The Conditions Which Facilitate and Challenge Online Support Staff’s Services for Web-Based College Courses: A Case Study

by

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ABSTRACT

Online support staff workers perform essential services for equipping instructors and students to participate in web-based courses. However, very few studies have either focused exclusively on this staff, or provided excerpts of their own thoughts about their work. This study describes four support staff workers' services for web-based course delivery at a Western Canadian college, and the conditions that support and challenge the staff in their work. The data collection emerged from personal interviews augmented by two observations and a review of relevant college documents. The study revealed that this staff adds extensive value to online course delivery by laying the groundwork for course participants, maintaining a quality learning environment, and preparing for the future of e-learning. The study further demonstrated that collaboration, support from others, reliable technology and the intrinsic fulfillment of work benefited the staff immensely. Finally, the study revealed that inadequately shared work, uncertainty over funding, performance of sudden and time-consuming tasks, and confusion over boundaries of responsibility were challenging to the staff's efforts.
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DEDICATION

Sola Dei Gloria
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CHAPTER ONE: INTRODUCTION

The aim of this study is to give a profile of online support staff in a higher education setting, and the factors that encourage and challenge the performance of their tasks. For purposes of what is to follow, “online support staff” will be defined as those personnel who intervene or facilitate in ways that help students and instructors participate successfully in web-based courses according to their respective roles. By including the provision of support to instructors as well as students, this definition is an expansion of the definition provided by Tobin (1995) of the kind of online support that is provided to students in particular: "Student support comprises all the elements of a particular course, program, and/or institution that support learners in their efforts to learn at a distance" (p. 206).

Life Observations Leading to an Inquiry

Before stating this study’s foundational research questions, and the significance that the study holds for its intended readers, I will provide a brief personal narrative describing the experiences that encouraged me to inquire about this topic.

The Apparent Insignificance of a Movie’s End Credits

Recently, I read an article (Kennedy, 2004) in which the author was discussing, somewhat disdainfully, how the end credits of movies have increased to “epic proportions”. In particular he mentioned a popular cinematic adaptation of a classic fantasy-adventure novel, whose final list of participants scrolled on for no less than 9 minutes and 33 seconds. The author then wondered whether many viewers, who had just spent nearly three-and-a-half hours watching the conclusion of this epic story,
would really have the patience to sit through acknowledgments given to the “stable foreman”, “horse makeup artist” and “wrangler manager”.

Yet, these seemingly trivial observations of the article led me to reflect back upon one of my summer work experiences during the time I was an undergraduate student. This brief, but interesting, job that I held illustrates the concept of *infrastructure*: a set of interconnected components providing a “support” foundation for an entire system. While infrastructure is a common and crucial reality, my work experience confirmed that it is often a *concealed* one too.

*Seeing Light at the End of a Pipe*

Several years ago, during the last summer before I obtained my undergraduate education degree in one of the Western Canadian provinces, I was hired along with four others by the provincial government to be a “space auditing clerk”. Because the government required a new architectural blueprint for a community college in the city where I lived, my coworkers and I were given the task of measuring every kind of room, hallway, and passage throughout the entire campus, and then documenting our results carefully. By the time this project – which lasted two months – was finished, I started to appreciate the intricate blend of pipes, electrical wires, boilers, furnaces, heat pumps, and ventilation systems that we had discovered. We made these discoveries during those moments when we measured the “hidden” spaces – both underground and above-ground - that most college students, instructors and visitors had not yet seen.

However, even if they had been given the opportunity to enter these spaces, the college’s occupants would likely have declined doing so. They would not have been very interested in knowing about the myriad of components which facilitated their
comfortable movement through the college campus, just as the exhausted but happy
viewers of the fantasy-adventure movie wouldn't want to know the names of all of its
crew.

Yet, the very presence of "credits" in a movie seems to indicate that the people
who contribute in many “unseen” ways to society’s goods and services seem to desire
at least some degree of recognition.

A Comment that Sparked an Inquiring Mind

Another occasion that caused me to reflect more on this possibility consisted
only of a single comment made to me over one year ago, during a conversation I had
with the IT coordinator of a university faculty. Responding to my confession of
bewilderment over the multitude of possible topics I could choose from for my study,
he remarked, “Well, I don’t know whether you’d have any interest in this, but I sure
haven’t seen any study done on IT support staff.” While my immediate reply to this
was, “yes, that sounds interesting”, I dismissed the idea in my mind.

Over the next several weeks, however, his comment resonated with me. One
reason for this was that I had recently been hired as a technical support person for two
web-based learning applications. Students and instructors who were online course
participants used these applications, and my role was to facilitate their use of them.
Through this new work experience I came to see how what has often been classified as
“technical support” is, in fact, a complex and varied assortment of responsibilities that
consists not only of technical knowledge and troubleshooting skills, but also an
awareness of instructional design, an ability to train others, an adeptness to carry out
several administrative duties, and an aptitude toward serving those in need of
assistance. Therefore the IT coordinator’s suggestion that I initially dismissed -
focusing on technology support staff for my study - became more appealing to me,
particularly from the vantage point of online learning.

The final motivating factor that encouraged me to pursue this subject, however,
resulted from a wide-ranging scan I made of educational technology studies. My
purpose in this was discovering the degree to which the IT coordinator’s belief about
the scarcity of studies on technology support staff was accurate - or inaccurate. "Could
it really be", I thought, "that there are as few studies as this person thinks there are?"

What Could and Could Not Be Discovered

After having reviewed these studies, I came to the conclusion that the IT
coordinator was reasonably justified in thinking there was an insufficient body of
research focusing on IT support staff. There were very few studies, especially, on those
who help deliver online courses in a higher education setting. This is not to say,
however, that there is a lack of important observations made about these personnel.
Regarding online support staff in particular, previous studies note three ways in which
they provide services for web-based courses in a higher education setting.

First, Lieblein (2000) and Bernath et al (2003) suggest that this staff provides
tools and skills that online students and instructors might otherwise not have. In
explaining what are the "critical factors for successful delivery of online programs",
Lieblein says that "a strongly supportive program office" that includes "student
advising", "faculty support" and "technical support" are among such factors (p. 167).
Bernath et al states: "it is clear that online distance education delivery may
systematically disadvantage those who lack the tools and skills, and will likely not
participate without help and encouragement" (¶ 40). However, the researchers assert that these are just what online support services provide, by citing one particular campus as an example of assisting learners: "Services for advising and supporting students in general, and providing tutorials for students of the Fern Universität in particular, have gained a reputation for high quality as evidenced in projects, experiments, and evaluations" (¶ 7).

Second, in a study that describes strategies of learner support services in particular, Ludwig-Harman and Dunlap (2003) state that personnel in these services facilitate the learning of students continually for the whole time they are in their program, even as instructors come and go. "Learner support services personnel can provide the consistency and individualized attention learners need to be successful in an online learning environment because they are involved with learners throughout their educational experience with the institution"(¶ 33).

Finally, as noted by Hughes (2004), online support staff advances the web-based learning process through the sheer variety of services they offer. She lists eight of these: Information & Administrative Support, Technological Support, Study Skills Assistance, Online Educational Counseling, Ongoing Program Advising, Access for Students with Disabilities, Access to Ombuds Services, and Learner Satisfaction Monitoring & Environmental Scanning (pp. 371- 379).

While the above studies endorse online support staff as essential contributors to web-based learning, they do so only in an incidental way. This is because their focal point is either online learners, or web-based learning itself. Therefore they neither
attempt to provide any insights into the support staff’s perspectives of web-based course delivery, nor about the staff themselves.

However, there are three other studies that manage to include reports of insights taken from college or university personnel with the designation of either "technological support" or "technical support" staff. Before mentioning these studies, I must acknowledge that these terms are more inclusive than “online support”. Still, it is reasonable to assume that online personnel are featured among these groups, since web-based learning has grown exponentially in higher education settings over the past decade (Thompson, 2000; Anderson & Elloumi, 2004; Davis, 2004). This growth is discussed in more detail in Chapter Two.

One study (Cheurprakobikit et al, 2002) uses a survey to glean the perceptions of technical support staff personnel towards the quality of web-based instruction at their university. Curiously, however, the study primarily seeks to understand what the staff think about faculty, student and administrative preparation for web-based instruction – and scarcely anything regarding their own preparation.

Another report (University of Brighton, 2004), based on a series of case studies analyzing how “managed learning environments” (including online learning opportunities) were developing in various university campuses, describes some interesting thoughts by the "learning technology staff". These comments provide clues for how the staff felt about their work environment, as well as the increasingly multifaceted nature of their positions. However, the comments are reported in the third person by the report's researchers. There are no excerpts of firsthand commentary by the staff themselves.
There was yet another study (Beetham et al, 2001) that, in terms of the number of institutions and support staff studied, has considerably more breadth than the previous two analyses mentioned above. It stands out in yet one more respect: unlike the other studies, it actually makes technology-based learning support staff the focal point of its research. Intended as a summary of a series of different case studies that were undertaken “to investigate the roles…of UK HE (i.e. United Kingdom higher education) staff involved in…learning and teaching through the use of communication and information technology” (p. 2), this paper provides some very informative insights. It does so by describing many tasks, roles and responsibilities that are found among technology learning support workers, and the personal rewards and challenges they have within their field. As I show in Chapter Two, the paper brings up some important issues that I explored further in this particular study. Yet, it is precisely this need for more exploration that reveals a couple of shortcomings in Beetham et al’s report. First, since this study is a summary, its descriptions of the learning support staff’s responsibilities and perspectives are too brief and concise. Moreover, as was the case with the University of Brighton (2004) report, the insights are reported in the third person by the report's researchers. There are no direct quotations provided of the support staff; thus, they did not have the opportunity to speak for themselves.

Because research studies have not provided enough insights about online support staff that can help us fully understand them or facilitate their roles in web-based course delivery, there is a need for new studies that focus *primarily* on this staff and give them a voice. This study is an attempt to partially fulfill this need. Toward this
end, unlike the studies mentioned above, it provides a rich, descriptive analysis by using the 'case study' approach that is described in Chapter Three.

**Research Questions**

This research is a qualitative case study focusing on three research questions. The two main questions are: "What conditions facilitate online learning support staff’s services for the delivery of web-based college courses?", and "What conditions challenge this staff’s services for the delivery of these courses?" The third question is a preliminary one, upon which the first two are based. It is: "What services do online learning support staff provide for the delivery of web-based college courses?"

**Theory Guiding This Study**

The rationale for this study rests upon two pillars: a) a guiding theory concerning educational systems, and b) discoveries made in distance education literature. While Chapter Two is devoted to a detailed case for this study on the basis of findings from previous literature, the following section explains a theory about educational systems that is relevant for purposes of this study.

Over a decade ago, Banathy (1994) explained that we need "to create an educational system" with the purpose of "enabling us to align our societal systems with the 'new realities' of the information/knowledge age" (p. 28). Toward this end, Banathy applied the "systems design" theory - which had been represented by authors such as R. Ackoff, K. Boulding, and P. Checkland - to education. Banathy summarized this theory as follows:

…the systems design approach…seeks to envision the entity to be designed as a whole, as one that emerges and is designed in view of -
and from the synthesis of - the interaction of its parts. A systems view suggests that the essential quality of a part or component of a system resides in its relationship with and contribution to the whole. Systems design requires both coordination and integration. (Banathy, 1994, pp. 28-29, emphasis added).

The significance that the systems design theory, as applied to education by Banathy, has for this study can be seen from the following observations. A web-based learning network in a higher education setting is an example of a "system" that emerges from the interaction of its components or parts. Furthermore, the "components" of the network includes students, instructors, and support staff, because each of these groups carries out certain responsibilities that make the network function when they are integrated with the other groups' responsibilities. One way that higher education communities can meet the challenges and opportunities presented by the new information age is through understanding the "whole" of a web-based learning system. This necessarily entails a solid familiarity with the "essential quality" of each of its components. As Banathy stated above, this quality is comprised of the component's relationship to the whole and how it contributes to the whole. This study seeks understanding about the relationship of online support staff to a web-based learning system, the contributions it makes to this system, and the conditions that positively or negatively affect these contributions.

**Significance of the Study**

A study about online support staff can allow us to more fully understand and appreciate how much they participate in the system of web-based course delivery, and what contributions they make to it. It can enable us to see what ideals guide this staff's
movement into the future, and what constraints affect this movement. It can also allow us to observe the impact that new realities and emerging changes have upon the staff's practice. Finally, we can discover how much the staff view their work as a "human activity" system where the people whom they serve (i.e., students and instructors) are the most valued among everything that they do.

For decision makers, such as college and university administrators, this study may provide important insights about online support staff that can help them see the process of web-based course delivery from the staff's viewpoint. Consequently, these decision makers can give greater attention to the staff's services, and contemplate over the most effective ways to help them achieve their goals. By doing these things, they ultimately facilitate the objectives of the entire "system" of web-based course delivery, and those who are involved in it: instructors, students and support staff.

This study may also help initiate a new focus for investigation within distance education literature. As other researchers reflect on the findings of this study, they may ask more questions related to the subject of support staff's services for web-based learning, and pursue these questions in future studies.

Finally, an online support staff team's understanding of their own services can be deepened and broadened as they read this study. They can see how their involvement in the system of online course delivery enables it to function properly. They may also be willing to reevaluate their values, perspectives, goals, and even the ways they work. Through this reevaluation they can gain new insights for strengthening the quality of their own practice. This, in turn, benefits the entire system of web-based course delivery and the other participants of it.
Structure of the Study

Chapter Two features an overview of research literature that makes a detailed case for this study. It relates the emergence of web-based learning in higher education to its impact upon workers in support staff positions. Chapter Three provides a rationale for the kind of research I used in this study, which is case study methodology. I also explain details of this methodology, and how it involved a constant comparative analysis between and within three sources of collected data: individual interviews, observations, and document evaluation. Chapter Three also describes the study's site and participants, and the sampling procedures that I used to determine each.

