helped me understand many ways to get information to students that I was previously unaware of, outside of the typical “death by Power Point.” Linda also talked about her experience:

There’s the preparation and how do I think about the course and the content. I tend to work from reverse engineering, and intuitively, my work with the folks from ETI has been in that reverse engineering mode. What are the outcomes that we want to get to? How can we very clearly move from A to B to C and make sure that we’re taking that educational perspective and moving them through? They’ve helped me with thinking of activities and learning strategies beyond Death by PowerPoint.

George, Schiller, Lenny and Louis all specifically talked about how the ETI helped them use PowerPoint more efficiently, or move away from it altogether.

While the immediate effects of the whole ETI shepherding approach are most visible in the final products, a few faculty members described long term effects of the ETI collaboration. Schiller stated, “It’s [the ETI] helped us have the mindset of, you know, we always need to be critically evaluating our teaching and improving that. And so I feel that ETI has been, you know a catalyst to do that.” In the end the shepherding approach does not only occur in the collaboration between ETI and faculty members, in the organizing of projects, or the creation of products. It is an overarching approach that is only possible because of another element that faculty members talked about again and again in the interviews for this study: the personality traits of the members of the ETI.

Personalities Impacting Shepherding

As the faculty/ETI partnerships develop beyond the unbundling, the personalities of each member of the partnership begins to impact efforts to shepherd, as well as the determination of what elements of innovation should be approached. Spector, Polson and Muraida (1993) count the ability to provide motivation, locus of control, anxiety tolerance, and perseverance among the personality characteristics of successful instructional designers. Fortney and Yamagata-Lynch (2013) identify strong communication skills, and an ability to modify communication to ensure understanding to be critical. Ben and Beth talked about the personality traits and communication styles that the ETI team brings to faculty members. Ben asserted:

The humility piece is key. A desire for self-development and self-improvement ties heavily into that. Desire for collaboration. Good interpersonal skills. But I think the biggest value... is the communication, clear communication, and the, what I'll call "sane" business process.

Beth continued:

But the other thing is the ability (and this is my perception), the ability to adapt to whatever the personality of the faculty member is. I think that's a strength. And to work in that collegial way so that a person always realizes that *they* [sic] are the content expert, but more importantly, that *they* decide if the goals are met or not. And to communicate that in a way that is well received.

Schiller said:

[It's] not just technical competency—you have the interpersonal skills and communication skills to work with us. So that's been really important because, because you could be highly technically proficient, but if you sort of aggravated us, we'd say, "okay, get lost." (laughing)

Schiller's observation mirrors precepts of Fortney and Yamagata-Lynch (2013) who state that high performing instructional designers strive to "understand the clients' business problems, anticipate issues, and ask questions to engage clients" (p. 103). Linda

also stated, “Again, experience, thoughtful, creative, knowledgeable, detail oriented, very organized, and they’re very open to discussion—they’re not closed off at all.” Both Schiller and Linda highlighted elements of their own relationships with members of the ETI team. Campbell, Schwier and Kenny (2009) also discuss the relationships that build between faculty and the instructional designers:

Deliberately building relationships with faculty clients is requisite and ongoing rather than what happens just before the design process begins. How that is done varies from designer to designer, but the end-goal is similar: to build an atmosphere of trust that relates to the client's professional identity, and that can be nurtured throughout the design process, and sometimes long after. (p. 650)

Cam believed that both the problem solving and communication skills of ETI members have made their collaboration with faculty members successful:

I’ve been able to contact personnel at ETI and they’ve been able to help me through some problems just because of their ability to speak languages on both sides. They understand what the issue is. They are able to understand my concern and communicate it to me and the other individuals better than either of us are communicating ourselves. I think that’s been a positive.

Cam’s concern about language is echoed by Rogers (2000) who states:

The group teaches its consultants not to use technical terms, which tend to intimidate non-technical people. Their reasoning is to make technology integration as easy as possible. The technical names are not important, it’s knowing how to use the technology that is important. (p. 24)

Cam reiterated the importance of ETI staff’s use of language when he contrasted his ETI experience with the problems he has encountered with other groups. In contrasting the communication styles of the two groups, Cam stated:

I think [ETI] is willing to sort of dumb things up, not a particularly good way to say it, but to make it understandable to non-technical people. That’s one of the biggest problems dealing with [other technical support]. In my experience, they tend to speak in “computereeze.” Most people speak everyday English. Sometimes I think [other technical support people] pride themselves on this because they want to be seen as “I know something you don’t know.”

In the same conversation, Cam described the important issue of the background of those who provide technical support:

I always find that the people I've dealt with at ETI are willing to converse at an ordinary level. I think because many of them have educational experience, it makes a great deal of difference. A part of our problem with [USUHS IT staff] is that few have any educational experience whatsoever. Their experience is entirely in the technical side, so they don't know how we're going to use it. They don't know how, in a direct way, how their decisions impact what we do. Sometimes decisions are made about how we use the IT and it's...they haven't really [listened].... Because they don't sit in front of the classroom themselves and use it. They don't realize that what seems like a trivial little decision might have profound effects on how we operate.

By honing an overall shepherding approach among carefully selected staff, ETI is perceived as a positive force by faculty members at USUHS. The theme of shepherding provided conditions and insights into the elements necessary to facilitate a faculty member's success in working with the ETI on projects. It is through the background of the ETI team as well as their education in different models that faculty members are given a variety of choices and options for their projects. The USUHS faculty member's perceptions allow the ETI team to continue to work with the faculty and to develop new relationships. It is through the relationships that the ETI is also able to remove silos and build bridges in collaboration and teaching.

Building Bridges

As we look across a university campus, we can see many divisions that exist for any number of reasons, including: Resource allocations, lack of technical knowledge, different understandings of curriculum, pedagogy/andragogy, educational evaluation, and ignorance of what goes on in other departments. It is sometimes hard to think about how to cross these chasms for the purpose of achieving a greater good. One of the themes that

arose from the faculty interviews was about faculty members working across departments or disciplines because of their experience at ETI. Often, ETI staff had to initiate this work so that the faculty member(s) could actually see the need for a bridge. Ben provided insight into how the university works within silos (a parallel analogy) and how silos are broken down by members of the ETI team:

[ETI staff members] see a different perspective than many of the other faculty members have—the ability to say, “Hey, this is actually a really good idea which I saw over in this other department worked out really well.” And they may never have gone over to that department. Again, who are they most likely to ask for support or something? They’re not going to ask the next department over, they’re going to ask inside their department. And so they sort of blind themselves to other ways of doing things. And [ETI’s] got the ability to walk that across, the knowledge, across to them.

On the outside, colleges and universities have a unifying mission of educating students. The natural structure inside higher education includes fighting for grants, resources and prestige. This type of vicious academic infighting fosters a silo mentality (McKinney, 2013; Throp, 2010). Faculty members can find themselves in the university silo, the department silo, and even an educational content silo. USUHS guidance on faculty appointment and promotion (2013) identifies USUHS-specific silos:

As described previously, and reiterated here quite bluntly, academic and military advancement approaches a "dual silo" scenario. Significant academic accomplishments will not necessarily guarantee military promotion; in fact, it probably doesn't at all. Likewise, significant military accomplishments will not guarantee academic advancement. As described previously, accomplishments such as the Order of Merit, or A-Designator, are only a component of what is considered; it is not enough in and of itself. Some faculty members have questioned why USUHS seems so rigid. The answer is that USUHS is a military AND an academic institution, and the faculty and administration at the School of Medicine strongly believe that academic credibility must be maintained if an appointment at USUHS is to correlate with a similar rank at essentially every other medical academic institution.

The very nature of a USUHS military academic institution involves silos as seen in the promotion and tenure text on the USUHS website (2013), where it states: “Academic accomplishments will not necessarily guarantee military promotion; in fact, it probably doesn't at all. Likewise, significant military accomplishments will not guarantee academic advancement.” The silos at USUHS extend also to the organization of departments at the university. In order to flatten the silos and learn from other areas, many of the faculty members interviewed discussed how the ETI helped provide a bridge beyond their own departments, which supported a new, wider view. For example, Lenny stated:

We [at USUHS] do a lot of stove piping. ETI, by having visibility of the entire university, in my case, was very helpful in steering me to other people that are doing similar work. I'm not recreating the wheel, so if somebody is already doing something similar, why not use a model that works? And, you know, in the future, it probably would be beneficial to do some cross-walk between courses if we're doing the same thing, –don't do it twice, do it once and cross list it across [the university]. And ETI is uniquely situated to have visibility of it and remove silos.

William also highlighted this by stating:

One of the things that probably all academic institutions suffer from, and certainly USUHS does, is this departmental stove piping. You know, we have departments, our departments work within their lanes and they have very clear territory that they are very jealous of. And so when it comes to crossing lines between departments to try to build multi-disciplinary approaches, you almost have to have someone outside like ETI as a force making that happen.