Chapter Four reveals the important results or findings emerging from the constant comparative analysis described in Chapter Three. Chapter Five discusses important themes gleaned from the findings discussed in Chapter Four. It then provides suggestions for further research studies, and ideas for decision makers.
CHAPTER TWO: LITERATURE REVIEW

While a study on technology support staff would be a welcome addition in many spheres where they are found – including K-12 schools, corporations, government agencies, and medical institutions - this section establishes a case for focusing on web-based support staff within institutions of higher education. As a way of providing context to this staff, and the situation many of them face today, this chapter briefly reviews a number of trends that have helped bring about their circumstances. These are: the growth of web-based learning in higher education, the transformation of institutions as a result of web-based learning, the consequences of this transformation for support staff, and finally, indications of discontent among support staff.

The Growth and Benefits of Web-Based Learning in Higher Education

As the twentieth century has given way to the twenty-first, the world has seen a great explosion in the production and retrieval of information as a result of the Internet’s extensive growth. As Kenworthy (2003) explains:

Most...changes are based upon the increasing availability and sophistication of information and communication technologies (ICTs) and the way in which these technologies are not only impacting upon the delivery of educational programmes, but also upon the support systems being made available to learners (p. 55).

The realm of higher education, in particular, has undergone a huge transformation, since many institutions have sought and secured web-based alternatives
to their on-campus courses. Thompson (2000) states that "there is rapid transition"

taking place "from traditional approaches to education to forms of online delivery"

(p. 154). Davis (2004) adds, "online education is now becoming ubiquitous at all levels

of education, at levels of learning, and in the workplace" (p. 97).

Colleges and universities have benefited greatly from their ability to provide a

web-based platform for distance education. First, as Mehrotra, Hollister & McGahey

(2001) point out, an online platform has enabled campuses to serve students who were

previously inaccessible due to geography: "Today, distance delivery methods provide

access to higher education for nontraditional learners who live beyond commuting
distance of a campus" (p. 7). Also, the online platform is used successfully as an

enriching accompaniment to traditional forms of instruction, including classroom

learning and tutoring. "Increasingly, these (traditional classroom) courses incorporate

Internet components such as Web sites, e-mail, threaded discussions, chat rooms and

listservs" (p. 9).

The online mode of learning has also enabled various institutions to work

together as never before, by allowing them to form consortia so that they can draw

upon the different and complementary strengths of each institution. This way, a "more

rational and efficient deployment of the nation's educational resources" can be carried


example of this arrangement, and explains how it has benefited both the institutions and

students alike: "...students can access a full range of educational programs provided by

the institutions in aggregate - whereas any given institution would be constrained by the

range of distance education programming each does" (p. 2).
The Transformation of Institutions as a Result of Web-Based Learning

Despite all of the advantages that web-based learning provides for colleges and universities, their ability to provide this new platform has not come without its challenges. As Davis (2004) explains, many of these arise from the institutions' need to transform their entire infrastructures:

Building the infrastructure for online learning requires that many factors be considered, so it is difficult to provide a straightforward checklist or recipe to follow. All educational endeavors are systems, made up of various interconnected components. In traditional universities and colleges, teachers can be unaware of all the complexities involved, but in distance education, understanding how the entire system of course development and delivery occurs, and how these systems link to services and other components, are vital aspects of ensuring effectiveness and quality. (pp. 97-98)

One such "infrastructure" challenge is the costly expenditures required to build and maintain a secure, consistent network of computers and Internet connections. As noted by Mehrotra et al (2001), these costs often include "extra staffing" and "substantial initial investment in technology that may become obsolete" (p. 12). According to Ottmann et al (2003), rich-media content is another big expenditure: it is "not only very expensive and time-consuming but also requires (universities) to completely change the traditional workflow of teaching and to guarantee a full service for the new clientele" (p. 74).
Another challenge arising from the transformation of institutions due to web-based learning is that the very practices of teaching and learning are being transformed. As noted by Garrison, Anderson & Archer (2000), computer-based conferencing has encouraged the prominence of critical thinking in higher education. This is partly because it effectuates a "shift from spoken language to written language as the central mode of communication in the educational process" (p. 5). Epps & Stacey (2003) explain that one of the results from their study on supporting "academic teams" was that "the introduction of online teaching and learning was significantly influencing the need for effective academic support services and collaboration" (p. 294).

Unsurprisingly, this transformation in teaching and learning has called for readjustment on the part of both instructors and students. Instructors have had to be re-trained: "extra time is required of faculty, especially initially, to learn new course design principles, new teaching techniques, new software, and asynchronous modalities for communicating with students and student groups" (Mehrotra et al, 2001, p. 12). This re-training process can result in a great cost of time for instructors, who already have pressing schedules: "…this may…require evening and weekend involvement - time that is no longer available for research or keeping abreast of one's discipline" (p. 12).

The purpose for such re-training is not merely that instructors would pick up skills that would enable them to instruct in the online mode, but that they would achieve what Anderson (2004) calls an "Internet efficacy" that he defines as "a personal sense of confidence and comfort in the environment, such that the need for basic troubleshooting skills does not send the teacher into terror-filled incapacity" (p. 290).
The readjustment of students in relation to the online environment has involved being entrusted with the ability and responsibility to take greater control of their own learning. As McCloughlin and Marshall (2000) point out:

When students are introduced to online learning, they are faced with a new learning environment and the expectation that they will have independent learning skills and the capacity to engage in activities that require self-direction and self-management of learning. (¶ 1)

McLoughlin (2003) discusses several ways in which the Internet enables learners to adopt these new skills and responsibilities:

The 'student as participant' approach is enabled by Web-based technology, which gives students access to learning resources, communication tools, databases and asynchronous networks. Such models of e-learning accentuate the movement away from transmission-oriented approaches towards active learning where the students generate products and resources that can be re-used and shared with others (p. 278).

In order to ensure that instructors and students fulfill the new expectations that have been placed upon them, universities and colleges have had to determine what instructors and students bring to the learning process and, as a result, what they need for support. Hughes (2004) explains what this procedure involves on behalf of students in particular:

…We must ask questions about the learner's readiness for online learning, access to and familiarity with the technology required,
proficiency in the language of instruction, individual learning style, and educational goals, as well as how aspects of an individual's culture can affect learning…Once the institution has this information, it…must find a balance between "just-in-case" resources and "just-in-time" resources that recognizes that an online learner is often an adult with responsibilities other than their educational goals. Flexible, continuously available, easily accessible learner support systems are required, but such systems must be genuinely useful. Learners have been clear that they need to see the value added by the resource, or they will not use it; they have also let us know that supports should be available but not intrusive (pp. 368-9).

The necessity of providing support systems with these characteristics has required a transformation of practices on the part of support staff that is no less profound than those of instructors and learners. The following section describes what the increasing prominence of web-based learning has meant for support staff.

The Consequences of Web-Based Learning's Emergence for Support Staff

The Increasing Variety and Complexity of Support Staff's Responsibilities

The crucial activities of providing solid networks, training instructors to teach online, and preparing students to learn online have required institutions to give the kind of support which includes the technical kind, but often goes well beyond it. Jelfs & Thorpe (2002), who released a report on a user evaluation project involving participation in a "managed learning environment" (MLE) at two British universities, noted that the recent dissolution of an educational technology development centre
caused much disappointment among the academic staff. This was because "what they wanted in terms of support was not so much technical as someone who could help them make correct decisions about learning implications for students" (p.26). Another indicator of higher education's need to provide varied kinds of support is found in a major study by Twigg (2002), who makes this observation after years of involvement in the American online learning scene:

The institution must have a mature IT organization(s) to support the academic staff's integration of technology into courses … A 'mature' …organization is one that can provide more than technical support. It has an understanding of the goals and objectives of the institution's academic program - it can see the 'big picture' (p. 10).

In one study (Tait, 2000) where this multifaceted kind of support has been noted with particular reference to learners, it is described not only as ‘systemic’ – i.e., providing assistance that maintains the required technicalities for one’s learning – but also ‘cognitive’ and ‘affective’ in the sense of impacting students in a holistic way.

What is often less recognised is the cognitive function of student support…. Where the support of students mediates teaching embodied in courseware, then it clearly relates to learning, and thus to cognitive outcomes. It also and necessarily relates to the objective of providing a learning environment where students feel at home, where they feel valued, and which they find manageable (p. 290).

Another study (Ludwig-Hardman & Dunlap, 2003) has depicted this kind of support as involving the process of ‘scaffolding’, where the support staff are “providing learners
with more structure during the early stages of a learning activity, and gradually turning responsibility over to them as they internalize and master the skills needed to engage in higher cognitive functioning” (¶ 11).

These depictions of support also portray what is provided for instructors. While undertaking a major study on "six teacher preparation institutions" in the U.S. to discover, among other things, "whether they were using technology as a tool for improvement" (¶ 2), a group of researchers (Fulton, Glenn, Valdez & Blomeyer, 2002) concluded that the campuses certainly were. Furthermore, they attributed this usage largely to the help given to the instructors by their support departments:

It may seem obvious, but the importance of effective technology support cannot be overestimated…. It…means going beyond workshops for training faculty. Rather, just-in-time support, tailored to the personal needs of the particular faculty member, has been an important factor in building faculty confidence and guidance that extends beyond using PowerPoint® to present lectures. As the UTEP technology support staff said, "Our job is to make faculty look good!"

All of the institutions in our case sites had a person or persons who provided the link between faculty teaching needs and their technology needs. Often these persons developed expertise in a particular area…and took pride in assisting colleagues in learning these skills. (¶ 25-6)

This multifaceted kind of support, where many specialists work together to provide a more thorough kind of assistance to clients, parallels a development occurring in many other institutions: a growing number of online support staff divisions,
particularly aimed at students. Mehrotra et al (2001) have provided a list of support services that are offered to students in the American institutions where they are instructors: prospective and new student information, admissions, financial aid, academic advising, registration, bookstore services, library services, technical support, tutoring, and even special services for students with disabilities. In some campuses of the U.K. and Australia, not only are the above services offered, but also the following: study and examination centres, continuous assessment, and the provision of materials that "support the development of study skills" (Tait, 2000, p. 290).

Another indicator of the increasingly complex environment inhabited by online support staff is that some positions have become characterized by many different roles. The distance education scene in the United Kingdom provides a few notable examples of this role diversity. One example, found in a study of "managed learning environments" in "a range of institutions" (University of Brighton, 2004, p. 1), describes the emergence of “hybrid professionals” (p.9). Some of these individuals were required to have a “combined teaching and technical background” so that they could “build a bridge between the technical and academic staff” by talking “both languages” (p. 9). Another report (Beetham, Jones & Gornall, 2001) made an interesting discovery while seeking to "investigate the roles and functions of…staff involved in the development of learning and teaching through the use (of) information and communication technologies" (p. 2). After they conducted an "initial role analysis" of their research participants, they "identified 58 separate activities involved in the coordination, development, use and support of learning technologies" (p. 4). This finding led the researchers to conclude, "these staff required competence in an
extraordinarily wide range of areas" (p. 4). Many of these personnel, when interviewed, “gave technical skills a lower priority than interpersonal and pedagogical skills in carrying out their current role” (p. 4). Finally, a study focusing on online tutors (Lentell, 2003) has noted there can be a multitude of functions to fulfill within even the single position of a tutor:

Tutors need to have knowledge and a broad conceptual understanding of their field. They have to be effective listeners and communicators, to be a coach, facilitator, mentor, supporter and resource. They have to listen, to shape, to give feedback, to motivate, to direct, to appreciate - broadly to be developmental and problem solving. This is not deskilling. (p. 74)

The Demands on Support Staff

The increasingly diversified services and roles within the realm of web-based support have been accompanied by greater demands and expectations placed on support staff by students, staff and administrators. As reported by the previously cited study of Fulton et al (2002), online support staff are expected to provide steadfast, reliable support to students and instructors alike in a number of ways. First, they are asked to provide as close to "24/7" on-campus support as possible. They are also called to go "beyond workshops for training faculty" by giving “just-in-time support, tailored to the personal needs of the particular faculty member" (¶ 25). The staff are even given the charge of "finding ways that the technology can directly benefit faculty and then providing it" (¶ 25).

One result of the support staff's extensive responsibilities is that they come to be viewed as indispensable by the faculty "for inspiration and advice regarding effective
technology use" (¶ 49). They are so valued, in fact, that some faculty members are concerned that the "momentum" will be "halted" if they decide to leave (¶ 49).

In addition to meeting the requests of students and instructors, online support staff also need to make provisions for administrators' requirements. One such requirement is the expectation to conform to new technological developments: “each new solution adds considerable pressure on back-end systems, especially services such as the technical helpdesk” (Davis, 2004, p. 105). Another requirement is the expectation - on some campuses - for support staff to work in a diffuse distribution throughout different departments (Beetham et al, 2001). To the degree that this distribution makes support staff employees' communication with each other more difficult, it is enough of an inconvenience to potentially impede their performance. As a result of multiple locations, “learning technology specialists felt that a lack of coordination sometimes made their job more difficult and led to duplication of effort or failure to effectively exploit good practice across the institution” (Beetham et al, 2001, p. 6).

**Indications of Support Staff's Difficulties and Discontent**

In a study written to “determine the value and effectiveness of online distance learning to technical and community college students”, Martinek (2002) makes some very significant observations concerning the growth of online education, and the collaboration that is necessary among all involved in it, if it is to meet the demands of the times:

Technical and community colleges today are undergoing significant changes. There are economic pressures from increasing costs, demands
by the business community for graduates who can function effectively in an information society and greater diversity among the student population who choose to continue their education…With this setting in mind, there is a need when developing online courses and programs for widespread cooperative planning involving administration, faculty, and online support staff. When developing a plan, all involved must understand and take into consideration the needs and concerns of the others for the implementation process to be successful. (p. 32, emphasis added)

By stating the obligation of online course deliverers to acknowledge and utilize each other's contributions, Martinek reinforces the significance of Banathy's systems design theory, which described the importance of understanding how each component of a system relates to, and contributes to, the system's "whole". This theory provides the foundation for this study, as the introductory chapter demonstrated.

The review of literature above indicates that online support staff have demonstrated a willingness to do everything they can - in terms of time, resources, and training - to meet the demands of web-based learning's considerable growth and, more specifically, the demands of its other participants. Despite the high regard in which online support staff are generally held, recent developments at some college and university campuses have provoked more and more discontent from this staff over their work situations. Both the developments and the resulting discontent are described below, and they provide further justification for conducting this study.
The Difficulty of Support Staff’s Recruitment and Retention

Several years ago, one particular report, prepared by the strategic goals committee of a university’s IT department, admitted that recruiting and retaining "quality IT professionals" had "become extraordinarily challenging" (University of Georgia, 1998, Finding VI section). The following developments had given rise to this challenge: "Low salaries, few opportunities for career development, limited promotional opportunities, and, in many cases, excessive workloads and expectations contribute to the problem" (Discussion section). Beetham et al's (2001) study, which summarized the results of case studies taken from as many as 23 institutions in the United Kingdom, states that “institutional managers saw recruitment and retention of learning technology staff as an area of current and growing concern…there was recognition by both managers and learning technologists that skills were being lost to other sectors faster than they were being replaced” (p. 5). Another study, focusing on an Australian university's implementation of a quality assurance program for distance learning, quotes an online academic coordinator who says that "we have normal staff turnover rates, and advances from one person often get lost when the new person takes over." As a result, "it takes an enormous effort to try to keep everything together" (Davey & Tatnall, 2003, p. 244). The impermanence of many support staff members can easily coincide with a personnel and monetary shortage. This problem is the focus of the next section.

The Insufficient Personnel and Funding of Support Staff

After having worked with "hundreds of colleges", a technology educator has made this conclusion: “…support professionals are neither numerous nor well prepared
to enable the much larger numbers of mainstream faculty members and students to use technology in teaching and learning” (Gilbert, 2004, pp. 48-49). He attributes this problem to a lack of funding: "Budgets available for this purpose are quite limited" (p. 49). This situation presents a paradox, as Gilbert further explains:

…. systems continue to become more complex and to change rapidly.

Consequently, professional support staff become more important for implementing changes, fixing more frequent inevitable breakdowns, and (re) training users—just when most budgets for support staff are decreasing…budgets are being cut as revenues from a variety of sources shrink. (p. 41)

Another study gives further confirmation that online support services are underfunded in some institutions. In this report, a university course development director explains how "producing faculty support architecture…is a constant struggle for staff" (Truman, 2004, p. 89). One of the explanations she provides for this difficulty is that even though her institution is experiencing "remarkable growth", it is occurring despite "uncertain funding possibilities at the state level" (p. 95). In light of these problems, it is little wonder if support staff should find themselves overextended.

The Overworked Condition of Support Staff

One reason for the overworked condition of online support staff is the accumulation of new tasks they have been given, on top of an already heavy workload: "…support staff become more important for implementing changes, fixing more frequent inevitable breakdowns, and (re)training users… in spite of the addition of new responsibilities, fulfilling their old responsibilities continues to be close to a full-time
job for most...academic support staff, and technology support staff” (Gilbert, 2004, p. 43). Another cause of the staff's overworked state is their attempt to conform to the breakneck pace of new technological innovations. In Beetham et al's (2001) study, learning technology staff spoke of “the difficulty of keeping up with rapid development in several fields” as well as “lack of time and overwork” (p. 4).

*Support Staff's Concerns Over a Lack of Incentives*

Some studies and reports have provided observations from online support staff about their own work situations. These observations, described below, provide evidence of a growing discontent from this staff. They may also account, to some degree, for the recruitment and retention problems faced by colleges and universities. One observation from support staff is their perceived lack of reward and recognition. Beetham et al’s report (2001) mentions that the technology staff interviewed in their study faced “a perceived lack of awareness and recognition from academic staff” (p. 4). Also, “the existing reward systems did not extend to non-teaching staff working in the area of learning technologies or learning and teaching development, and no alternatives were being considered by the institutions in this study” (p. 5). The University of Brighton (2004) study adds that “there are significant worries about the formal recognition and rewards they are able to obtain, within the traditional career progression pathways and pay-scales” (p. 10).

Another observation made by online support staff is their perceived lack of career growth and opportunities in their workplace. Here, again, the report by Beetham et al (2001) is very enlightening. While this study mentions the technology staff’s
satisfaction with several aspects of their positions, it also includes some unsettling commentary that sheds light on how this staff became more dissatisfied:

…they were, however, well aware that their skills could command higher salaries in other sectors and some experienced this as a source of conflict. They were particularly concerned with the status of their roles and the academic legitimacy (or otherwise!) of their work” (p.4)

“Learning technology staff generally did not feel that there were career progression opportunities within their current institutions and professional contexts. They expected to progress either by changing institutions or moving sideways into a more managerial (or alternatively more mainstream academic) role” (p. 5)

Also, a study whose particular focus relating to support staff is online tutors, suggests that there is even a concern over the permanence of positions. Speaking of a situation where the availability of new online modules - which would reduce student time with tutors - were announced, "tutors expressed concern about the nature of their commitment and the extent of their responsibility to respond to their students" (Stephenson & Basiel, 2003, p. 12).

While the evidence for online support staff's difficulties and discontent is not extensive, it provides enough clues into their work environment to invite the kind of exploration that this study provides in the subsequent chapters.
Conclusion

In summary, the growth of web-based learning in higher education has led to tremendous benefits and opportunities for campuses all over the world. However, this new mode of learning has also transformed the way colleges and universities operate, instructors teach, and students learn. Additionally, it has greatly impacted the services of support staff. Now they have responsibilities with a greater variety and complexity, and more demands placed on them as well. Consequently, some support staff workers have indicated that certain difficulties - including insufficient personnel and funding, overworked conditions, and a lack of incentives - have left them discontented to various degrees. By focusing on four individuals who provide web-based support in a college setting, this study intends to reveal the extent to which the positive and negative circumstances mentioned above are also found in these individuals' working lives. By revealing these things, this study may paint an even clearer picture of online support staff and their work environments, so that it can stimulate discussion for research communities and ideas for decision makers.
CHAPTER THREE: RESEARCH DESIGN AND PROCEDURES

In this chapter I describe the design and procedures of the research that yielded the study's findings, which are presented in Chapter Four. This chapter explains what type of research I conducted for this study, and the rationale for choosing the research approach. Second, this chapter describes the study's site and participants, and sampling procedures. Then, I describe study's methods of data collection. Finally, I give a brief explanation regarding the data analysis method leading to the results, and the means by which I carried out this method.

Research Properties and Rationale

A Qualitative Study

Research specialists Carr and Kemmis (1986) and Merriam (1997) have stated that the various kinds of educational research can be generalized as three forms: positivist, interpretive and critical. Positivist research is usually identified as "quantitative" inquiry (Creswell, 1998, p. 15) and has a certain set of common features. It seeks knowledge that is objective, in the sense of being "stable, observable and measurable" (Merriam, p. 4). It seeks this knowledge by looking for "causal determination, prediction, and generalization of findings" (Hoepfl, 1997, p. 48). Towards this end, it usually looks "for a comparison of groups….or a relationship between variables" (Creswell, p. 17). Interpretive research, commonly known as "qualitative" as opposed to quantitative (Merriam, p. 4), uses a "naturalistic approach" whose aim is to "understand phenomena in context-specific settings" (Hoepfl, p. 47). It claims that "understanding the meaning of the process or experience constitutes the knowledge to be gained" (Merriam, p. 4). This knowledge results in "illumination,
understanding and extrapolation to similar situations", as opposed to the "casual
determination, prediction, and generalization of findings" that characterize positivist
research (Hoepfl, p. 48). The goal of critical research is to generate knowledge that is
"an ideological critique of power, privilege, and oppression in the areas of educational
practice" (Merriam, p.4). It does so by working from the belief that education is "social
institution designed for social and cultural reproduction and transformation" (p. 4).

The nature of the research questions asked in this study requires the qualitative
approach to explore the significance of events and experiences lived out by online
support staff.

_A Case Study_

Typically five kinds of inquiry - basic, ethnography, phenomenology, ground
theory, and case study - come under the umbrella of qualitative or interpretive research
(Merriam, 1997, p. 11). The case study approach is used in this study because of the
following reasons. First, my goals for this particular study are understanding and
insight - not outcomes or confirmations of theories. These aims are characteristic of
case studies, as Merriam explains: "the interest is in process rather than outcomes, in
context rather than a specific variable, in discovery rather than confirmation" (Merriam,
p. 19). This description echoes the key words of "case study structure" provided by
Lincoln and Guba (1985): the problem, the context, the processes, and the lessons
learned. Another reason for the use of the case study approach is that this inquiry was
intrinsically bounded to one college campus, one particular group of employees, and a
single period of four months. This attribute of research also typifies case studies,
because the 'case' is described as "a thing, a single entity, a unit around which there are
boundaries. I can 'fence in' what I am going to study" (Merriam, p. 27). This "bounded system" is further defined as being bound by "time…and place" (Creswell, p. 37).

Finally, the case study approach was used because, as the third section in this chapter shows, this inquiry sought to gain understanding through different means of data collection, not only one. Collecting data in different ways is another key attribute of case studies. Creswell describes case study researchers as carrying out "a detailed, in-depth data collection involving multiple sources of information rich in context" (p. 61). Bromley (1986) depicts these researchers as getting "as close to the subject of interest as they possibly can, partly by means of direct observation in natural settings, partly by their access to subjective factors (thoughts, feelings, desires)…" (p. 23).

**Site and Participants: Sampling Methods and Descriptions**

The sampling methods that I used to secure the study's site and participants were conducted over a six-month period, from April to September 2004. Two "levels" of sampling were fully implemented. Merriam (1997) explains the rationale for this:

"…two…are usually necessary in qualitative case studies. First, you must select 'the case' to be studied. Then, unless you plan to interview, observe, and analyze all the people, activities, or documents within the case, you will need to do some sampling within the case" (pp. 64-65, emphasis added).

The rest of this section consists of two parts. The first part summarizes how I used the first level of sampling to determine the case itself. Then it describes the campus I chose as a result of this first level of sampling. The second part summarizes how I made the
second level of sampling to determine who the case participants would be. Then it describes the participants chosen as a result of this second level of sampling.

**The Site: Sampling and Characteristics**

In summarizing the thoughts of several qualitative research specialists, Merriam lists five types of qualitative sampling: typical, unique, maximum variation, convenience, snowball/chain/network sampling. For the purpose of devising the first level of sampling required by a case study, so that I could determine the initial unit of analysis (i.e. the campus), I used a combination of "typical" and "convenience" sampling. "Typical" sampling is explained by Patton (1990): "when the typical site sampling strategy is used…the site is specifically selected because it is not in any way atypical, extreme, deviant, or intensely unusual" (p. 173). The following details describe my criteria for choosing a suitable site, according to "typical" sampling and my research questions: 1) the site had to be a college, university or other higher education institution; 2) the site needed to be an institution delivering courses online; 3) the site had to be an institution in which online course delivery was rapidly expanding; and 4) the site needed to feature at least one individual whose position title indicated a full-time dedication to online course delivery.

Convenience sampling is described as being determined by, among other things, "availability of sites and respondents" (Merriam, 1997, p. 63, emphasis added). While I had sent out letters to several potentially suitable sites, in keeping with "typical" sampling, it was one campus's response - and specifically, the indication of its willingness to participate - that ultimately determined my choice of the site.
The chosen site is the main campus of a college in Western Canada. This college was founded by its provincial government four decades ago, with the objective to meet the employability needs of the province's residents. Eventually this objective resulted in the college's provision of three other centres within the main campus's city, and an additional sixteen outside of the city. Over the past decade, the college has become governed by a board, and incorporated into the province's Colleges Act. This act has given the college board powers over its own revenue, business, property and other matters.

In keeping with the rapid development of global technology and communications, the college has expanded its goals in at least three ways: 1) to equip people with the resources to pursue lifelong learning as well as enable them to be trained or re-trained for work purposes; 2) to expand its reach beyond the confines of its province in order to provide learning opportunities for people where they work and live, no matter where in the world they are located; and 3) to provide the opportunity to learn at any time as well as any place. Two recent announcements made known through the college's website left little doubt regarding the success of this approach. The first announcement was that the college is experiencing unprecedented growth in student enrolment for the fifth consecutive year. The second was that due to this increase - and also a critical space shortage in the present main campus - there is an expansion plan underway at the main campus that will allow for double its present student capacity.

The Participants: Sampling, Pseudonyms and Characteristics

In determining the boundaries for research participants in this study, the "second" level of sampling used the "snowball/chain/network" method. It entailed the
identification of interested participants for the study by another person on the site who may or may not already be part of it (Patton, 1990; Merriam, 1997). The next paragraph explains how this sampling type was used while I was finding research subjects. It is important to note here that while the final subjects were two men and two women, I was not interested in examining gender differences. For this reason, and also to ensure anonymity, I have made all of the pronouns female.

After I secured the first research participant, who also happened to be my first point of contact for the college, the participant then referred me to a coworker of hers who might be interested. During a time soon afterward, when I met in person with both the first research participant and her coworker, the coworker not only expressed both an interest and commitment to the study, but referred me to another coworker of hers. A few weeks later, I met individually with the second coworker and secured her interest and commitment. During this very meeting, the new participant also referred me to an employee on campus who, while not being part of the same departments as the initial three participants, corresponded with them on a regular basis. This fourth individual expressed her interest and commitment to the study shortly afterward. These four support staff workers ultimately became the participants of this study.