The fact that the ETI team brings the faculty an awareness of what other departments are doing and how they are doing it accomplishes more than efficiency. It facilitates scholarship among faculty and departments at the university, and improves the teaching that the faculty deliver, as faculty members have previously discussed. William highlighted this very well by stating one of the things the ETI has been able to do for him and other faculty: “[To] be supportive in improving my teaching but also making

connections that weren't made before across departments as well to support teaching at the university." Harry has found that the ETI helps faculty members at USUHS improve their teaching by "opening communication lines both between other faculty and between university departments such as the CIO office."

While the ETI has insight as to what is occurring, that insight is limited to their members' interactions with other departments. Lenny's comment on the "visibility of the entire university" leads back to all the various departments the ETI team has supported. A report created for USUHS faculty members and leadership called the history of the ETI (2013) shows that members of the ETI team have worked with every major department at the university. Over 100 different faculty members have been supported by the ETI since 2006. The History of the ETI Report also highlights that over a third return to the ETI team for support on new projects. This wide scope of departments and faculty allows the ETI team to gain insights into many different areas and have situational awareness of programs and initiatives at USUHS.

William discussed the fact that ETI has "connected the dots" throughout the university for many faculty and provided insight into other departments. The support provided by the ETI is seen as a bridge linking entities within the larger university. It is also seen as a force that strengthens, and makes more visible, the mission of the university. As Lenny stated, "I think ETI would be a logical bridge that would provide common language for everybody. This university absolutely needs to do more intra-corroborative work."

In order to provide the support discussed by Lenny, members of the ETI need to think about how the support of teaching, learning, and technology occur, much as

McKinney (2004, 2013) studied collaboration across disciplines and moving beyond the individual classroom. As Linda talked about how the ETI supported her, she emphasized the importance of collaboration:

My main purpose in using the ETI is really to expand what I'm offering, multi-faceted, and really produce the best course product that I possibly can. One person has one lens, many people have many lenses. And people who are not married to one discipline, like ETI, content wise, but who really are well versed in the process, can really help you get out of a content silo and begin to really embrace the process.

Some of the bridges built by the ETI team for the faculty members are intended not only to link them to content, but also to guide them regarding how to provide that content. Linda was emphatic about the importance of bridges:

Really important because you can get, again, you can get so stuck in a content silo that you have this desire to deliver as much important stuff as you can, that the creativity in how you approach it and prioritize gets kind of lost. And I really value that ETI brings that to the table.

Linda's description of a "content silo" highlights how positionality limits one's view.

However, when other perceptions and experiences are included, there is a broader, if more complex picture. Frost and Teodorescu (2001) believe that if universities intend to increase interdisciplinary collaboration, then departmental customs and rules may need to change and faculty must be motivated intrinsically or be eligible for resources and compensation assigned specifically to interdisciplinary initiatives.

In order for ETI to provide bridges to USUHS faculty members, there must be sufficient trust between faculty members and the ETI team, to have conversations about teaching. Campbell, Schwier and Kenny (2009) discuss the dimensions of this trust:

As a complex, socio-cultural process the moral dimension of instructional design refers not to "right" and "wrong" decisions or actions, but instead to this fundamental importance of relationships in which mutual commitments are made,

with integrity, to enhance success—success in teaching, success in learning, success in service—success for positive social change. (p. 646)

While understanding a faculty member's teaching practice orientation and technology comfort level, Cranton (1994) believes that the encouragement of faculty involvement in researching teaching can be one mechanism by which the gap between valuing research and valuing teaching can be bridged. Once trust was developed between faculty members and ETI team members, many of the faculty members interviewed discussed how the ETI opened them up to both professional development opportunities as well as research into their teaching practice. On professional development specifically, Lane stated that the ETI impact was "Huge, because this is something I was not doing, you know, even as recently as a year or two ago." But professional development is only a method by which Cranton (1994) discusses moving towards trust and research. Moving along the spectrum of professional development opportunities highlights the support ETI can offer to faculty. Through these professional development opportunities many faculty members come to ETI for support. Trust is developed in working on a project, and finally research is discussed.

Louis found that the ETI helped him bridge the gap between his teaching and research:

[It] didn't stop when the product was done. They actually suggested that we collaborate and actually present what we had done at meetings. So ETI presented it and won an award at a national meeting. And then [they] also encouraged me to submit the material for the Innovative Teaching Award at the school. So they actually suggested all that. I didn't even think about all that stuff. So they helped me think about the idea of publishing what they did and they were there all the way. And in fact, at the last meeting they had published a paper, again, partly because of the work we had done together.

Other faculty also described the encouragement to publish. William and George, in particular, also discussed how the ETI bridged theory and practice in their own work, turning their learning about teaching and technology into research opportunities, perhaps coming full-circle from the starting point of unbundling these roles. Documentation in the *history of the ETI* (2013) shows that ETI team members have worked to create over 30 joint publications and presentations with USUHS faculty. Publications have appeared in both medical, trade, and educational journals. Presentations were also given at national and international conferences. Welsh and Metcalf (2003) support the idea that gaining the interest and support of institutional constituents, particularly the faculty, is a major challenge colleges and universities face in designing and implementing institutional effectiveness activities.

Chapter Summary

This chapter explained perceptions of the ETI by both select USUHS leaders, as well as by a number of faculty members. In assembling their responses to interview questions, three major themes emerged: unbundling, shepherding, and bridging. Within these, the importance of trust, and the personalities of ETI staff members are emphasized repeatedly. This chapter also looks at USUHS documentation as well as the interviews of the faculty and leadership members to understand the development of the ETI, the institution's context and commitment to the center over time, and factors that facilitated and/or hindered the development of ETI.

The questions posed and documentation reviewed opened up the relationship between instructional and educational technology staff, university leadership, and the faculty, providing insight into the development, adoption, and functioning of the center.

In chapter five, I discuss the significance of these findings for USUHS, as well as overall considerations for universities, leadership, faculty, and other faculty support groups.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND FURTHER RESEARCH

This final chapter summarizes the results of this study and details the significance of the major findings related to the overarching research question and its sub-questions. This study provides insight into the instructional and educational technology support offered to faculty members at the Uniformed Services University of the Health Sciences (USUHS) by the USUHS Education & Technology Innovation Support Office (ETI). The findings from this study offer valuable feedback to the USUHS program administrators for development and improvement of the ETI and continued support of USUHS faculty teaching. Additionally, the findings from this case study may help other universities conceptualize, plan, implement, and evaluate their own faculty support infrastructures.

The overarching research question for this study is, “How is the work of the ETI perceived by the USUHS leadership and faculty members?” Sub-questions addressed are the following:

1. How and why was the ETI developed?
2. What has been the institution’s context and commitment to the ETI over time?
3. What factors facilitated and hindered the development of ETI?
4. What are the characteristics of key roles played by those involved in the ETI’s development?
5. What contextual factors support or constrain the ongoing work of the ETI?
6. In what ways has the ETI been most helpful to the faculty and leadership of the University?

This chapter has four major sections: Discussion, Conclusions, Implications, and Further Research. The discussion section addresses the research questions with attention to the conceptual framework. I address the sub-questions out of order in the initial list in order to join mutually similar question types together. The discussion section begins by reviewing the history, development, and leadership commitment to the ETI, addressing sub-questions one and two. The discussion section goes on to review factors that influence the ETI, and relates these to sub-research questions three and five. Finally, I discuss the key roles and major contributions of the ETI staff, and relate these to sub-questions four and six. The second section draws conclusions based on the discussion. Section three addresses implications for the ETI office at USUHS, other faculty support offices, and users of faculty support offices. Finally, I conclude this chapter with recommendations for additional research. These sections integrate the research questions; the conceptual framework elements of institutional context and commitment, curriculum and instruction, faculty support; Rogers' diffusion of innovation (1995); and the three themes of unbundling, shepherding, and bridging that emerged from the analysis.

The perceptions and accounts provided by the USUHS leadership and faculty participants in this study help to answer the overarching research question of: "How is the work of the ETI perceived by the USUHS leadership and faculty members?" Denzin (1989) suggests that people's lives have meaning, and the meaning gives value to their experiences and perceptions. Perception is the process by which humans interpret and organize sensations into a meaningful experience of the world. In other words, when a situation arises, people interpret the situation as something meaningful based on prior experience. People bring more meaning to shared experiences by reviewing their own

perceptions and conversing with others about their experiences and perceptions.

Multiple life experiences bring an even greater level of collective meaning. Through this study, the collective experiences of the USUHS leadership and faculty inform our understanding of the leadership, development, and use of the ETI.

History, Development and Leadership Commitment to the ETI

Members of the USUHS leadership initiated the creation of the ETI when they saw a need for specific programmatic support elements that they had witnessed at other universities and that they believed were lacking at USUHS. The USUHS leaders whom I interviewed explained that many of their own faculty members did not come to the university with the type of teaching experience and background required at many other universities. USUHS leadership, as well as faculty members, noted that faculty lacked the educational technology experiences needed to work with today's technology-savvy learners. It was the hope of the USUHS leadership that faculty members' teaching and technology skills could be "shored up" by a faculty support team with the proper background and experience. USUHS leadership proceeded towards this shoring-up by gathering data about how to do so; looking at other universities' faculty support models, and conducting interviews with faculty, staff, and other leaders to learn about teaching, technology use, and perceptions of support at USUHS. This preliminary research became one of the strongest levers used by USUHS leadership to help in the development of the ETI, because it provided them with the data necessary to rationalize their funding recommendations to university decision-makers. The initial research also showed the faculty members a strong commitment. Institutional context and commitment are the

grounding elements for any faculty support center and a key conceptual framework element for this dissertation. According to the Commission on Institutions of Higher Education (CIHE) Best Practices Report (2007), institutional context and commitment are evident at every level of the institution, including the organizational, leadership, and teaching levels. More specifically, institutional context describes the moment when the institutional activity occurred from a historical, sociological, political, and economical perspective. The institutional commitment describes the alignment of administration and faculty with the institution's role and mission, including institutional development plans – in this case, opening the ETI.

ETI leadership described the significant amount of time they spent searching for resources, especially funding and space. Funding for groundbreaking research and for new support and teams was difficult to come by, especially in recent years when budgets were especially tight, and new programs were limited in scope. Funding needs extended beyond new support and teams, and a long-term solution needed to be developed. Through the development of the ETI, USUHS leadership proved to the institution that faculty support facilitates change, innovation, collaboration, and better teaching. However, by the time the institution realized this, the support had already attracted many more users and thus needed more/continued funding to maintain its level of support.

In addition to establishing the need for the office, and securing funding and staff, USUHS leadership was strategic in planning the ETI's roll-out. This entailed introducing the ETI office in terms of diffusion of innovation (Rogers, 2003), and determining the potential expansion of the ETI use within the USUHS community. The leadership introduced the team to the university through many forums such as brown bags, seminars

and department meetings. These introductions explained the ETI capacity and funding to the general community. It was important to explain the funding mechanism, because many USUHS university services are offered for a fee, whereas the services of the ETI (if within scope) are free. According to the leadership's expansion plan, and true to Roger's (2003) work on diffusion of innovation, the first faculty members to come to the ETI support office were the early adopters. These early adopters came through their own needs, rather than through mandates or leadership pressure. Faculty use of the ETI then evolved because other faculty members saw what the ETI did for their early adopter colleagues. The center grew organically based on individual needs and wants, rather than through directives.

Through interviews with USUHS leadership and faculty involved with the ETI, the themes of unbundling, shepherding, and bridging emerged. In general, these themes follow the chronology of the relationship between the USUHS faculty members and the ETI team. Unbundling is an early support feature that enumerates the faculty member's multiple roles as an academician, and how ETI members can support him or her. As the ETI/faculty member partnership grows, shepherding characterizes the mentoring relationship whereby the ETI staff guide the faculty members through necessary instructional design and development stages. Once a strong partnership has been forged, the theme of bridging describes how the ETI continues to support faculty members as they cross into and integrate with new areas in the university.

Then and now, USUHS leaders are actively committed to acknowledging faculty members' teaching efforts. According to USUHS leadership, faculty members find it motivating to be recognized for the extra effort they make by using the ETI. This

commitment and understanding from USUHS leadership shows itself in different ways. The first acknowledgement is in the ETI project paper. The ETI team members create a project paper (which describes the faculty role and project milestones) for USUHS leadership to review the initial project plans. USUHS leadership needs to approve the project paper in order for the ETI team to support faculty members. The ETI team members also use this project paper as a resource, when they meet with university leadership at various points during the life of the project. Faculty members who work with the ETI also receive acknowledgement in the form of awards that they receive for their ETI projects, including competitively sought-after grants, and teaching and innovation awards. The collaboration of faculty members and the ETI team on research and conference presentations is another time when both ETI leaders as well as department leaders see the scholarly outcomes of the faculty member's work with the ETI. Leadership's continued support and acknowledgement of faculty members' work as well as ETI support has been a visible display of commitment from the university and its leadership to the ETI and faculty members.

Factors that Influenced the ETI

What factors facilitated and hindered the development of ETI? What contextual factors support or constrain the ongoing work of the ETI? The factors discussed by the USUHS leadership and faculty members include the funding, leadership and staff, as well as technology support.

All of these factors play a role in creation of the ETI, how the ETI operates, and how the ETI partners with faculty members. The following sections discuss each factor.

Funding Factors that Influenced the ETI

USUHS leadership interviewed for this study described how the success of faculty support grew over time. They explained that year-by-year funding has maintained the ETI and provided the appearance of a long-term commitment. The leaders worry, however, about the lack of long-term funding, or institutionalization of the ETI within a formal government structure. Without a long-term funding strategy in place, the worries at the end of each yearly contractual cycle, and the resources spent preparing for a no-renewal situation, wear upon trust. This jeopardizes both faculty members' projects as well as ETI staff continuity. Faculty members who had worked with the ETI for long periods all commented on inconsistent funding and the disruption caused by annual, uncertain funding cycles. These faculty members became aware of the tenuous situation because the ETI staff members must inform faculty members if funding is uncertain. At that point, the ETI must make plans for closing down projects so that the faculty members suffers as little impact as possible if funds disappear, and projects need to be concluded.

As discussed in Chapter Four, year-to-year funding also impacts the types of personnel hired at the support center, which has implications for the partnerships developed by the faculty support team, and ultimately, how the faculty support office is used. USUHS leadership highlighted the need for flexible staff with a variety of experience and background, but most importantly, an understanding of the university culture. Maintaining a highly qualified, consolidated faculty support staff is challenging when the position depends on year-to-year funding.

The USUHS Leadership and Faculty Factors that Influenced the ETI

Many USUHS leadership and faculty members commented on how they, through their interactions with the ETI staff, influenced how the ETI operated. The conceptual framework elements of institutional context and commitment, curriculum and instruction, faculty support, and diffusion of innovation, are reviewed and highlighted in this section. ETI's knowledgeable and experienced support staff help to keep faculty members confident and assured of the link between medical education, technology and education theory. Another way that faculty members gain this assurance is through the center director. In this instance, the director of the ETI was also the senior vice president of the university.

Bolman and Deal (2003) state that the leader must align the structure (the educational technology support organization) to the task (the curriculum), and USUHS did that by appointing a director of the ETI who was also in a position of leadership within the university. This helped increase both the support and credibility of the new support office. The rest of the center's staff was comprised of program managers, task leads, instructional designers, graphic designers, and technical developers, all of whom had solid backgrounds in education, educational technology, educational theory, or educational psychology. The USUHS leadership and faculty described the ETI staff as drawing from a multitude of experience and areas of expertise, and able to unbundle tasks, shepherd projects and build bridges in a manner that did not cause discomfort or conflict. Staffing decisions, including the allocation of dedicated professional time to a faculty support center, is often the best indicator—even more than budget size—of an institutional commitment to the improvement of teaching (Reder, 2010).

The entire staff of the ETI is comprised of contractors except for the center director. The information provided by leaders during this study supports the importance of at least one member of USUHS faculty or leadership heading the development of the support office as well as leading the team itself. Chapter Two described this individual, the active leader, as a unitary actor. Once the unitary actor and university leadership come to an understanding of what of the faculty member requires in terms of support, the subsequent assembly of a team and a hierarchy for the organizational structure are critical for success. There was no research supporting this approach at the time of the decision to develop the ETI. However, since then evidence from the work of Souza, Kamin, O'Sullivan, Moses, and Heestan (2008) supports the effect of the unitary actor, suggesting that a centralized model of faculty support (in which all instructional and technological support is offered through a single office) is a key success factor for the implementation of education and faculty support offices.

USUHS leadership said that the full-time staff plays a strong role in their ability to work with faculty members. For example, a full-time institutionalized instructional designer with ten years of experience in the field of instructional design and higher education will likely have a stronger impact on an institution than two part-time, instructional designers with similar experience. Those whom I interviewed explained that center staff members' grounding in their respective specialties has to be strong, and their education advanced, so that faculty members can view the support team as a part of the collegiate environment. It is also important to note that those with limited or no previous experience in higher education had a difficult time transitioning to the university environment.

In addition to these credentials, the way in which staff members come together, collaborate within their faculty support teams, and communicate with other USUHS offices also has critical implications for success. USUHS leadership also discussed the configuration of faculty support staff to gain the optimum flexibility for future as-yet-unknown work requests. The leadership team stated that ensuring that the staff in place could cover many instructional and technical skills was an important element to consider when filling the ETI positions, and the current contract staff was very capable of this type of flexibility. Flexible, contracted technical staff members were a small but important addition to the team in order to deal with new or specialty requirements that were not part of the full-time staff's wheelhouse.