I assigned the following unisex names to the four staff workers: Adrian, Blair, Carmen and Dana. For the proprietary course management system that they all use for delivering online courses, I simply chose the name "course management system" (CMS). Also, for a special package of courses that is delivered through the CMS, and used to facilitate certain programs, I provided the title "web learning repository" (WLR).
Adrian is the manager of various government-funded projects and initiatives, whose objectives range from helping new Canadian citizens and landed immigrants gain employability to providing prospective pilots with many aspects of their off-flight training. The means by which she facilitates the pilot programs is by offering courses, custom-designed for (and by) the aviation industry, through the CMS. For the clients of all of the other programs, the manager facilitates their use of the WLR, which features 102 courses in many different categories including business, graphic design, web design and workplace issues. These are also accessed through the college's CMS. The ways in which the WLR is used, and the ends for which it is used, depend on the objectives of each program. The manager's general responsibilities include providing initial orientations to the CMS; being the front-line helpdesk person for all of the clients in these programs; assessing their progress during the entire time they are taking these online courses; devising new college programs for which the 102 WLR courses can be used; and writing proposals toward this end.

Blair manages the college's web portal for the department of which she is a part. While this activity is one for which she is officially known, she actually has a wide range of responsibilities. These include providing troubleshooting and technical support on-site to students and instructors as needs arise; researching and developing new software applications as a way of enhancing web-based course delivery to the college; maintaining the performance of an electronic test used to determine essential skills in the workplace; and acting as a liaison person between her department and several other departments that are using the college web portal in one capacity or another.
Carmen is the main helpdesk support person for the CMS used by the college, and its provision of online or 'blended' (i.e. online and traditional learning combined) courses for the college's academic departments. To fulfill her position, she gives orientations of the CMS to new students and instructors alike. She also acts as the main helpdesk person for the CMS during the day. Furthermore, she trains and supervises helpdesk staff who are on-call for technical support in the evenings. Yet another one of her responsibilities is training instructors - whether through online modules that she creates, or face-to-face sessions. Finally, she keeps detailed statistical reports regarding the CMS's usage and troubleshooting for the managers of the department in which she works.

Dana acts as a 'backup support' for two of the three individuals mentioned above. While she is located in the same department as Carmen - and gives her the necessary support in troubleshooting and assisting with orientations wherever possible - she is an equally strong support for the other person and her programs. For the purpose of helping her two coworkers, Dana is continually learning new techniques, procedures and programs that are always characteristic of technological change and advancement. Also, like Blair, she is always willing to help with technical difficulties that may arise in her proximity on the college campus. Finally, she creates special online programs that meet the unique needs of certain academic departments in the college.

**Data Collection**

The data collection was carried out between October 2004 and January 2005, and was comprised of more than one source. Since the questions of this study did not merely require the support staff's perceptions of their work experiences, but also that
these perceptions be validated as much as possible by other sources in their environment, I established the data collection from three kinds of information: 

*interviews, observations* and *documents*.

This section describes the significance of each data collection method, and the particular ways in which each method materialized in this study.

*Interviews*

The virtue of including interviews in a case study was that by talking to Adrian, Blair, Carmen and Dana, and asking them questions, I was able to "find out from them those things we cannot directly observe" (Patton, 1990, p. 196). Another strength of the interview format was that because interviewing can "allow us to enter into the other person's perspective" (p. 196), it was "the best technique to use when conducting intensive case studies of a few selected individuals" (Merriam, 1997, p. 72).

I met with Carmen and Dana twice, and Adrian and Blair three times, for a total of eight interviews. I used the "semi-structured" approach, which allowed me to be "free to probe" (Hoepfl, p. 52) and "to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas to the topic" (Merriam, p. 74).

When it came to the matter of recording data for the interviews, I relied only upon detailed note-taking during the time each interview was conducted. Despite recognizing that "the most common method by far is to tape record the interview" (Merriam, 1997, p. 87), I shared Lincoln and Guba's (1985) concern about "the instrusiveness of recording devices and the possibility of technical failure" (Hoepfl, 1997, p. 53). Adding weight to my concern was the reluctance expressed by two of the staff workers to have their interviews recorded. So I decided against the idea of making
any analog or digital audio recordings. However, in order to preserve what was "fresh in my mind" regarding the thoughts of the staff, I transcribed my notes into complete sentences and paragraphs soon after each interview was over. Also, to ensure as much fidelity and accuracy to the original conversations as possible, I asked the staff to verify my transcriptions. In this verification process, they were allowed to include additional thoughts, and remove those comments that emerged from my faulty interpretations rather than their intended thoughts.

The study's findings were drawn primarily from transcripts taken from six of the eight interviews. While "interviewing is probably the most common form of data collection in qualitative studies in education" (Merriam, 1997, p. 70), there are still other reasons, specific to this study, that interviews ended up being the primary source of data. Some of these reasons are found in the following two sections.

Observations

The advantage of having observations as part of the data collection was that, when conducted together with interviews and document analysis, they helped "substantiate the findings" (Merriam, 1997, p. 96). They did so in the following ways: first, they gave me "a firsthand encounter with the phenomenon of interest rather than a secondhand account of the world obtained in an interview" (p. 94). The observations also allowed me "to see things that participants themselves were not aware of" (Hoepfl, 1997, p. 53). These things, such as "specific incidents, behaviours and so on" were then "used as reference points for subsequent interviews" (Merriam, 1997, p. 96).

I carried out two observations in this study by visiting orientations that Adrian and Dana conducted. The purpose behind these orientations was to guide clients
through the main features of 102 self-study courses that were part of the WLR in the CMS. Before observing each of the sessions, I recalled a potential problem described by Hoepfl (1997): "The presence of an observer is likely to introduce a distortion of the natural scene which the researcher must be aware of, and work to minimize" (p. 53). The ways in which I sought to minimize this distortion were to locate myself near the back of the lab, so that I would not be continually seen by most of the orientation participants; and to act as a participant so that I would not draw attention to myself. I did this by listening to Adrian and Dana as much as possible, and giving them affirmative feedback - such as smiling and chuckling along with the others when they made humourous comments - as a way of encouraging them to keep going.

In keeping with the purpose of focusing only on Adrian and Dana, I sought to observe "a specific person, interaction, or activity, while mentally blocking out all the others" (Taylor and Bogdan, 1984, p. 54). Specifically, I focused on the delivery of the staff, while omitting any observation of the students' activities except where their words or actions secured the attention and response of the staff. Also, I looked for recurring or "key" words in the staff's remarks (Merriam, 1997, p. 105), as well as recurring actions. While focusing on these things, I kept four questions in mind: 1) what specific activities are the staff carrying out? 2) what responsibilities of theirs, outside of these orientation sessions, do they mention to the sessions' participants? 3) what observable conditions or factors appear to facilitate their delivery? And 4) what observable conditions or factors, if any, appear to hinder their delivery?
While I was conducting these observations, I took field notes that included descriptions, quotations and observer commentary. The latter served as a kind of "preliminary data analysis" (Merriam, 1997, p. 106).

It is important to note that there were originally four observations scheduled for this study. However, two sessions in which I would have observed Carmen and Dana orienting instructors to the CMS were postponed until the month after the end of my data collection. Even though this change made my observational data less substantial than it would have otherwise been, these data still provided significant insights toward the discovery of how the support staff provided services for online course delivery, and what conditions benefited their efforts. These insights are found in Chapter Four.

*Document Analysis*

As well as conducting interviews and observations for this study, I also analyzed public documents released by the college and related to the staff's services. Additionally, I looked at public documents provided to me by Adrian and Carmen. Some of these documents were given to students, while others were given to the staff's coworkers and supervisors.

One benefit of this document analysis was that it helped to "ground an investigation in the context of the problem being investigated" (Merriam, 1997, p. 126). Another benefit was that it prompted me to devise "important questions to pursue through more direct observations and interviewing" (Patton, 1990, p. 233). Also, document analysis was more objective than the other methods of data collection, in the sense that the "presence of the investigator" did not "alter what is being studied" (Merriam, p. 126). It is also worth mentioning that the documents described above were
"easily accessible, free and contain(ed) information that would take an investigator enormous time and effort to gather otherwise" (Merriam, p. 125).

I discovered the public documents created by the college on its website. Some of them described the college's overall achievements and future goals. These contents were helpful in that they made me curious about how the particular departments where Adrian, Blair, Carmen and Dana were working could possibly benefit from these achievements, and what new responsibilities or expectations might be placed on them as well. The rest of the documents found on the college website described the particular departments or programs that each of the four workers was involved in. These documents provided a greater understanding of their job positions by placing them in the context or "big picture" of the departments' goals.

The public documents given to me by Adrian and Carmen were created for distribution to students, instructors, coworkers and administrators. The documents consisted of a welcome letter to students; a log sheet that allowed students to choose and keep track of their web-based courses; a sheet of registration and contact information for students; an outline for e-learning orientations created and used by the staff themselves; a sheet of troubleshooting procedures for off-site helpdesk staff; and a set of log sheets and models providing statistics of the CMS's usage and troubleshooting incidents for administrators.

All of these documents provided additional insights into what the staff's job positions involved. Some of them even demonstrated how they were able to decrease the number of duties for themselves. However, none of the documents gave any
additional information related to conditions that benefited the staff in their work. Also, they did not give any more insights regarding conditions that challenged their work.

**Data Analysis Method For Generating Findings**

I carried out the data analysis "simultaneously with… data collection" (Merriam, 1997, p. 162), and then continued it after the collection was completed. At the most basic level, it involved a description of the observational and interview transcripts and public documents, but it also involved a construction of categories that I carried out through the constant comparative method of analysis (Glaser & Strauss, 1967; Merriam, 1997). This method is the one of the most common approaches taken in qualitative research because it adapts well to "the inductive, concept-building orientation" that characterizes such research (Merriam, p. 159). Specifically in this study, the constant comparative method involved my discovery of a unit of data - defined as the "smallest piece of information about something that can stand by itself" (Lincoln & Guba, p. 345) - within an interview transcript, observational transcript or public document. Then I compared this unit with other units in the same transcript or document, and also with units found in other transcripts and documents. Out of these comparisons, I formulated tentative categories. Then I compared these categories with each other. As a result of this level of comparison, I made revisions to the categories. Overall, comparisons were "constantly made within and between levels of conceptualization" (Merriam, 1997, p. 159) until I generated the findings that are presented in Chapter Four.

The program that assisted me while I managed the data was Microsoft Word™. It was my view that this program had a sufficient number of data management features
for a small-scale case study such as this. These features included word searching, multi-coloured highlighting, copying, and pasting.

The procedure that I used to manage the data is described as follows. For all of the verified interview transcripts, observational notes and online public documents (which were saved on my computer as HTML pages), I highlighted selected texts in three different colours, according to their suitability in answering my three research questions. For example, all statements I found that suggested an answer to the question "What contributions do online learning support staff make to the delivery of web-based college courses?", were ones I highlighted in yellow. Those sayings that shed light on the question, "What conditions facilitate online learning support staff’s services for the delivery of web-based college courses?" were highlighted in light green. Finally, the texts that inferred answers to the question, "What conditions challenge online learning support staff’s services for the delivery of web-based college courses?" were highlighted in light blue. A summary of this procedure, featuring examples of each type of statement, is found in Figure 1.

<table>
<thead>
<tr>
<th>Research Question for which &quot;answers&quot; (statements) were sought</th>
<th>Colour</th>
<th>Examples of statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>What services do online learning support staff provide for the delivery of web-based college courses?</td>
<td>yellow</td>
<td>&quot;So I help ensure that all of those online courses keep running with as few errors as possible.&quot;</td>
</tr>
<tr>
<td>What conditions facilitate online learning support staff’s services for the delivery of web-based college courses?</td>
<td>green</td>
<td>&quot;the (CMS) staff have been very good, because provided upgrade versions, service packs, and hotfixes in a timely manner.&quot;</td>
</tr>
<tr>
<td>What conditions challenge online learning support staff’s services for the delivery of web-based college courses?</td>
<td>blue</td>
<td>&quot;it's unfortunate, though, that there isn't greater integration between the (resource centre for learning) and IT because there are issues that arise that require the collaboration of many different specialties.&quot;</td>
</tr>
</tbody>
</table>

*Figure 1: Procedure for Highlighting Texts*
My next step was to label each piece of coloured text with an identification label featuring letter initials and a number, in order to indicate its original source. This provided me with an easy referencing system. For example, if a text had been highlighted in the second interview transcript with Blair, I typed "B2" (Blair 2) to the right of the last highlighted word. Also, if I highlighted a text from the third public document, I wrote "DA3" (document analysis 3) beside it. Figure 2 summarizes how I labeled every statement according to its origin.