Active leadership of the ETI also spurred the development of clear processes, goals, and roles within the ETI supporting the conceptual framework elements noted by the CIHE (2007). For example, consistent processes allow faculty support staff to work independently without compromising the ability of leaders to stay informed about ongoing projects. These processes involve regular, clear communication between university leadership and faculty support staff. One venue for this is biweekly meetings between ETI and university leadership. The project paper discussed earlier, as well as the application of specific instructional design and development methods, are other processes that facilitate work at ETI.

Technology Factors that Influenced the ETI

Sorcinelli (2007) emphasizes the importance of opening up opportunities for faculty members to consider new ways to organize their courses, learning material, technology and work. The ETI, through the use of the conceptual framework elements,

collaborates with faculty members in the faculty member's space and schedule to help them discover the use of technology in their teaching. Rogers (1993) describes how ideas are accepted, as well as the conditions under which new ideas are most likely implemented. The CIHE Best Practices Report (2007) calls for consistent and coherent technical frameworks, technological changes that are introduced in a way that minimizes the impact, provisions for reasonable technical support, and selection of technologies made based on appropriateness for the curriculum. ETI's use of knowledgeable and experienced support staff helped to keep the faculty members confident of the link between medical education, technology and education theory.

The ETI's staff was described by USUHS leadership and faculty as providing a consistent link to the technology needs with an appreciation of a faculty member's comfort level with existing and new technology. This was accomplished by ETI staff unbundling and explaining the technology while shepherding faculty through the process of learning to use it, and bridging faculty use of technology with other innovations, or even with other departments, in order to communicate goals. In the case of USUHS, it is essential that medical educators are confident that their use of technology is guided and supported by educational theory and that they are not part of the common "cultural lag" in which novel technology is used ineffectively (Aschenbrener, 2007). Due in large part to technological change, what we know as "best practices" in instructional and educational technology are ever-changing, demanding a continuous cycle of learning, acceptance, and integration. The voices of the USUHS leadership and faculty members in this study are able to highlight the importance of working with clients, at the client's pace, collaborating and sharing experiences throughout the institution.

Key Roles and Major Contributions of the ETI Staff

Both ETI instructional designers and educational technology experts help USUHS faculty members identify and fulfill multiple roles, and complete multiple complex tasks. This section discusses how the key roles and major contributions of the ETI staff are manifest in the ETI support structures, how the ETI staff collaborates and partners, as well as how the ETI staff plans and understands the USUHS environment. This section addresses research sub-questions four and six, and identifies additional unexpected findings.

The conceptual framework elements of institutional context and commitment, curriculum and instruction, faculty support, and diffusion of innovation, all run through the key roles and major contributions of the ETI staff. This is evident in the ETI support structures, collaboration and partnership, as well as the ETI staff's understanding of the USUHS environment.

ETI Support Structures

In interviews for this study, USUHS leadership and faculty members acknowledged that there is not a link between ability to teach and content knowledge. Several interviewees described how the ETI staff provides support structures to them through their teaching and technology abilities. The creative collaboration and unbundling of teaching and technology tasks provides the faculty members a method to try and develop new approaches to teaching, shepherding innovative teaching products across the life cycle of the project. It is important to note that the USUHS leadership and faculty members also stated that innovation is different for each faculty member, depending on his or her background experience. The ETI staff members are able to take

teaching tasks, such as developing or updating syllabi, designing learning activities, or evaluating student learning, and further unbundle them for faculty members, to support specific projects and innovation levels. In their interviews, faculty members underscored how the conversations with ETI team members enlightened their understanding of instructional design methodology and the importance of checking for alignment between bundled tasks such as objectives, assigned reading, lecture content, activities and evaluation tools.

A large portion of ETI work focuses on supporting the faculty with their teaching duties. Two main concerns expressed by both leadership and faculty were: 1) the workload of faculty, and 2) faculty members' ability to teach. Interviews exposed the issue of faculty workload given the added expectations related USUHS faculty members' military and government service obligations. The time necessary to address these additional duties limits faculty members' ability to invest in improving and innovating their teaching. The USUHS leadership discussed how the ETI support provided to the faculty has helped its members unbundle their roles and make changes they otherwise might not have been able time to address.

USUHS leadership and faculty members also emphasized that the ETI staff approach allows for a comfortable faculty-support staff dialogue. The ETI's approach is in-line with Moser's (2007) research on the importance of a solid and efficient process for consulting with individual faculty members in order to foster a relationship. Given the expanded roles (and thus workload) of the USUHS faculty, as well as the complexity of their teaching tasks, the unbundling facilitated by ETI is critical. But unbundling alone does not fully explain the ETI faculty support or perceptions of that support. The

shepherding of faculty members' projects by the ETI staff also plays a substantial role in the story behind ETI support structures.

Once a project receives approval and the ETI/faculty member partnership grows, shepherding characterizes the mentoring relationship whereby the ETI staff members guide the faculty members and their projects through the necessary instructional design and development stages. The leadership and faculty talked about the importance of being able to have thoughtful, open, creative, grounded conversations while keeping practical application in view. They discussed the nature of plasticity and collaboration that characterized their conversations and the importance of agenda-free discussions that gently guided them without ETI staff taking ownership of the projects.

Plasticity and collaboration emerged through the interviews with leaders and faculty members as one of the conditions of collaboration with ETI that is necessary to enhance a faculty member's success. Many of the leadership and faculty members talked about the ETI team's ability to coach and find ways to get ideas accomplished. According to the interviews, necessary elements of successful collaboration included a deep understanding of the faculty needs, ways of thinking, and functions. These approaches to support structures characterize the way in which ETI staff members work with the faculty (the partnership) as well as projects and products.

Collaboration and Partnership

All of the faculty members interviewed for this study discussed how their first collaborative ETI project allowed them to create a new facet of their course, and that the process began as soon as they told the ETI staff member about their ideas. Faculty members described the way the ETI staff listened to their ideas, and supported various

roles and tasks, as “collaborative” and “a partnership.” Those interviewed for this study all discussed an element of partnership, but their definition varied depending on the person and type of support provided. Wenger, McDermott, and Snyder (2002) point out that effective learning communities and partnerships form when participants face similar problems, share a passion for the same topics, have important information to contribute, and have insights to share. As in the case of the ETI, formation of the partnership must start with an agreement about the overall direction and purpose of the partnership. This agreement is the ETI project paper. Although this may seem to be a commonsense approach to collaboration, it is not unusual for partnerships to struggle, or even fail, in the absence of consensus among the various partners. As discussed by Knowles, Holton, and Swanson (2005), the faculty should prepare for participation and have realistic expectations for their partnership. Accordingly, it is important that faculty members devote adequate time at the inauguration of any new partnership initiative to defining a shared purpose or creating a mission statement for the partnership. In the case of the ETI support office, the mission statement or purpose of the ETI provides the boundaries for any project paper.

The collaborative partnership between USUHS faculty members who use ETI services and the ETI staff members fosters creativity, a phenomenon supported by the work of Thomas and Brown (2011). Thomas and Brown explain that the process of partnership and creativity involves the ability to understand and develop both from within and from the outside, what is possible and what is necessary. Thus, achieving a successful partnership means more than simply meeting and talking; it involves trust, collaboration and a collegial attitude. In the case of the ETI, after the identification and

clarification of a faculty member's project, work begins and faculty members will find themselves working as partners with the support office. Faculty members described early stages of interaction with support staff members during which the focus was on the faculty member's goals and desired outcomes. As the partnership developed, the support staff members began to build their own understanding of the faculty member's goals and comfort levels. Only then did the support staff members suggest other possibilities for current projects, future projects or even research opportunities.

Faculty members discussed how frequently one project would lead into second and third projects or modifications to initial projects. They also discussed how they partnered with support staff on research and conference presentations. All faculty members described becoming more comfortable with the support team as the creative communication and collaboration progressed. Bates and Sangra (2011) argue that resistance is often a response when an instructor's goals, pedagogical style, or epistemological assumptions appear to be at odds with innovations proposed by the university or the support teams. The perceptions described by faculty members who use the ETI services bear this out. Working with educational support teams often necessitates a conversation about the professional development of faculty members in instructional goals, pedagogy, and epistemology, as well as tying this professional development to support for instructional design and technology integration.

ETI Staff Planning and Understanding of the USUHS Environment

Another contribution of the ETI cited by USUHS leadership and faculty members was the recognition of faculty members' roles, responsibilities and timelines. The ETI teams' approach set the stage for successful projects and products. USUHS leadership

and faculty highlighted projects completed with ETI staff. The success of those projects is evident in the planning, scheduling, and timelines of the ETI process and the product creation. The leaders and faculty members also discussed the roles the ETI team members played in the process, and how their personality traits affected the success of the partnership overall. By honing an overall approach to working with faculty members, and carefully selecting staff, the ETI team will continue to work with the USUHS faculty and develop new relationships throughout the university.

One of the major findings that arose from the interviews was that ETI staff members contribute important insight to their work with the faculty because ETI staff members function across university departments and disciplines that otherwise operate separately from one another or in siloes. Having a clear understanding of the USUHS environment is important when talking about silos and development of collaboration between departments. USUHS leadership and faculty recognized that it is often the ETI staff who broach the topic of collaboration between departments, other faculty members or even other organizations. This at times reveals the challenge of a silo, and the potential for bridges. The fact that the ETI team makes the USUHS leadership and faculty members aware of what other departments are doing and how they are doing it accomplishes more than efficiency. It fosters greater collaboration throughout the university and a greater diversity of methods. Finally, many of the USUHS leaders and faculty members interviewed discussed how the ETI exposed them to professional development opportunities, research on their own teaching practices, and collaborative publications and presentations. USUHS leadership and faculty members saw the support provided by the ETI team as both breaking down silos and bridging entities within the

larger university. The cross-disciplinary and cross-departmental support is also a force that strengthens, and makes more visible, the mission of the university.

Additional Insights

In addition to yielding results that answered the central and sub-research questions of this study, the interview data included other unexpected but important findings. For example, in discussing the products they had created with the help of the ETI, more than half of the faculty members recalled their surprise upon learning about the rules governing the creation of their works, such as Section 508 of the 1973 Rehabilitation Act as well as the Teach Act and Fair Use laws.

Another important finding is the weight that ETI leadership and faculty, especially faculty members, placed on the trust built from a faculty member/support staff rapport. The ability to be motivating while being humble, and the ability to have adaptive skills as well as communication skills, are among the personality characteristics that faculty members said were important in building trust. Faculty members described their partnerships with ETI team members as “offering rich opportunities” for improved learning outcomes and professional development. The USUHS leaders and faculty members recognized partnerships that incorporated a collaborative decision-making process as instrumental in improving educational outcomes. Related to this, faculty members interviewed for this study said that they expected full privacy and strict confidentiality. They talked about the need to have a "safe place" to discuss any aspect of teaching, even aspects that seemed difficult or distressing. The leaders and faculty members described an implicit trust and an understanding of a professional consultant-client privilege.

This study also brought to light some surprising results. One of these was the fact that the contract, while a stressor to ETI staff, did not seem to impact the faculty's perception of support received. This is especially surprising since the contract details, including period of performance (POP), are fully visible to leadership and faculty. Faculty simply commented that they wanted more support from the organization. So, while the contract was quite visible to the organization in terms of restrictions, it seemed well aligned with the needs of those receiving support from ETI.

Also surprising was the willingness of leadership and faculty to admit that many faculty members don't understand teaching and learning. This openness highlighted vulnerability in the educational mission of USUHS. That vulnerability was the impetus for the ETI.

Conclusion

This study is an attempt to gain an in-depth understanding of the development and adoption of the ETI, within the context of existing research on the support of faculty through faculty support centers. All faculty members interviewed for this research recognized the importance of the support provided through the ETI. I described the three major themes that emerged from the analysis of faculty interview data as unbundling, shepherding, and bridging. In general, these themes follow the chronology of the faculty member/ETI team partnership development. Understanding these themes has implications for that partnership.

This case study also used conceptual framework elements that grounded the case study. The conceptual framework elements used in this study are part of the CIHE Best Practices Report (2007) and include: Institutional Context and Commitment, Curriculum

and Instruction, and Faculty Support. The CIHE Best Practices Report (2007) elements are evident at every level of the ETI case study and provide consistent and coherent insights to the organizational support structures that address the university faculty's instructional and educational technology needs. More specifically, the CIHE Best Practices Report helps in articulating the when, where, why, and to-what-degree institutional activity occurs in the ETI. Also added to the conceptual framework was Rogers' (1995) work on diffusion of innovation. Though USUHS leadership and faculty members find that innovation is a key emphasis for faculty support groups, Rogers (1995) reminds us, "Innovation need not involve a brand new idea. It can be any idea, practice, or object that is 'perceived as new' by an individual or other unit of adoption" (p. 11). Accordingly, USUHS leadership and faculty members noted how ETI acted as a support unit to extend existing knowledge, increase the ability to innovate, and meet learner and curricular needs.

The findings from this study offer valuable feedback to the USUHS program administrators for the development and improvement of the ETI and the continued integration of the ETI with USUHS. It is also important to note that this research may also aid in the operations of other support centers. This specific profile of the ETI office at USUHS could support leadership, faculty members, and faculty support staff at other universities in integrating and providing instructional and educational technology support more skillfully. Additionally, this case study may provide new insights that help influence the broader ways in which faculty support is conceptualized, planned, supported, implemented, and evaluated.

Implications

In the existing studies of support for faculty members, there is little focus on the adoption of instructional and educational technology support offices and the perceptions of the leadership and faculty of those offices. This study describes the creation of one specific support office, the ETI at the USUHS, and the experiences and perceptions of its users. Based on a document review as well as intensive leadership and faculty interviews, this study provides insight into how instructional and educational technology support is offered to, and received by, USUHS leadership and faculty members. Creswell (1998) states:

Researchers search for essentials, invariant structure (or essence) or the central underlying meaning of the experience and emphasize the intentionality of consciousness where experiences contain both the outward appearance and inward consciousness based on memory, image and meaning. (p. 52)

Thus, the findings from this study offer unique feedback to the USUHS program administrators for continued development, improvement, and integration of the ETI and its staff. Beyond USUHS, this research may also aid in the start-up and operation of other support offices. Specifically, this profile of the ETI has the potential to help leadership, faculty, and support office staff at other universities think about how they interact with one another and the impact of those interactions.

Implications for the ETI at USUHS

This research bears on specific issues of the ETI at USUHS. Highlighted are four important implications: funding and staffing, faculty development, integration of services, ETI staff skills and personalities, and theoretical.

Perhaps most importantly, USUHS needs to accomplish long-term funding of the ETI, and the institutionalization of its support, as quickly as possible. Staffing could take on many forms. One approach to consider would be to provide a flexible combination of contract staff members with a variety of competencies, levels of support, and time for support, as well as university/government-employed staff. A combined staff would ensure that a lack of funding would not affect support functions, because in the event of change, university/government team members could still provide support to faculty members. University/government staff members also demonstrate leadership's commitment to faculty support and its role at the university. Providing a straight government staff would provide for consistent staffing, but would limit the ability to bring in any special skills on to the team on a short term basis.

The federal government offers options to implement long-term funding with contractors in place, such as a Program Objective Memorandum (POM). The POM is a document created to request future year funds. A POM articulates the projected money and work force needs to accomplish service missions assigned during the Planning Phase of the Planning, Programming, Budgeting, and Execution (PPBE) process. The POM reflects force structure, human capacity, resource dollars, and procurement funding requirements. The POM will normally request funds for four years (depending on the organization rules) and articulate a budget estimate for an additional two years, for a total of six years. USUHS adoption of a structure similar to POM funding, along with IDIQ (Indefinite Delivery Indefinite Quantity) funding, would allow the maximum flexibility of staff and structure while highlighting long-term commitment for centers, like the ETI, that are staffed by contractors and housed in government organizations.

Because USUHS has both civilian as well as military faculty, the university should be sensitive to the teaching abilities and needs of the rotating and new faculty members that come to the university. The USUHS faculty and staff are comprised of 775 civilian and 312 military members. Given that many faculty members (both military and civilian) stated that they did not feel prepared to teach beyond their own educational experiences, and that they felt that the ETI staff provided them with important faculty development, a comprehensive faculty development program and teaching and learning focused office should be on the short list of priority programs. A stronger faculty development program supporting incoming faculty members others at the university would allow for a better integration of the faculty members into the USUHS culture, and would enhance the “teaching and learning” resources provided by USUHS overall. This initial professional development opportunity would also allow the members of the ETI to market the services they provide to faculty members. Along with the initial faculty development program tied to ETI, the university should consider an alignment of the ETI with formal teaching and learning support at USUHS. While the ETI covers many elements of teaching and learning support, its mission is not specifically tied to the professional development nor the orientation of faculty to teaching roles and curriculum development. If the ETI were to expand, it could provide a hub through which faculty could access concentrated teaching and learning support, as well as link to other providers throughout the university.

The overall need for integration of the ETI services for both curriculum planning and distributed learning would allow for stronger integration of services throughout the university community. Many faculty members at USUHS discussed how the ETI helped

break down silos that had occurred within their own departments as well as across the university. Stronger integration of ETI into the overall university faculty culture through such organizations as the faculty senate would allow the ETI to help increase awareness of the overall terrain at USUHS.

Another important implication of this study opens up the types of staff characteristics and personalities required for working at the ETI. USUHS faculty provided many characteristics they found important to their successful collaborations, such as the ETI staff's ability to successfully negotiate and manage multiple tasks. In this study, both USUHS leaders and faculty members provided insight into how the characteristics of plasticity, collaboration, and the guidance without ownership are key in the successful management of projects. The leadership and faculty members also discussed the ETI's teams ability to work with multiple personality types, varying agendas, and changing needs, while providing opportunities for reflection and networking. While USUHS leadership discussed hiring both more contract as well as government personnel in the future, they should consider candidates that are adept at brainstorming, clarification, classification, and providing high-level organization. Employee candidates should most importantly be able to work in a team environment. In the current study, both the USUHS leadership and faculty members frequently referenced team experience, team relationships, and team communication as critical skills. Both USUHS leadership and faculty members believe that support ETI staff members play many roles in their jobs, but that at the heart of each of these roles is a consistent team orientation.