<table>
<thead>
<tr>
<th>Label given to a particular statement</th>
<th>The meaning of the label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Taken from transcript of first interview with Adrian</td>
</tr>
<tr>
<td>B3</td>
<td>Taken from transcript of third interview with Blair</td>
</tr>
<tr>
<td>C2</td>
<td>Taken from transcript of second interview with Carmen</td>
</tr>
<tr>
<td>D1</td>
<td>Taken from transcript of first interview with Dana</td>
</tr>
<tr>
<td>PD1</td>
<td>Taken from first public document examined</td>
</tr>
<tr>
<td>OB2</td>
<td>Taken from notes of second observation conducted of Dana and Adrian</td>
</tr>
</tbody>
</table>

Figure 2: Giving Identification Labels

Then I sought to copy and paste each group of texts highlighted in the same colour into a new file. While doing this, I made sure to include the letter/number identification labels discussed above. Once I copied all of the similarly coloured texts into the file, I analyzed the texts by reading them carefully, and then assigned a category to each one. At the point where I discovered that a certain number of texts shared a similar category, I created another new kind of document with this category as its title, and re-copied and pasted all of the pertinent texts on this page (Figure 3). This new document enabled me to view all of the texts identified with the category at once.
Receiving Support (green category)

One thing is being in an IT department, right here on campus, where I can communicate with network technicians and database administrators face-to-face. (B1)

The (course management system) staff have been very good, because they've provided upgrade versions, service packs, and hotfixes in a timely manner. (C2)

I think it starts with how well we communicate; we talk often, at least a couple of times a day. (Adrian) and I are honest with each other and always give time to talk and to listen to one another. (D2)

Figure 3: Placing Texts Under A Common Category

I created many more of these new kinds of documents until the data were "exhausted", and no more categories could be constructed as a result. All of the new documents served to function together as a detailed "outline" from which I proceeded to write out the emerging results pertaining to my three research questions. These results are presented in Chapter Four.

Internal and External Validity and Reliability

To check internal validity, which "deals with the question of how research findings match reality" (Merriam, 1997, p. 201), I employed three of six strategies recommended by Merriam: 1) triangulation; 2) member checks; 3) long term observation; 4) peer examination; 5) participatory modes of research and 6) clarifying my biases (p. 205).

First, I used triangulation. This refers to the use of multiple sources of data to "confirm…emerging findings" (Merriam, p. 204). This process is not meant to ensure validity in the same way as what is expected in quantitative research, but is meant to provide a "holistic understanding" of the situation under study, so that my findings can be viewed by readers as "plausible explanations" (Mathison, 1988, p. 17).
Also, I made member checks. These involve "taking data back to the people from whom they were derived and asking them if the results are plausible" (Merriam, p. 204). While I was revising this study towards completion, I took the contents of this study's fourth chapter back to Adrian, Blair, Carmen and Dana, and sought their verification of my findings. After receiving their feedback, I met any request for revisions that they had made.

The peer examination was another strategy that I employed for internal validity. This activity of "asking colleagues to comment on the findings as they emerge" (Merriam, p. 204) was conducted during one particular morning with a friend who is experienced in conducting qualitative research. The way in which he examined the findings was through taking a small analysis activity that I prepared. This activity featured twenty statements that I had taken from the staff's interview transcripts. I instructed my friend to colour, with a highlighter, each statement with one of three different colours, according to the particular research question (out of the three in this study) that the statement suggested an answer to. After my friend completed the activity, the results showed that he identified 80% of what I interpreted the statements to mean. As for the discrepancies that accounted for the other 20%, I discussed these with him until there was a final agreement as to what these statements meant to convey.

External validity answers the question, "How generalizable are the results of a research study?" (Merriam, p. 207). Since this study is focused on a single case, generalizability is a very problematic concept because case studies are concerned with local conditions and settings (Lincoln & Guba, 1985; Hoepfl, 1997). However, the concepts of "transferability" and "extrapolation" are more compatible with the
naturalistic paradigm that is involved in qualitative research (Hoepfl, p. 59). The
degree of transferability from this study's setting to other settings, however, depends on
"the degree of similarity" between them (p. 59). Furthermore, transferability is
something that I cannot ultimately determine. Researchers can only give enough
information that must then by utilized by the reader to find out if their findings meet his
or her own situation (Lincoln & Guba, 1985; Hoepfl, 1997).

Concerning the matter of reliability, I used the technique known as an "audit
trail" which involves the obligation to explain how one arrives at results (Dey, 1993;
Merriam, 1997). As Merriam explains, "in order for an audit to take place, the
investigator must describe in detail how data were collected, how categories were
derived, and how decisions were made throughout the inquiry" (Merriam, p. 207). This
is what I have sought to achieve in this chapter.
CHAPTER FOUR: RESULTS

The following section presents a summary of the key findings emerging from my investigation into the working lives of Adrian, Blair, Carmen and Dana - the four online support staff analyzed in this study. I have organized the findings according to the insights they give in response to the three research questions of this study.

First, the findings that address the first question - "What services do online learning support staff provide for the delivery of web-based college courses?" - are presented under these categories: laying the groundwork for course participants, maintaining a quality learning environment for these individuals, and preparing for the future of e-learning.

The findings given in response to the second question - "What conditions facilitate online learning support staff's services for the delivery of web-based college courses?" - are categorized as follows: collaborating with other staff, receiving support, making use of reliable technology applications, and finding fulfillment in their work.

Finally, the findings which address the final question - "What conditions challenge online learning support staff's services for the delivery of web-based college courses?" - are classified under the following key issues: inadequately shared work across different departments, uncertain availability of funding, performance of sudden and time-consuming tasks, and difficulties in knowing one's boundaries of responsibility.

The Services of Online Support Staff

As their brief biographical sketches in Chapter Three demonstrated, the four support staff workers all hold different positions at the college, and only two are in the
same department. Nevertheless, my data collection revealed that they all shared three major responsibilities with respect to online course delivery, which I explain below.

*Laying the Groundwork for Web Course Participants*

One of the most prominent ways in which the staff provided services for their college's online course delivery was by carrying out three kinds of tasks intended to prepare clients and instructors for their web-based courses. They were delivering orientations, developing resources, setting up courses, and meeting the urgent needs of beginning web users.

During the four-month period that I collected data, Dana and Adrian conducted two face-to-face orientations for students to the CMS. Each orientation was for a different group of new students beginning one of the WLR-based programs managed by Adrian. She summarized what she and Dana perceived as their purpose in facilitating these sessions: "In relation to the orientations that we provide, we see ourselves as 'tour guides' as we orient the learners through the different features of (CMS)."

I was invited to attend two sessions facilitated by Dana and Adrian. In these sessions, I observed the ways in which they carried out their presentation, and noted several recurring features of their delivery that accounted significantly for the students' positive response. A few of these are explained below. Others are discussed later in the category entitled "giving support", because they fit most suitably under this topic.

One recurring feature in Dana's and Adrian's orientation delivery was their strong sense of anticipating potential difficulties encountered by the students. One way they revealed this anticipation was through careful instructions they provided about
certain features of the CMS used to "store" the WLR courses. For example, Dana asked the clients to make sure that they disable any pop-up blockers they might have in the web browser they were using. Also, she cautioned against saving their usernames and passwords for their courses on any public computer, lest other users have the ability to access their courses.

Another way in which Dana and Adrian anticipated students' potential problems was by pointing out the ramifications of their new status as online learners. For instance, knowing that these were the first online courses that most of the students had taken, Adrian reminded them that online courses required a lot more self-direction than a regular course did. She also mentioned that while some students may already be familiar with the courses' content, the online format would provide a glimpse for them of how Canadian workplace training is now being carried out.

Dana's and Adrian's use of analogies, made in order to help students understand the CMS and some of its features, was another constant element of these orientations. One analogy was Adrian's comparison of the CMS to a "truck that the college hired to move the courses along". She then likened the incompatibility between the CMS and Netscape Navigator™ to a "brother and sister who don't get along", while she compared the relationship between Internet Explorer™ and the CMS to that of "a honeymooning couple".

When I asked Adrian about what she thought accounted for the success of the orientations, she explained how refinements and revisions, made as a result of much practice, were important factors:
There came a point in the last three years of doing this, where we were orienting a 100 people a day. We would make mistakes, but we would learn from them. Initially, I was trying to do everything in an hour. But now, one of my mottoes is "less is more".

Even if they had simplified the content for the orientations, Dana, Adrian and Carmen still found that setting up and delivering these sessions were a lot of work. Adrian's two-page "orientation script", a copy of which was given to me, provides evidence of this. The script was used by Dana and Adrian to keep track of where they were going while they carried out an orientation, and it reveals that they had up to 38 CMS features to cover in only a one-hour period.

Some have said, however, that "hard work pays off", and it seemed to do so for this staff. Carmen, who delivered face-to-face orientations to the CMS for instructors in particular, described how these sessions had not only benefited them, but herself as well:

…the opportunity to carry out intensive and thorough training of the instructors makes a huge difference. That way, they can carry out most of the tasks themselves, and I end up saving 2 days of work at each semester start.

In addition to providing orientations, the support staff developed many resources for the purpose of preparing learners and instructors for online courses. Some of the learner resources were hard-copy CMS materials made by Dana and Adrian that served as companion guides to the learner orientations. Dana had created manuals that were later provided for the learners in the sessions. Also, Adrian had made three other
documents that she gave me copies of. One was a welcome letter that gave a concise description of the college's purpose of helping students meet their career goals, and how the WLR would equip them with essential skills. Another was an orientation sheet including registration, login and contact information. The third document was a "student course mark sheet", on which the learners could keep track of the courses they chose to take within the WLR of the CMS. These three sheets provide further evidence of the great care that Adrian and Dana took in making sure that the students got the assistance they needed.

Resources that assisted instructors as they learned to teach online included a training package, developed by Carmen and Dana, which prepared faculty from the one of the college's academic departments to use the CMS. This package comprised of document-based learning modules and face-to-face training, and yielded a very effective outcome when the instructors attended to them, as Carmen explains:

I developed and implemented an intensive training series for these instructors last year and the requests for help from this department have declined drastically. They are the most independent group in the college now.

Some of the resources developed by the support staff prepared learners and instructors in an indirect way. These resources were materials for other college employees who worked with learners or instructors in various capacities. One such resource was a 14-page manual made by Carmen of "(CMS) Helpdesk Information" that her helpdesk coworkers could consult when learners or instructors called them for help for various issues. Having read through the manual, I saw that Carmen thoroughly
covered such issues as browser setup procedures, "popup killer" disabling methods, login or access problems, and web course feature display difficulties. Another resource created by Carmen that I got to view was a CMS "log sheet". By providing a very specific and clear checklist, as well as space to write comments in, Carmen enabled her helpdesk workers to document specific information regarding each particular call - including its day, time, duration, nature of problem, method of response, and relevant characteristics of the caller. After Carmen collected statistics from many copies of this log sheet, and passed them on to the next level of administration, decisions could be made regarding what particular client needs required the most attention.

Another example of a resource created to assist web course participants in an indirect manner was Blair's development of an online catalogue search. This application allowed administrative staff of a particular department to access student information on the Web for the first time.

This replaced another product that couldn't tie in to our student database, so I customized something that could. I created a web interface that could allow the administrative personnel in the (name of department) to view the database…. a person who is part of our…. database team customized existing student records, and I created the web pages that interact with it.

Building and setting up courses within the CMS were still other ways in which the support staff laid the groundwork for web course participants. When I asked Carmen, "If I were called in to substitute in your place for a while, what are some of the tasks and responsibilities I would be expected to fulfill?", she replied:
Depending on what time of the year it was, you would have to start up anywhere from 1 course to 80 courses. You would have to make sure that all of the students were enrolled in each of these courses. You would also have to transfer the setup from the development server to the delivery server. Then the instructors would have to be informed about all this, and you would also make sure that students can login to their courses.

Dana also carried out this task. She said that one of her responsibilities was the "creation and migration of courses to different servers" as a way of assisting the CMS administrator.

Finally, the support staff laid the groundwork for online learning in their college by meeting urgent needs of beginning web users. As I discovered on the "e-learning" page of the college's website, these users' skills are typically below the college's minimum expectations, which are divided into "skill requirements" and "technical requirements". Skills that are required of all prospective users include:

- Proficiency with Windows, including experience with saving, printing and copying files
- Experience navigating the Internet and using e-mail
- Basic word processing skills

The technical requirement of users is that they "need access to a computer that is connected to the Internet by a modem or a high-speed connection".

Although the support staff stood by these requirements, the measure of their dedication toward learners was such that they were often willing to help some who had
not met the expectations listed above. The following comments provide examples of how new users' skill difficulties were alleviated:

...(some) people had (not) taken a basic computer course. Sometimes, for example, we have to lead students through opening their email, downloading an application they need for (CMS) or configuring procedures for antivirus programs. [Carmen]

..., there’s no question that I have to be prepared to deal with student needs. I may even need to be prepared to meet with them face-to-face if necessary. Such was the case just earlier this morning. Though this particular student has excellent study skills, he has never worked online before, so I had to meet him at the level where he was. So even though we require prior computer experience as a criterion for the acceptance of clients into our programs, we have to make exceptions as we are committed to the success of our learners. [Adrian]

The staff also dealt with computer access problems that some new learners faced. One way they did this was by referring these learners to a local organization whose staff members, said Adrian, "take donations of computers and re-distribute them to those in need". Adrian gave one explanation as to why she and the others encountered access difficulties of new clients:

Many clients are very much financially constrained so access to computers and Internet can be a problem, particularly if their disability denies them easy access to publicly funded resources…. (and) the problem of poverty still exists, and home Internet services are too
expensive for some people. If you're someone who's simply trying to make ends meet, by the time you've paid for groceries, utilities, rent, etc., there's not enough money for an Internet account. Of course one could use the library and other public computer labs, but the disadvantage here is that users can sometimes only log in for one hour at a time. Also, if you have not only these challenges but also the challenge of being disabled, it is pretty hard to bring yourself to the public site during a cold winter day.

Maintaining a Quality Learning Environment

Not only did Adrian, Blair, Carmen and Dana carry out the kinds of tasks that prepared the college's learners and instructors for the online environment, but also those that aspired to make the clients' experiences in this environment as positive and successful as possible. This effort came in primarily two forms: giving support to learners and instructors, and managing the college's web portal and its courses.

The idea that "giving support" would be one of the main contributions of those whom I designated "support staff" is stating the obvious. But after reviewing the data, I discovered three particular "support characteristics" which may help readers see a broader picture of web-based support than what they had previously known.