The theoretical underpinning of the support provided by the ETI should ensure a strong alignment between the mission of the ETI and that of USUHS. Of critical importance is the theoretical grounding of the ETI staff, which should include instruction, pedagogy, instructional products, and theory. Staff members should be degreed instructional designers and technical developers. The team members that provide ETI support may draw from many different theoretical paradigms, but staff should have a common approach and method for reaching the ETI's mission.

Implications for Faculty Support Offices in Higher Education

This study provides lessons for faculty support offices in general, in terms of the importance of leadership and needs assessments and considerations for those who would like to work in a faculty support office. The implementation of an ETI-like office facilitates fundamental changes in the support of faculty members throughout the institution (Allen & Seaman, 2007), enabling it to meet goals using methods and ways not normally considered by the faculty or leadership. One hoped-for implication of this current study is that leaders involved in supporting ETI-like centers realize how their personal involvement will be communicated, and recognize that providing a faculty support office involves a long-term commitment of leadership, staffing, and funding. In *Creating Significant Learning Experiences* (2013), Fink argues that institutions of higher education need to give serious attention to their role in supporting faculty members' change because the faculty member, in the end, is in charge of designing and delivering courses, and those faculty members are key in the improvement of the quality of educational programs. Fink explains that institutions must examine the ways they support—or create barriers to—faculty change, and then modify current practices as

appropriate for success. Campus programs to support the enhancement of teaching are, according to Fink, one of four areas that have a particularly strong impact on the faculty members to promote significant learning. This view is simply recognition of the fact that effective instructional development links to, and depends on, effective leadership, organizational development, policies, and faculty support. Leaders that appreciate the impact of their personal involvement will be able to initiate the changes that can give faculty members the support they need by establishing and backing faculty support offices like the ETI (Fink, 2013).

Linking together the implications for faculty support within higher education environments to multiple theoretical frameworks is another important consideration. Since the 20th century, some major educational theories, such as Behaviorism, Cognitivism, Constructivism and Multiple Intelligence, have been widely implemented in education, and often linked to the development and utilization of educational technology. Such theories provide complex and comprehensive conceptual understandings of things that cannot be restrained: how the brain works, how organizations operate, why people learn in certain ways. Theories give university leadership, researchers and those operating faculty support centers different “lenses” through which to look at complicated problems and issues at the university. The theories focus the attention on different aspects of the situation, providing a lens within which to conduct the analysis and make decisions for practice. Overall, the goals of such theories lie within creating a learning culture where collaboration, learning consciousness, multiple perspectives, and self-regulation are promoted, and where the role of the faculty is to support and communicate as well as to promote inquiry and/or discovery activities responsive to learner needs.

Some of the theoretical frameworks provided in this study such as situated learning, social learning, brain research, and diffusions of innovation could be opened up further providing those running a faculty support office more options. For example brain research has focused more on the educational development of children rather than adults. Opening up more research on the adult brain could help foster new techniques and tools for adult learners and those providing educational experiences. Each of those theories on their own sheds light on the complex picture of both the provider and the receiver of support, but those alone do not provide enough information to make a faculty support office successful. For example, while diffusions of innovation talk about supporting people across a paradigm, the literature does not explicitly foster an appreciation of innovation at lower levels nor how to move someone to other levels of innovation. Understanding the nature of how someone learns is found in brain research and learning theories, but it is putting the theories to work that makes faculty support providers successful. George, highlights how the ETI supported his development as an educator stating that the ETI helped him to identify multiple, “conceptual frameworks and to brainstorm ideas in terms of how that framework could be implemented.” He then continues by stating that “other piece is sort of that the technological support with the right people working with me at a level I understood.” Those offering support services need to make connections with multiple theoretical frameworks, as well as between their clients (faculty members) and their team strengths and weaknesses in order to cater to the needs of the overall individual faculty member and organization. As George also highlights, helping faculty members understand the frameworks from which ideas are drawn also supports faculty professional development. Drawing from brain research and

connecting to faculty support and development may require that continued development (and research) occur in a richer form of learning so that faculty members experience a wider variety of faculty support personnel skills and new ideas.

In educational and instructional design, technology should be employed in an effective way, looking closely at how theory helps us understand its use, but also with a meaningful pedagogical backbone layering with educational theory, rather than just using technology as content transmitter. Distributed learning has become an important approach that is integrated into the teaching and learning process, but an understanding of multiple theory interconnections is not often discussed in the literature. For example constructivism views the learner as an active participant in the instructional experience, developing knowledge through a process of meaning making by the learner. Learning environments, activities, and interactions are constantly challenging the learner's understandings resulting in the development of new or modified meanings. Therefore, the environment, which frames the learning experience, is of equal importance to the learner as the knowledge itself since knowledge or cognition (in the constructivist view) is highly linked to the experiences in which it was learned. From a pedagogical standpoint, distributed learning environments provide multiple experiences with learning materials drawing on the interactions (from constructivism) which support meaning making by the learner. The learner's meaning making in a distributed learning environment is the intersection between the theory used to create materials and the actual interaction between the learner, and the tools used to provide the educational experience. While implementing theory with distributed learning tools is an important step in creating sound educational experience an increased understanding of the connection between educational

theory and technology use (in the form of further research) can allow for a greater platform of options for faculty support offices.

Another way to support a wider lens would be for university leadership to sponsor a needs assessment of their current environment, as highlighted by the USUHS case. A needs assessment is the process of identifying gaps between what is needed, and what presently exists. The more types of need considered, the richer the planning process and the more effective the outcomes. Overall the purpose of a needs assessment is to make decisions regarding priorities for the current or new office.

In starting the conversation, leaders should communicate the purpose of the data gathering to the entire university community in order to facilitate robust data. Dialogue must also include other university leaders, who should also understand the purpose of the data gathering. USUHS faculty members provided insight into the importance of the ETI's initial review of the existing organizational landscape at the university. At that time, ETI was in search of other types of faculty support. In the current research, faculty members highlighted how the ETI staff understood the USUHS organization, including the other departments and organizations that offered support to teaching. This is because during ETI's initial review, it identified other organizational units such as the video production unit, the technology office, the library, and department-level programs, as well as other sources of support. Developing an understanding of the institution's support terrain allows a holistic and complementary approach to faculty support.

Part of the needs assessment should also include developing an awareness of learners' expectations for communication and grading, for both classroom-based as well as distributed learning environments. Faculty members interviewed for this study said

that their students had expectations of the faculty based on previous classroom and distributed learning experiences. As learners become more accustomed to distributed learning techniques and tools, they expect more from all faculty members. Faculty members should be encouraged to discuss these expectations with their support team and to develop a plan with which they are comfortable. They should communicate this plan of action (or inaction) to their learners. Faculty members do not always recognize or address the multiple roles within their instructional capacity, nor do they always realize learners' expectations that faculty member provide instruction using multiple technologies, tools and methods. Making these connections between theories, and when appropriate technology, also promotes authentic learning activities which is the core of all instructional strategies.

Although there may be common theoretical threads found in assessment outcomes it is important to remember that each faculty member is unique. It is because of this individuality that faculty support must also be unique. Some theories and research can shed light on a situation, but the connection between the faculty support office team and the faculty member must fit the faculty member (where they currently sit) the resources, the organization and the theoretical frames. As Lenny highlights, this individualized aspect of his work with ETI promoted his teaching ability by being “instrumental in educating me actually, for the potential for setting up curricula in the numerous ways that you can get tools for the curriculum.” If the support of a faculty member does not fit within the theoretical tenets of a program and the faculty member's need, it does not help meet the goals of the faculty member. Again Lenny helps highlight the importance of the intersection between faculty members, programs and goals:

The experience of working with ETI has taught me, education is a process, not an end point. Getting information to the students is a multi-factorial type of experience, not a one way communication. Teaching adult learners is different than when I was in my undergraduate program. ETI has overwhelmed me with a number of different ways that I can go, that I can get to that same end point. So, it's opened my eyes.

Opening up the opportunities found within the intersection of educational theory and technology is one that requires faculty support teams to have a grounded ability in both theory and technology as well as how to implement learning experiences to foster more explicit intellectual and emotional connections between learners and their faculty members. These connections between theory and technology, also promote authentic learning activities which is the core of all instructional strategies.

Another important consideration is the individuals working in faculty support. An individual considering working in faculty support must be able to apply successful negotiation and management skills to his or her work with faculty members. In this study, both leaders and faculty members provided insight into how the characteristics of plasticity, collaboration, and the guidance without ownership are key in the successful management of projects. In a faculty support environment, this includes being able to work with multiple personality types, varying agendas, and changing needs, while providing opportunities for reflection and networking. Those considering working in faculty support should be adept at brainstorming, clarification, classification, and providing high-level organization. Perhaps most importantly, those considering working in a support office like the ETI must understand it as a team environment. In the current study, both the USUHS leadership and faculty members frequently referenced team experience, team relationships, and team communication. The current ETI team has

included both senior and experienced instructional designers and some junior instructional designers over time. Through collaboration on projects, ETI has built its own capacity by ensuring that its team members are able to work in a specific educational environment. USUHS faculty members said that over time the ETI team developed a particular competence in working with clinical faculty. Faculty members discussed how members of the ETI “met them halfway” and how ETI staff members worked hard to understand what the faculty member was doing and teaching. Both leadership and faculty members believe that support staff members play many roles in their jobs, such as instructional designer, technologist, developer, researcher etc., but that at the heart of each of these roles is a consistent team orientation. This team orientation also should be informed by theoretical paradigms that support the mission of the organization and university. Of critical importance is the theoretical grounding of the ETI staff, which should focus on instruction, pedagogy, technology, instructional products, research and theory. The university should consider how to keep the faculty support team up to date in these areas, and plan for the team’s ongoing professional development. The team that makes up any faculty support organization may draw from many different theoretical paradigms, but all staff should have a common, up to date approach and method for working with university.

In addition to understanding the support terrain with the institution, conducting needs assessments where necessary, and knowing the type of staff required to maintain a faculty support office, leadership also needs to develop an awareness of the intersection of distributed learning products and various laws and rules. For example, intellectual property rights, copyright rules, Section 508, Fair Use Laws, the rights to course

revisions, and compensation and acknowledgement for content creation will likely arise repeatedly in the university setting.

Implications for Users of Faculty Support Offices

The use of distributed learning (DL) has increased steadily over the past ten years. Today's faculty member must be able to provide technology-rich course components for their DL environments as well as classroom environments, while also looking at new teaching models (Allen & Seaman, 2010a, 2011; Al Senaidi, 2008; Alexander, 2006). Faculty members considering the use of a faculty support team should talk to the support team members and make sure that they have a clear understanding of the goals for their project. They should talk to the team regarding its capacity to provide an entryway into the unfamiliar, and its ability to achieve results (Golightly, 2012). Faculty members need to be aware that clear goal setting, communication and project management are important for successful collaboration in the support environment. It is important to articulate goals early in the partnership development phase. In addition, faculty members should discuss methods and theories they have heard or read about in order to help the faculty support members individualize their support techniques. Setting a schedule for the project at hand, as well as outlining schedules for the support team and the faculty member will facilitate communication, planning and availability. Building a project plan including the schedules, resource allocations, and budgets should go hand-in-hand when creating activity networks and other tools for communicating project scope and activities. Before the project begins, faculty members should be aware of the criteria for monitoring and reporting progress, including control point identification charts, project costing charts, and milestone charts. Though sometimes glossed over, faculty members and support

groups should identify and manage project risks through regular and honest communication; they should also try to determine and anticipate changes that might occur during project execution. Some faculty members may find it helpful to see a detailed work plan to determine the project completion date as well as to view estimated project activities.

The project at hand involves technology, faculty members should be very clear about their comfort levels with different types of technologies, and any type of training they may need. Faculty members and the support team should discuss any planning for both ongoing evaluation of effectiveness of the project as well as plans to modify the project in the future, if the need arises. The team should also discuss theoretical frameworks already in use and any implications for any project that may affect paradigms already in use by the faculty.

Finally, before starting any project, faculty members need to be aware of rules and laws related to any tools they develop or use. These include intellectual property rights, as well as Section 508, the TEACH Act, and the Fair Use Act. In 1998, Congress amended the Rehabilitation Act of 1973 to require Federal agencies to make their electronic and information technology accessible to people with disabilities. Inaccessible technology interferes with an ability to obtain and use information quickly and easily. Section 508 eliminates barriers in information technology, opens new opportunities for people with disabilities, and encourages development of technologies that will help achieve these goals. The law applies to all Federal agencies when they create, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C.

§794d), agencies must give employees and members of the public with disabilities access to information that compares to the access available to others.

The TEACH Act expands the scope of educators' rights to perform and display works for educational and transformative purposes. There is a substantial knowledge base needed for understanding the law. In addition, there is a gap between what the statute authorizes for face-to-face teaching versus distributed education. The Fair Use legal principle defines the limitations on copyright holders. There is no simple test to determine fair use. The US Copyright office (<http://www.copyright.gov/fls/fl102.html>) explains:

Section 107 of the Copyright Act sets forth the four fair use factors which should be considered in each instance, based on particular facts of a given case, to determine whether a use is a "fair use": (1) the purpose and character of use, including whether such use is of a commercial nature or is for nonprofit educational purposes, (2) the nature of the copyrighted work, (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole, and (4) the effect of the use upon the potential market for or value of the copyrighted work. This right is subject to certain limitations found in sections 107 through 118 of the copyright law. (title 17, U. S. Code)

Since Section 508, the TEACH Act, and Fair Use have many implications for teaching, scholarship and research, faculty members should discuss these laws with their legal counsel as well as their faculty support team, both in advance of creating any work, as well as for review of any products or concerns that arise along the way.

Areas for Future Research

This case study focused on USUHS leadership and faculty experience with, and perceptions of, the ETI. The findings from this study have implications for the USUHS leadership and faculty members, and for others practicing in the area of post-secondary instructional technology support. Further understanding would be gained through

additional research both within and beyond the ETI. Expanding the current case within ETI to include interviews with those who make up the ETI staff would broaden the perspective on the ETI development and adoption processes. Seeking additional perspectives from the ETI team and considering each type of ETI function in the analysis would advance the understanding of ETI functions and could suggest how best to use particular functions in various circumstances and with different populations.

Effective use of ETI functions could be measured in terms of impact on student learning. This study did not seek to determine impact or to extend consideration to learners/students. Analysis of learner or student perceptions of the products and/or support that resulted from ETI/faculty collaboration could improve future faculty support. Finally, by gathering perceptions from faculty members who have *not* used the ETI, researchers could provide a still broader perspective on ETI. This, in turn, could aid in the ETI expanding its reach.

Topics such as trust, leadership, partnerships, communication, project management, and professional development all could provide further research opportunities for insight into skills that are available to faculty members through ETI-like support structures. Any research in the area of faculty support that contributes to the manner in which leadership delivers and promotes the message and service of faculty support is invaluable. The support provided to faculty members through ETI-like organizations becomes a foundation for the development of many teaching skills that are useful throughout an educator's career (and that impact learners over that same period). The long-range contributions of faculty support groups to the leadership and faculty members may be life changing, and thus long-term studies could provide greater

knowledge. Looking across institutions could also provide valuable information into similar and dissimilar functioning practices across faculty support institutions. These, additional studies of other institutions of ETI-like organizations could also determine similarities and differences among them, in terms of history, structure, and leadership and faculty' experiences and perceptions, which could provide better support and possibly longer term understanding of faculty needs.

Continued studies in the area of faculty support will allow for an overall greater understanding of the uses and functions of faculty support offices. It will also provide decision makers awareness of methods, process, tools and new ideas. Finally, continued studies in this area provide the faculty support office teams themselves with more insight into their work and others doing similar work. Continued studies could connect teams and allowing them to share their experiences and continue learning in a manner not currently available.

Appendix A - Requesting Participation Letter

Hello,

My name is Dina Kurzweil and I am the Deputy Director of the Education & Technology Innovation Support Office (ETI). In addition to my administrative duties, I am also a doctoral student at the University of Maryland. I am writing to ask you to be part of a qualitative research study on development and use of the ETI. This is part of the requirements for a doctoral degree in Educational Leadership. I hope you will agree to participate.

Participating in this study will include; two-three interviews that should last approximately 60-90 minutes each and that will be conducted after hours in a private location at USUHS or another location of your choosing. Prior to each conversation, I will submit the interview questions to you.

This conversation will be digitally recorded, and I will also be taking written notes. After the meeting I will share transcripts and notes so that you have an opportunity to review the text. Additional interview conversations will be conducted in the same manner

Participation in this study is completely voluntary and there is no penalty for not participating or for withdrawing from the study. If you agree to participate in this study, your identity will be used. All transcripts will be kept on a password protected hard drive in a secured office in the researcher's home.

Please contact me by replying by email to kurzweil@umd.edu or by mail to 2 Midhurst Road Silver Spring, Md. 20910. Or you may feel free to contact me by phone at (301) 270-0034.