The first characteristic of such support was that it was wide-ranging in its scope. It did not place limitations on the kind of support it could give, especially if unusual circumstances called for different approaches. For example, Blair - whose particular position had not typically included students in its clientele - realized she needed to
extend her range of work responsibilities in order to help them, because the emerging presence of the World Wide Web over the past several years had required it.

….I can’t really consider myself part of that ("support") because (this department) isn’t supposed to interact with the students – we are here to support staff. Still this clear distinction doesn’t work as well with web services like online learning since, in this instance, it is as if (this department) is interacting directly with students. When I first started working at educational institutes in 1997, (this department)’s responsibilities were centered on network and database administration. Now with the Web and the growing demand to provide web services like online registration and online timesheets to students and staff, (this department)’s support is now institution-wide and growing. [Blair]

Another example of the wide-ranging character of the staff’s support was the flexibility they demonstrated to fulfill special learning requirements of some clients. For instance, in one of the programs she manages, Adrian was very adaptable in the equipment she provided, the locations where she gave orientations, and the ways in which she delivered these orientations.

This type of program works with high needs clients, so we endeavor to provide whatever kind of support is necessary to aid in their success, whether it is accessing special software, computers or providing orientations at a location or in a format their needs require.

The staff’s flexibility could also be seen in the way they accommodated those who could not attend orientations as originally planned: "There will be some instructors or
students who can’t attend the workshop, and then we can provide alternatives for them such as working through the online orientation or provide one-on-one training" [Dana].

Finally, the extent of support provided by the staff was evident in the variety of means by which they allowed learners or instructors to contact them. Dana spoke of her willingness to have her clientele contact her by "the phone, email…and walk-ins."

Carmen added the following:

I carry the (CMS) Help Phone during the day and respond to any concerns or queries that are called or emailed in…still, I need to be around my desk quite often in case of students or instructors dropping in for help with (CMS).

The second characteristic of the support given by this study's staff is that it was immediate. When I asked Adrian about the "turnaround time" she gave herself for responding to learner or instructor queries, she made this comment:

One of my goals is, ‘If you phone me today, I’ll talk to you today.’ Even at the busiest times, I assure all clients that they will never have to wait more than 72 hours to hear back from me.

Then when I asked her if this commitment included weekends, Adrian replied:

Officially no, my help desk support is during business hours but sometimes: Yes, it does. So even if that means taking my cell along with me for a weekend hiking trip, I’ll do that. If students run into problems, they don’t want to wait. They want answers now, or as soon as possible, anyway. (emphasis added)
Echoing Adrian's aim to provide immediate service to clients was Blair, who shared one experience that illustrates the kind of support she gave instructors, and what this often involved on her part.

Still issues do come up, and when they do, they are usually emergencies – ‘drop everything and get it fixed A.S.A.P’. An example of this involved a testing software program [our] department uses called [name] Test. We had upgraded to a new version of the software since the last school year and added a new card scanner. The technicians in charge of hardware at the college had set up the scanner to the workstation that had the software and testing to make sure the connection worked. Yet when the instructors in the [name] department scanned in their test cards, the print out displayed the raw score in the percent correct column. Immediately the [name] department… declar(ed) the software and scanner “broken.” As it turned out, the error could be traced back to a checkbox in a dialogue box that needed to be unchecked. Still it took me the entire day to systematically narrow the options that affect marking in the software…. instructors…want things to work, and they want them to work now. (emphasis added)

In order to ensure that the college's helpdesk met the immediate needs of all who are using the CMS - no matter what time of day or week they called - Carmen carried out a procedure that she described below:

I also schedule staff to handle the calls and emails during the evenings and on weekends. They have a Blackberry™ in their possession, so that
no matter where they happen to be, they can answer student and
instructor phone calls or emails.

The driving motive behind the staff's intention of providing the most immediate
support possible is comparable to a mindset found in many successful retail operations,
and yet extends beyond that. Dana said, "Involvement with the instructors and students
is very important; they are our customers and you want to provide the best possible
customer service to them." Added Adrian: "...we want people to succeed. We want
people to take as much from this experience as they can. And this fuels our activities."

The special commitment indicated by Dana and Adrian in the above statement
was reflective of the third "support characteristic" that marked the staff's efforts: their
support was personal. It was this kind of support that was especially evident during the
observations I made of Adrian's and Dana's orientation sessions.

One way this personal support was shown in the orientations was through
Dana's and Adrian's use of humour. For instance, in the first of the two sessions, when
Adrian caught a user roaming through different pages on the Web, she exclaimed, "I
cought you surfing - no shopping during class!" In the second of the two sessions,
Adrian introduced the WLR program's new students to the so-called "breadcrum trail"
found at the top of the CMS' content area pages. In doing this, she briefly told them the
story of Hansel and Gretel, and how they left a trail of bread crumbs behind them so
that they could find their way home again. But, she said, "birds came to eat their
crumbs up, so Hansel and Gretel couldn't find their way home, and the witch ended up
cooking them for supper. Fortunately, we have a happier outcome." More witty
comments were provided when Dana and Adrian oriented the students to the email
features found within the CMS. While they were showing them how to reply to a "welcome" message that was sent to all of them the night before, Adrian remarked, "in the subject line, you can specify the date you'd like to take me out to lunch." Dana added, "...as soon as you finish off your novel, send it to (Adrian) by clicking here." These instances - and many others - drew chuckles and laughs from the students, and from me also. When I asked Adrian about the role that humour played in their presentations, she replied, "Humour is a great way to forge alliances with people." According to Dana, humour was one of the factors that accounted for the success of the orientations: "bringing laughter...greatly helps to put people at ease."

The other manner in which Dana's and Adrian's personal support revealed itself in the orientations was through their visible demonstrations of empathy and sensitivity. For example, they frequently paused in their presentation to ensure that no one was left behind, and even walked up and down the stations of the computer lab towards this end. From Dana's point of view, the sessions were successful because she and Adrian devoted much time to "making sure everyone's on the same page - I'm sure you noticed how often we would go around the room for this." They also showed sensitivity by listening to clients' concerns and responding to them. This usually happened at two particular times during the orientations: when Dana and Adrian moved throughout the room, and when their presentation ended. An occurrence that particularly struck me during the "end-of-presentation" moments was that when Dana and Adrian were asked to leave the lab quickly - in order to make way for a college class slated to begin right away - they still continued responding to students' questions and concerns until the students had no more. One more way that Dana and Adrian showed empathy and
sensitivity was through the reassuring words they gave clients who were still somewhat uncomfortable with the prospect of learning online. When Dana stopped to talk to a client during a midway point in her and Adrian's presentation, she reassured this client that he would become more comfortable as he proceeded through the web courses. Toward the end of the second session, Dana concludes the presentation by saying, "You're never alone when you're online. There's always someone to talk to."

The following comments adequately sum up Dana's and Adrian's views on the importance of giving personal support to their clients.

It's…. important that we try and be sympathetic towards those who are new to online courses and feeling lost and overwhelmed….we always take time to listen to what they're saying. [Dana]

When courses are delivered at a distance, sometimes the missing piece is the "human touch"….there's a lot of fear among students - this can be found in comments like, "my English isn't good enough", or "I'm not smart enough". This is where the human touch comes in - it builds a strong sense of self-confidence, which is then applied with happy results: "I got 85% on my math test!" as one student shared with me. Another one managed to meet his career goals completely. Now these students had really done the work - all we managed to do was to "give them the keys to the city"….we have definitely prepared ourselves to work in a technical environment, but our strength is our humanity. I think, in short, our success is ultimately attributed to the combination of the 'human touch' and technical expertise. [Adrian]
Besides providing support to learners and instructors, the staff also preserved a quality learning environment for web course participants by managing the college's web portal and its courses. One example of this management was maintaining a consistent display and reliable functionality of the CMS.

In some of our external initiatives, such as the (WLR), which is a collection of self-directed courses, everything is completely online. So I help ensure that all of those online courses keep running with as few errors as possible. [Blair]

Another way the staff managed the college's web environment was through provisions of updated content. These activities provided many valuable services to instructors and learners, including alerting them to matters related to contact information, problem software and possible future server disruptions. Carmen explains:

One thing I can say has made a big difference is the announcements that have been placed on the front page, especially those that warn students of upcoming server downtime and recent issues like pop-up blockers. I recently added an announcement specifying what issues the helpdesk will help students resolve, and which ones the instructors need to answer. Since the posting of those announcements, there have been very few problems brought to my attention.

*Preparing for the Future of E-Learning*

Other than laying the groundwork for web course participants, giving support to them throughout their participation, and managing their online environment, Adrian, Blair, Carmen and Dana also provided services for their college's online delivery
process by anticipating the directions where e-learning may be heading, and adjusting to these directions accordingly. Sometimes these adjustments involved training themselves in new software applications. This was especially the case with Carmen and Dana. Carmen says, "I learn new software myself; especially recently, because there's a real push to make courses more interactive." Preparing for e-learning's future also involved discussing with each other, or with different staff members, ideas for improving online delivery to prospective students down the road. For example, Dana was involved in "a committee that meets to discuss accessibility and web design". Yet another way that this staff prepared themselves was, in Blair's words, "address(ing) long-term solutions that increase productivity." One attempt to do this was Blair's research of open-source alternatives to the present CMS being used by the college. Out of a concern that the costs of expanding this CMS to were too high to meet the "exponentially growing demand for online courses", Blair carried out an investigation into non-proprietary course management systems. Part of her rationale for doing this was that a typical non-proprietary system was "more flexible for customization; it can work with many licensed software applications, and pretty much with all open source applications."

To summarize, by laying the groundwork for their web clients, maintaining a quality learning environment, and preparing for the future of online course delivery, this study's support staff contributed far more to the whole process of online course delivery than simply providing technical support. The activities they undertook, from the beginning of a client's web-based program to its end, were nothing less than essential.
Conditions Facilitating Online Support Staff's Services

The following section summarizes the discoveries I made regarding the catalysts that made a positive difference to Adrian, Blair, Carmen and Dana as they carried out their services as described above.

Collaborating With Other Staff

In my data collection, one of the most recurring themes related to catalysts for the support staff's success was collaboration. This in itself was not surprising, but what I found noteworthy about this staff's collaboration was not only that it facilitated the performance of their tasks, but also helped define it.

The foundation for this collaboration was a strong commitment to communicate. Often this communication was bolstered by the staff's close proximity to some of those whom they collaborated with. When asked what kinds of conditions were indispensable in enabling her to carry out her tasks, Blair said:

One thing is being in a (name) department, right here on campus, where
I can communicate with network technicians and database administrators face-to-face. This is different from the kind of situation where there’s a centralized (name) department for many campuses…

Communication was also helped by the frequency with which it was practiced. Dana attributed her success, in part, by how often she corresponded with Adrian: "we talk often, at least a couple of times a day. (Adrian) and I are honest with each other and always give each time to talk and to listen to one another."

Another important feature of the staff's collaboration between themselves and with others was the extent of it. It did not limit itself within departments, but extended
to other departments also. Blair notes that this had been a major development because of the rapidly increasing use of the Web for courses throughout many of the college's programs:

(This department - A) is designated as a "campus service" ... But

(another department - B) is considered to be part of the Academic
stream, working along with academic departments…. But this physical
separation won't change the fact that (A)'s role in the college is
definitely expanding. The expanding growth of online course delivery
requires (A) to collaborate with (B). One reason for this collaboration is
that (B)'s web programming elements have to be provided by (A). But
just as they need a liaison person in me, I need liaison people in (B) as
well.

The extent of the staff's collaboration could be seen in other ways besides a shared interest in Web use with other departments. Special projects - initiated by certain academic departments for the benefit of their own students - sometimes called for a representative of another department to contribute her expertise to the projects' development. Dana was one such representative, as she explains: "(I have been)
implementing a Peer-to-Peer Online Assistant program within a particular department. I have been working with the student support person (who is part of this department) to implement the program."

The most important characteristic of the support staff's collaboration was its *depth*. Far from being a peripheral and occasional aspect of the staff's work, collaboration was integral to everything they did. For one thing, staff worked together
for even the foundational stages of brainstorming and planning tasks. When asked to give a summary description of the ways in which she provide services for the CMS and the WLR in particular, Dana said: "I envision all of us brainstorming and collaborating together - that's what this is really about, working together to achieve a common goal, that is, to provide an environment where learners feel comfortable asking questions."

Replying to the question of what she would say if some people in the college acknowledged her as a "technical guru" without whom they could do nothing, Carmen gave this response:

That wouldn’t be accurate, because much of the thinking and planning behind what I do is shared with others – particularly (Dana). So even though she concentrates on the (WLR), she has been a huge support to me. So much of what drives this online and tech support is teamwork.

The depth of collaboration was also evident in the way it allowed staff to benefit from each other's strengths, and concentrate on their own strengths at the same time. Dana and Adrian gave examples of this.

(Adrian) has a natural way of calming people down and for making them feel comfortable. I have learned a lot from (Adrian) and I love working with her…. I also need to mention the colleagues in my department. I often need their perspective, because they're often on the "front lines" dealing with students. Their proximity is very important. [Dana]

(Dana) brings so much to this through her expertise in course design and technology, and my function is just to coordinate and support. I think, in
short, our success is ultimately attributed to the combination of the 'human touch' and technical expertise. [Adrian]

In order to reinforce the prominent place that collaboration had in the work of the support staff, it is necessary to refer back to my observations of Dana and Adrian as they led the orientation sessions for the clients using the WLR. While observing the way that Dana and Adrian related to each other as they led the students through the orientation, I noticed a number of recurring actions: they "switched places" every so often between addressing the students and observing them; one waited until the other was ready before proceeding in a certain direction; one took the liberty to interject with a few insights while the other was speaking to the students; and one helped the other if she overlooked something. What struck me was not that Dana and Adrian had done these things, but the *ease* with which they did them. Not even the most fleeting kind of awkward moment was noticeable during these collaborative actions; they were completely natural. Partly as a result of this, the students' responsiveness was very positive.