Sincerely,

Dina Kurzweil

Appendix B - Consent Document

Department of Teaching, Learning & Leadership
Dina Kurzweil, Principle Investigator

Project Title	CASE STUDY OF INSTRUCTIONAL SUPPORT AND EDUCATIONAL TECHNOLOGY SERVICES AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES (USUHS)
Purpose of the Study	<p><i>This research is being conducted by Dina Kurzweil under the direction of Dr. Francine Hultgren at the University of Maryland, College Park. We are inviting you to participate in this research project because you have used the Education and Technology Innovation (ETI) Support Office Services. The purpose of this research project is to uncover how the work of the instruction and educational technology support center is perceived by the USUHS leadership and faculty members?.</i></p>
Procedures	<p><i>The procedures involve two to three interviews lasting between 60-90 minutes. To help in your preparation, you will be given questions for you to reflect upon prior to the interview. These interviews will be audio recorded to ensure the accuracy of the collected information and all interviews will be transcribed into a written record. You would be able to ask the interviewer to turn off the audio recording equipment at any time during the interview.</i></p> <p><i>Please do not hesitate to ask questions about the study before participating or while the research is taking place. I will be happy to share the results with you at the completion of the study. Ensuring the confidentiality of data is the norm in research. Written transcripts will be stored in a password protected hard drive in a locked filing cabinet in the office of the researcher for one year following the completion of the study.</i></p> <p><i>The audio transcripts will be destroyed once the transcription process has been completed and a written record is produced and you are confident that the written transcript accurately reflects your comments during the interview.</i></p>
Potential Risks and Discomforts	<p><i>There may be some risks from participating in this research study. They include the use of your personal reflections of the ETI office, your personal reflections on teaching, and your teaching background to a wider audience.</i></p>
Potential Benefits	<p><i>There are no direct benefits to participants. However, possible benefits include: 1) a stronger understanding of faculty needs for education and technology support .2) a better understanding of the development and use of ETI like organizations 3) information on the experiences of faculty and staff who have used the ETI .4) a better understanding of the impact of ETI like organization on instructional and educational technology practices; and 5) the ability for the researcher to participate in a qualitative study.</i></p>

Confidentiality	<p><i>Due to the small population at USUHS and its government affiliation there will be no confidentiality provided.</i></p> <p><i>Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p>	
Medical Treatment	<p><i>The University of Maryland does not provide any medical, hospitalization or other insurance for participants in this research study, nor will the University of Maryland provide any medical treatment or compensation for any injury sustained as a result of participation in this research study, except as required by law.</i></p>	
Right to Withdraw and Questions	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</i></p> <p>Principal Investigator - Dina Kurzweil 2 Midhurst Road Silver Spring, MD 301-270-0034 kurzweil@umd.edu</p>	
Participant Rights	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount Hall College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p> <p><i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i></p>	
Statement of Consent	<p><i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i></p> <p><i>If you agree to participate, please sign your name below.</i></p>	
Signature and Date	NAME OF SUBJECT [Please Print]	
	SIGNATURE OF SUBJECT	
	DATE	

Appendix C - Questions for Leaders

Questions that the subjects will be asked include:

1. What is USUHS's long term strategic plan towards instruction and technology support? Please describe the major objectives and policies that constitute your strategy.
 1. How has the USUHS's mission and objectives towards faculty support in instruction and technology changed over the past five years?
 1. If it has changed why?
 2. What have been the greatest challenges to achieving your USUHS's objectives in instruction and technology? Challenges may include resources, funding issues lack of skills, cultural issues or other environmental factors.
 3. What would make USUHS more effective in the areas that you carry out programs/projects?
2. Who encourages you to lead USUHS to participate in researched instructional and technology practices?
3. What impact do you have on the learning culture of USUHS?
4. What program(s)/project(s) has your organization undertaken for support of instruction and educational technology before the ETI was established? Describe program(s)/project(s) and how the effort affected the USUHS community.
 1. How do you determine the need and level of demand for ETI services?
 2. How do you know when or if a program/project is successful? (both during its implementation and at the end of the effort)
5. How and why was the ETI developed?
 1. What facilitated the development of the ETI
 2. What hindered the development of the ETI
6. How do you build long-term capacity and/or organizational ownership into the ETI?
 1. What actions did your organization undertake to engage the community in use of the ETI?
 2. What kinds of transition mechanisms did you build into the ETI that allowed the USUHS community to continue building on positive outcomes?

3. Do you keep records of stories [testimonies] or ways in which individuals have been helped by the ET? If so, can you share any with the researcher?
7. How is funding determined each year for the ETI?
 1. How do you determine what types of critical resources you will need each year.
8. What has been the institution's context and commitment to the center over time?
 1. What facilitated the commitment to the ETI
 2. What hindered the commitment to the ETI
9. What contextual factors support or constrain the ongoing work of the ETI?
10. If you have used the ETI what is your main purpose for that use?
 1. Did the ETI meet your goals?
 2. How did you find the team's capacity and knowledge?
11. Did the work style and scheduling support your goals?
 1. Was the work style complimentary to yours?
 2. If not why?
 3. Was the scheduling complimentary to yours?
 4. If not why?
12. What elements of the ETI were most useful/helpful to you?
 1. What did you learn from the experience?
13. Have you experienced any frustrations when working with the ETI ?
 1. If so, how did you respond to them?
 2. How did the ETI respond to your concerns?
14. How would you describe leadership's promotion of the use of the ETI?
15. Besides the formal professional development events, how often do you talk with other people about improving teaching? With whom? In what setting?

Thank you for participating in this interview. If necessary, may I contact you for a follow up interview or to clarify some of your responses?

Appendix D - Interview Protocol for Faculty

Time of interview: _____

Date of interview: _____

Location: _____

Interviewer: _____

Interviewee: _____

Thank you for consenting to participate in this study. I would like to record the interview so the study can be as accurate as possible. You may request that the tape recorder be turned off at any point of the interview.

Questions that the subjects will be asked include:

1. How and why was the ETI developed?
2. What has been the institution's context and commitment to the center over time?
3. What are the ways you learn about the ETI?
 1. How were you supported to use the ETI?
 2. How would you describe USUHS's leadership in promoting your use of the ETI?
4. What are the characteristics of key roles played by those involved in the ETI?
5. What is your main purpose/goal in using the ETI?
 1. Did the ETI meet your goals?
 2. How did you find the team's capacity and knowledge?
6. If you have used the ETI more than once, why did you decide to use the ETI again?
7. Did the work style and scheduling support your goals?
 1. Was the work style complimentary to yours?
 2. If not why?
 3. Was the scheduling complimentary to yours?
 4. If not why?
8. What contextual factors support or constrain the ongoing work of the instructional and educational technology support center?

9. How does the ETI support your teaching?
10. Who encourages you to collaborate with the ETI?
11. What impact does the ETI have on your teaching?
12. What impact does the ETI have on your scholarly work in:
 1. Research
 2. Publications
 3. Presentations
 4. Professional Development
13. What barriers or frustrations were encountered when working with the ETI?
 1. How have you overcome these barriers?
 2. If frustrations, how did you respond to them?
 3. How did the ETI respond to your concerns?
14. What elements of the ETI were most useful/helpful to you?
15. What did you learn from the experience of working with the ETI?
16. Besides the formal professional development events, how often do you talk with other people about improving teaching?
 1. With whom?
 2. In what setting?

Thank you for participating in this interview.

If necessary, may I contact you for a follow up interview or to clarify some of your response?

Appendix E - Transcriptionist Confidentiality Form

I, _____, transcriptionist, agree to maintain full confidentiality in regards to any and all audiotapes and documentation received from ____ related to her doctoral study on _____. Furthermore, I agree:

1. To hold in strictest confidence the identification of any individual that may be inadvertently revealed during the transcription of audio taped interviews, or in any associated documents;
2. To not make copies of any audiotapes or computerized files of the transcribed interview texts, unless specifically requested to do so by _____;
3. To store all study-related audiotapes and materials in a safe, secure location as long as they are in my possession;
4. To return all audiotapes and study-related documents to _____ in a complete and timely manner.

I am aware that I can be held legally liable for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information contained in the audiotapes and/or files to which I will have access.

Signature

Date

Appendix F - Project Paper Outline

Below is an example of the elements (with short descriptions) found within an ETI Project Paper.

Re: Name of Course
To: Director of the ETI
From: ETI Support Office
Date: Date submitting project paper

Summary of Project:

This section provides a basic outline of the project

Outcome of Work:

A description of the outcomes associated with the project such as content maps, assessment plans, syllabus, interactive media, storyboards, etc., are found in this section.

Key Characteristics of Existing Content:

This section provides basic information on existing content that can be used for the project.

Potential Issues:

Challenges that may be encountered during the project are described in detail within the potential issues section.

Desired Implementation Date:

The date the faculty would like the project completed.

Estimate of ETI Resources Needed to Complete Project:

All estimates of time are tentative and dependent upon availability of the faculty, the availability of resources and feedback in a timely fashion.

Time	Personnel	Tasks
Calendar Day	<ul style="list-style-type: none">Faculty, instructional designers, graphic artists, developers, etc.	<ul style="list-style-type: none">Assessment Plan, storyboarding, etc.
TOTAL = calendar days		

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