According to Dana, a common perspective and a long shared working experience did much to strengthen collaborative work between individuals. (Adrian) and I are very like-minded when it comes to what we're doing - we both really believe in customer service - helping our clients out as much as possible… (we) have been doing this for a long time, and we are comfortable with each other. Our partnership is a “give and take” and we both understand each other.
Receiving Support

As mentioned above, providing support to students and instructors was one of the most prominent services given by the staff for web-based learning in their college. However, it was also true that while carrying out their work, they benefited from support they received as well as gave. This support came from four sources: coworkers, other college departments, the college administration, and the city of the college's main campus.

The staff's coworkers, who worked either in the same departments or same programs as they did, proved to be a great source of support by providing information for technical questions the staff did not know the answers to, or by giving evaluations of projects they were developing.

…one way that (my department) helps is the feedback they'll give for something I'm working on. It's always important to get feedback.

Another great thing about (my department) is that if I don't know the answer to a student's query, I can try to find someone else whom the student may contact. [Dana]

I often contact (Dana) or (Carmen) for support… For example, if there is a particular technical issue that I can’t answer, I can just phone (Dana)

and know that she’ll provide an answer for me, just like that. That way I can very easily answer any student inquiry. [Adrian]

Support to the staff also came from other departments in the college. Adrian mentioned how extensive the availability of this support is:
Another thing that certainly helps me is that I have instant access to contacts that can help me with whatever I need. Since I am part of a college with 500 staff, there are a lot of resources that I can draw upon. The ways in which other departments gave assistance varied from a continual pattern to one that was provided only if needed. Adrian gave an example of the latter kind: "We seldom get content-related questions (for the WLR) but when we do the course designer or an instructor is available to help." Carmen provided an instance of the more extensive kind: "I don’t know where we would be if (name of department) wasn’t involved. After all, I’m not responsible for the servers – they are. And it’s a big responsibility they have, too."

In addition to the help and encouragement they received from coworkers and other departments, the staff were greatly supported by their college's administration as well. When I asked what kinds of things were indispensable in enabling her to carry out the management of the special programs for which the WLR is being used, Adrian replied:

I think one thing is the willingness of (name) College to risk creation of programs for which there aren’t necessarily any certain outcomes. They completely believe in these programs, and they’re completely behind me as I carry them out. They’re truly willing to think “outside the box” of typical expectations that colleges have for programs. For them, providing these services is all about customer service – give the clients the tools and the help that they need. They realize, as I do, that client success is what’s going to make or break online learning.
Finally, several kinds of support found in the city of the main campus made a big difference for the staff. One kind was the interest and commitment of organizations and services in providing funds for the college's web-based learning programs, even if these funds weren't immediately forthcoming.

The great thing about this city is that there is a tremendous amount of support. People will donate money by the fistful. So just because a proposal is rejected today doesn't mean it will be tomorrow. It'll eventually get accepted. There just has to be a right "fit". There is often a pattern to these things - someone contacts you, agrees with your plan and is willing to commit funds to it. Then for a long time you hear nothing more, so you forget about it. But then when you least expect it, you'll get a phone call again. [Adrian]

Another kind of support from the city was the willingness of businesses and organizations to provide computers to online students who are financially hard-pressed.

Also, I need to mention that, for those clients who have computers with many difficulties or dated features, there is organization in town that recycles and refurbishes used computers. I can phone them up saying that there's a client who needs a computer and ask them if they can do anything about it, and they'll respond by saying, "Sure, bring it on down". Then they'll repair or refurbish that PC for no charge. They also take donations of computers and re-distribute them to those in need. [Adrian]
Finally, the city facilitated the staff's work in the way that it made web use easy for the students. Adrian provided one example of this by mentioning the ease of accessibility of web-connected computers:

It certainly helps, too, that (this centre) is the most ‘wired’ city in the country…. and we don’t have to deal with really slow downloads very often because most of our clientele - who are right here in the city - have high-speed accounts.

Adrian also mentioned the ability students have to obtain high-speed accounts: "….if there was any city in which (accessibility) doesn't seem to be a big problem, it's this one. Virtually anyone can access the Internet."

Quality of Technology and Its Applications

Another factor that made an important difference to the work of the staff participating in this study was the high caliber of technological applications they worked with. The foundational one among these was the college's host computers. As Blair says, "much of the success for technological and online delivery lies with our servers", particularly because of "the capacity for the number of users and storage" they accommodated. Another component of the staff's technological setup receiving high praise was the same CMS that they had been using for course delivery; it performed well with very few disruptions. Carmen attributed its impressive performance to the CMS' technical service personnel and their provisions:

I think it's been great. The (CMS) staff have been very good, because they've provided upgrade versions, service packs and hotfixes in a
timely manner. I haven't needed to contact them very often because their provisions have minimized my problems.

Another application that served Carmen particularly well, and the helpdesk staff whom she managed, was the wireless device known as BlackBerry™. It effectively accommodated the off-campus, evening hours in which the staff had worked, as Carmen explained: "They have a BlackBerry™ in their possession, so that no matter where they happen to be, they can answer student and instructor phone calls or emails…..it also has good voice mail."

The data also revealed that the design of the WLR gave the staff and students many advantages, because its features and navigational structure saved the staff from much work, and the students from many potential difficulties. Adrian explained:

….most learners are very self-motivated and find their own answers and solutions within the courses and support tools, so my involvement is fairly minimal….it was the intent of the course designers to work toward a "self-contained" system, where all the materials that were required would be featured. Now, while some of these may be embedded within the course there are also many hotlinks and references to further resources that are included too.

A Sense of Fulfillment

On the basis of the support staff workers' comments in the data, I concluded not only that they viewed collaboration, support and reliable technology as beneficial to their work, but also that they benefited from the opportunities that the expansion of web-based learning presented to them for personal and professional growth.
The staff provided evidence of how much web-based learning was growing, because it had accommodated itself very well to the present situation in the Canadian workplace. Dana said, "We now have the (name of program) clients using the (WLR) and this has increased to 4 intakes a year, with 30 clients each." Adrian offered this reflection:

The advantage of online learning for us is that it makes learning more accessible…I think of the (name of program) contract and how it has one month to go - its clients are going to have a lot open up for them. If you can acquire knowledge in a supportive time, location and format - that's the advantage we have as staff, to facilitate this…online learning will only become more valuable over time. This is especially because of the government's call for "essential skills training" and employability skills. In effect, they may as well be saying to us, "send us people who are trained for the Canadian workplace", because of the skill gaps that are becoming more evident in our country.

Besides the work stability and opportunities that web-based learning had given the staff, it also provided them with multifaceted responsibilities and new learning situations. As Dana indicated, this made their work enriching.

I really enjoy working in distributed learning and find the work to be diverse. I also get an opportunity to learn something new everyday, whether it is from a student, instructor, or from one of my co-workers…. When you are working in the area of distributed learning you are working on various projects everyday. Distance learning has so many
aspects to it….even having the same question being asked to you in a different way does so much to help you learn and be that much better prepared for future situations. [Dana]

Another advantage that the delivery of web-based learning provided the staff was the prospect of being involved in something that is always changing and progressing. When I asked what her future aspirations were, Blair responded with the following comments:

I'm not sure how or if I can answer that, because I'm at a point where I'm working at things that I enjoy. I enjoy the challenge of seeing where we can go with developing better ways of delivering online learning, because it's going to take another generation for things to fall in place. For even the simplest things, too - like what I said before, some applications aren't even standardized yet. And there are other things that have yet to be defined. When I think of how long it took courses just to be "modularized", I think it'll take a generation just for us to develop the optimum "online course". But then again we can't think only of "online" - because classroom delivery will still be around, and what we will really be doing is finding out what combination of various delivery methods can work for any given situation…it is a real learning journey to discover how we deliver courses.

The idea that their positions gave the support staff a sense of fulfillment is confirmed by the fact that, at the time of the data collection, they had already spent a few years in their positions. Blair had been in her position for "three-and-half years", 
Adrian for "three years, two months and counting". Carmen had moved into her present position within a year-and-a-half period prior to the data collection. Yet, she stated: "This is my fifth year at the college."

In summary, because of their experiences of collaborating with other staff, receiving support from various sources, making use of reliable technology applications, and finding fulfillment in their activities, Adrian, Blair, Carmen and Dana found their work to be less difficult than it would be otherwise.

**Conditions Challenging Online Support Staff's Services**

While there are strong indicators - as demonstrated above - that the support staff found their work satisfying and stimulating, the data also revealed that there were sometimes considerable challenges encountered in their positions. These challenges are described below.

*Inadequately Shared Work Across Different Departments*

Even though the discussion in the previous section revealed how the staff's collaboration with employees in other departments made a positive difference in their work, the data also indicated that this collaboration had not gone as far as it could, at least in the area of sharing work and information.

For example, when I asked about how she and her department were hoping to benefit from the expansion of the college's main campus, Adrian conceded that she had wished for a situation where her department would be closer in proximity to another campus division. This is because the actual degree of the working relationship between this division and Adrian's department did not match its potential.
I think one advantage would be the increased awareness of other departments, and better communication. Even though we're only a block away from the main campus, they sometimes forget about us - and we sometimes forget about them. If we were working more closely with (name of department), for example, I think it would help us better address the needs of employers. Their strength is how they gear their courses to the needs of employers, but at the same time, we're the ones who work with employers everyday. So anything that we can do to create a better understanding - even if it's sharing the same building as a start - is a good development. [Adrian]

Another indicator of how cooperation between departments could benefit from improvement was Blair's observation that much more could be accomplished in online course delivery if a more solid and established system of communications was established among departments:

If communications between the departments involved in technology and online support were more integrated, the methods for delivering learning would be more widely known. So if some personnel leave, other people can see what they’ve accomplished and retain the knowledge, instead of the typical tendency for departing employees to take everything with them….As things stand right now, the problem with delivery from each department is that they provide what is necessary, but don’t see the end result. They can’t quite see the big picture.
At the same time, Blair admitted that bringing about such integration would not be an easy process, partly because the delivery of web-based learning involved complexities that were not found to the same degree in classroom learning.

I know that “community” can’t be imposed – if it were, it wouldn’t be genuine. But it is important. And we haven’t gotten to that place yet….there was a sense in which, before online course delivery became available, things were simpler, because so many necessary tasks belonged to the instructors within their classrooms. But what was once the domain of the classroom is now outside.

The problem of inadequately shared work was also found in a situation where one support worker had taken on additional responsibilities that could have been delegated to employees with similar positions in other departments. However, as the following example reveals, many of these positions had not been formed yet.

I would love for (other departments) to have their own (helpdesk) support. There are a lot of cloning courses, rostering students, and archiving content involved in this position, and if these things could be shared it would be a welcome development. But whether or not we get the money for that is another question. [Carmen]

Uncertainty of Access to Funding

The last saying in the above quote highlights another difficulty that sometimes acted as a constraint to the support staff: the uncertainty of available funds for various matters related to the staff’s work. Besides the citation noted above, there were two other instances found in the data where access to funding was a concern. One was the
challenge of knowing that funds committed or promised for web-based project or initiative proposals were not immediately forthcoming. Referring to two proposals she had written and sent during the time period of the data collection, Adrian said the following:

The big problem is always funding, because the bundle of sources for this is small. The first proposal, which is based on the federal initiative for essential skills, was sent back to us from the federal government for further revision, because they wanted more detail…. the second proposal, which is for a program to deliver online learning to women at risk, was initially not successful, because the provincial government didn't have nearly enough funds for all of the proposals they receive.

Sometimes, however, these situations were short-lived. Funding would eventually see the light of day, even if the new projects or initiatives had to delay their commencement time as a result. When referring back to the "first" proposal, Adrian said, "….this will likely get a green light, but rather than starting in January as we had hoped, the resulting program will probably begin in April. So you could say it's a "dim green light".

The other major example of a funding issue that emerged from the data was a situation involving the college's CMS. Even though the college's provision of web-based courses had been increasing dramatically, the personnel of a campus service were faced with the likelihood of being unable to expand the availability of the CMS to another host computer. This was because the requirement of buying another copy of the CMS for this purpose would have been too costly for the available funding to meet.
Blair explained that this motivated her to research alternative course management systems that were "open source" in nature:

I'm doing this because of the limitations and budget of (CMS). We are in a situation where the demand for online courses is growing exponentially, and this demand ultimately requires another copy of (CMS) to be placed on another server. So this is a scalability issue. Unfortunately, we don't have the ability to expand the budget exponentially in order to meet the demand.

*The Performance of Sudden, Time-Consuming Tasks*

As an inevitable consequence of the various responsibilities they had, the staff often experienced moments where they had to lay aside the task they were working on to deal with urgent matters. Adrian provided one example of this: "….there are constant interruptions. A very common occurrence is that I’ll be dealing with something, but then I’ll be called away to put out this fire and that, and then return to the task I was doing before." Blair mentioned another instance of this tendency:

….issues do come up, and when they do, they are usually emergencies – ‘drop everything and get it fixed A.S.A.P’. An example of this involved a testing software program our (name of department) uses called (name) Test. We had upgraded to a new version of the software since the last school year, and added a new card scanner. The technicians in charge of hardware at the college had set up the scanner to the workstation that had the software and tested it to make sure the connection worked. Yet when the instructors in the (name of department) scanned in their test cards, the print out displayed the raw score in the percent correct
column. Immediately the (name of) department …declared the software and scanner were “broken.” As it turned out, the error could be traced back to a checkbox in a dialogue box that needed to be unchecked. Still, it took me the entire day to systematically narrow the options that affect marking in the software.

It was not as if these occurrences stood apart from what the staff would have expected on a regular basis. In fact, they viewed such instances, as Dana states, as "learning opportunities" that helped them "be that much better prepared for future situations". Still, the more frequently these instances occurred, the more difficult it was for some of the staff to maintain the high standard of performance they set for themselves. Blair admitted: "Having to deal with emergencies and crises….doesn’t give you the opportunity to improve things. It gets to the point where even minimal expectations of a project become a dream."

**Difficulty in Knowing One’s Boundaries of Responsibility**

In addition to the performance of sudden and prolonged tasks, there was another ramification arising from the great number of duties taken on by the staff: the uncertainty of knowing the precise point at which their responsibilities ended. Sometimes, to be sure, such problems were solvable. Carmen indicated this below by describing a situation, encountered by her helpdesk team, which called for some research on her part:

…for a while, the helpdesk tried to take people through the steps of solving issues around unfamiliar software and hardware, but it became so time-consuming and often we weren't sure what to do. So after I
looked into other colleges to find out what policies they might have that address very technical issues, I discovered that they do not deal with such issues at all, out of the concern of incurring liability.

After taking a cue from the colleges whose information she consulted, Carmen uploaded new announcements to the front page of the CMS. These announcements proved to be a tremendous help in communicating to the college's web course participants what she and her helpdesk team were and were not responsible for:

We follow the guidelines on the announcements placed on the (WLR), since they indicate the things that students can talk to (CMS) helpdesk about, and what instructors need to help them with. For example, we are willing to help with browsers, login procedures, and navigation procedures, but we can’t deal with technical issues like a blue screen….so stating these things is good, it has given us boundaries that we no longer have to cross, and students need guidelines too, as to what questions to ask of whom.

With other matters, problems regarding the limits of one's own work were not so easily rectified. When carrying out certain projects, for example, Carmen found herself performing tasks that belonged in the domain of others who specialized in these kinds of work. However, the fact that so many in the college environment also had full schedules made these tasks difficult for her to delegate:

( Name of specialty) is completely separate from what I do. Our college has specialists for this. Sometimes, though, when I’m preparing training
modules online, I find myself wandering into this. But this is rather unrecognized, because it is still seen as part of training.

There may even be some (name of another specialty) that I take up. This isn’t meant to be part of my job, but sometimes it just ends up being so.

You see, people are always willing to help but…sometimes when you sense they’ve got too much going on, you end up carrying out certain things yourself. [Carmen]

In another instance, the dilemma in determining the boundaries of one's position was made even more difficult by a simple piece of paper. Blair's job description, far from helping to define limits as it was intended to do, actually increased expectations upon her dramatically.

….it describes the position in terms of the people you deal with, rather than the things you do. It needs to be the other way around. Because what happens is this - some of the people you deal with can make many requests of you and will refer you to even more people who make requests of you. Then you start to become confused about what you're trying to do, and you end up asking, "What is the 'core' in all of these responsibilities?" and "What is the common thread that holds all of these things together?" [Blair]

There is no evidence from the data collection that the problems of inadequately shared work, uncertain funding, sudden and time-consuming tasks, and difficulties in knowing one's boundaries caused the support staff to be discontent and disappointed in
their work situation. However, these problems were still issues that complicated their work to various degrees.

**Conclusion**

Overall, analysis of the data indicated that the services of Adrian, Blair, Carmen and Dana toward online delivery at their college were extensive enough to meet the needs of students and instructors at every point of their involvement in web-based courses. Findings from the data analysis also demonstrated that collaboration, support from others, reliable technology and the intrinsic fulfillment of work benefited the staff immensely. Finally, inadequately shared work, uncertainty over funding, performance of sudden and time-consuming tasks, and confusion over boundaries of responsibility were challenging to the staff’s efforts.

The next chapter discusses the most important themes that I gleaned from these results. It also explains the ramifications of themes for decision makers and future research.
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

This research began with my desire to provide a snapshot of online learning support staff in higher education, for the purpose of discovering the factors that facilitate and complicate their work performance. I discovered that previous research studies had given several useful insights about this category of personnel. Yet, the same studies stopped short of allowing online support staff to be the exclusive focus of their investigations. The opportunity to conduct this research allowed me to enter the world of online support staff and learn their perspectives on what they do. I also had the chance to observe them twice in one aspect of their work, and to gain further insight about them through documents they provided as well as selected web pages on their college's website. As a result of the findings that were gleaned from the data of these activities, I present three major themes for reflection in this last chapter. Two of these themes correlate with the cited research studies. The last theme, however, differs substantially from these studies. Following this discussion of themes, I propose ideas for decision makers, and recommendations for further studies for researchers.

Themes

1. Despite the great versatility of online support staff, they face the problem of doing more work in less time.

The versatility of the support staff workers' skills could be seen from their many and varied roles and responsibilities that required, to use Adrian's words, both "the 'human touch' and technical expertise". All of these responsibilities meant to accomplish three goals: laying the groundwork for web course participants, maintaining a quality learning environment for these users, and preparing for the future of e-
learning. Thus the contributions of this staff were not limited to technical support service, but truly extended to the entire spectrum of online course delivery.

During the four-month period of the data collection, there was little that Adrian, Blair, Carmen and Dana hadn't been willing to do in order to give learners and instructors the tools, skills and support they needed for participation in web-based courses. Most often, this work involved the delivery of face-to-face orientations to learners and instructors; the availability of helpdesk support 10 hours a day, 7 days a week; and the provision of online and printed training modules. However, they had also shown a lot of accommodation for special situations that required it. These situations included giving one-on-one mentoring in either face-to-face or online modes to instructors who had missed orientation sessions; meeting with inexperienced Web learners for the purpose of helping them attain skill levels matching the college's requirements; and referring financially disadvantaged clients, in need of refurbished computers or other resources, to local organizations.

This versatility as revealed by the data collection supports the findings of Jelfs & Thorpe (2002) and Twigg (2002). They observed that technical duties were far from the only responsibilities that support staff had to perform. Rather, they claimed that these personnel needed to carry out tasks that showed that they understood "the goals and objectives of the institution's academic program" (Twigg, p. 10). Versatility also echoes the discovery made in the University of Brighton (2004) study that those who delivered technology-based learning were proficient enough to speak in both technical and educational languages.
Despite the benefits that the versatility of Adrian, Blair, Carmen and Dana brought to web-based course delivery in their college, it did not come without costs to them. Since online delivery brought together various departments and services of the college that had not previously been linked before, the staff had to face the constraint of working apart from some of those whom they collaborated most closely with. This lack of proximity made integration between departments more difficult. In turn, incomplete integration sometimes led to inconsistent communication and, more critically, inadequately shared work. Thus some of the staff dealt with strenuous workloads. Also, they had less time to do them as a result of the "sudden" tasks that arose and ended up taking more of their time than they had hoped.

These issues also confirm the findings of some of the previously cited studies. First, the problem of distance between support staff echo the findings of Beetham et al (2001), who stated that the diffusion of 'learning technologists' throughout different centers of a campus led to greater difficulties for their work, such as a "lack of coordination" and a "duplication of effort" (p. 6). They also state that these personnel struggled from "a lack of time and overwork" (p.4). Second, Fulton et al (2002) noted that as the diversity of support staff's roles and services expand, they are asked to provide more than just workshops for instructors. They are also called upon to give immediate, need-specific support to them and to be available 24 hours a day, 7 days a week. Also echoing the issue of work and time problems is Gilbert (2004), who spoke of the additional tasks that "technology support staff" had to take on, despite the fact that their more established duties provided full-time hours already. The additional duties came to them after other faculty had realized how essential they were for
"implementing changes, fixing more frequent inevitable breakdowns, and (re)training users" (p. 43).

The consistent pattern of findings revealing distance of coworkers, excessive amounts of work and a lack of time as problems for online support staff is not completely surprising. For one thing, many other professionals who have been affected by ongoing information revolution share these problems to one degree or another. While the rapid development and use of communication technologies over the past few decades has provided many new opportunities for every sector in the modern workplace, it has also brought about situations where employees must continually adapt to frequent implementation cycles and fulfill an increasing number of expectations. Therefore it is little wonder if online support staff experience difficulties in contacting all whom they need to communicate with, and fulfilling all of the tasks they need to perform.

Although the Web has provided campus departments with new opportunities to work together, it has also created a new problem: how these departments can cultivate strong working relationships and share work when they are separated by distance. This difficulty is another reason why the strenuous state of support staff’s working conditions comes as little surprise. In the case of the college that is the focus of this study, the commitment between Adrian’s department and another academic department did not lead to consistent communication, partly because the two divisions were not in close proximity.

The multitudinous character of the online environment counts as yet another reason why the demands on support staff are unsurprising. While it may be that the
Internet has given rise to seemingly limitless opportunities for information sharing, communicating, designing, instructing and learning, it has also brought about seemingly limitless responsibilities for those individuals whose work revolves around it. For example, since an e-mail server is so accessible, and e-mail addresses are so easily obtained, a support person can receive numerous unexpected messages from individuals they have never dealt with before. This can lead to a situation similar to that described by Blair, in which she had to deal with many "help" requests from people who discovered her services from others whom Blair worked directly with.

Even though a strenuous workload is rather inevitable for support staff because of the ongoing information revolution, new problems faced by campus departments, and the multitudinous nature of the Internet, this does not mean that such a workload could not be minimized wherever possible. Some recommendations for how decision makers could help in this area are provided toward the end of this chapter.

2. The level of support staff's performance is determined largely by the quality of their working relationships.

Adrian, Blair, Carmen and Dana benefited greatly from working with continually improving technological applications, partly because of how consistently efficient and reliable they were. Still, the greatest determining factor of successes or shortcomings to this staff had nothing to do with technology. It was the quality of interaction with each other, and other individuals.

The data collection substantiated this theme when it clearly revealed how advantageous collaboration and receiving support were to the support staff in helping them fulfill their responsibilities. The opportunity to collaborate with each other
through the discussion of ideas, the delivery of orientations, the coordination of projects and the cooperation involved in web portal management made a tremendous positive difference to the staff's work. The occasions they had to receive support such as technical information and project evaluation from coworkers, encouragement from the college's administration, and the commitment to provide funds and resources from the city of the college's main campus were also instrumental in helping them to contribute successfully to online course delivery.

The data also substantiated the importance of working relationships in a negative way by revealing how inadequate communication, which sometimes occurred between the staff's departments and other departments, led to the incompletely shared work that the staff listed among their issues of concern. This finding did not call into question the positive instances of collaboration noted above; it simply inhibited the staff's overall work situation from becoming as effective as it could possibly be.

The theme of the impact of relationships confirms the findings of Beetham et al's (2001) and the University of Brighton's (2004) case studies concerning collaboration between "learning technology staff". The investigations conducted by the University of Brighton revealed how integral collaboration was to the MLE (multiple learning environments) project undertaken by the campuses under scrutiny: "It was clear from the case studies….that effective communication, consultation and the establishment of ‘bridging' posts are the key to changing attitudes" (p. 10). Conversely, Beetham et al recommended that a "development fund" be set up for encouraging "collaboration between learning technology researchers/developers and educational researcher/developers", since these two groups lacked a "synergy" that was partly due
to their locations in different institutions (p. 10). Here is an example of how collaboration is missed when it is not present, at least to the desired degree.

The similarity of findings between the cited reports and this study concerning the importance of working relationships suggests that human beings, no matter how sophisticated and knowledgeable they become, remain fundamentally dependent creatures. Although the success of activities and projects may sometimes be attributed to an individual, many of them tend to be achieved as a result of effective teamwork. It may seem as if the online environment encourages independence, because of the vast number of accomplishments resulting from the continuous clicks of one’s mouse. However, the reality is very different. Every time individuals utilize any feature of the Web, they are relying on the results of others’ achievements. Also, as McInerney & Roberts (2004) have reported, online learners have felt a sense of isolation from others while working primarily through the Web.

The constraint that physical distance puts upon communication between staff of different departments suggests another idea: web-based correspondence may sometimes be inadequate for working relationships. While the online environment is able to mirror such things as the human "gaze" and the human "touch" quite convincingly, it neither makes face-to-face contact nor alternate modes of communication dispensable. This shortcoming can be demonstrated by Adrian's hope that her department and another department would be brought much closer together as a result of the college's expansion plan. Also, it is uncertain that Dana's and Adrian's delivery of orientations would have been as successful as they were if they had been online. By requiring online learners to meet with them face-to-face for their initial orientation, Dana and Adrian
had the opportunity to impact them with their services in a more complete way than what an online setting could allow. It would have been difficult to replicate Dana’s and Adrian’s movements around the room in an online environment. Even alternate technologies such as video conferencing and virtual reality applications may be preferable to the Web for enabling interaction among all involved in web-based courses, since they accommodate the visual display of people more effectively.

3. Online support staff's work is their own reward.

Regardless of the difficulties that Adrian, Blair, Carmen and Dana often experienced, they found their work very fulfilling. I noted two ways in which this sense of fulfillment revealed itself. The first was the pleasure the staff took in helping students and instructors. I observed this firsthand for myself when I sat in on the WLR client orientations conducted by Dana and Adrian. The "human touch", as Adrian calls it, was evident throughout. The two staff workers stopped at nothing to ensure that the students were grasping the concepts of the presentation. Toward this end they used humour, stopped their presentation if anyone was falling behind, and answered all the students' questions, even after the session was over. I also concluded that the staff took pleasure in assisting web course participants by being willing to make themselves available at all times during their working hours (and in some cases, even beyond these) and through any means of communication that the participants preferred to use.

The second way the staff found their work fulfilling was the growing sense of self-development they gained from being involved in a constantly evolving and expanding field of learning. This manifested itself in the initiative they took to discuss
ideas for access and design, research alternatives to learning applications already in use, and train themselves continually in new software.

The strong sense of fulfillment indicated by this study's staff, without any hint of general discontentment or dissatisfaction, provides a striking contrast to the University of Georgia (1998), Beetham et al (2001) and University of Brighton (2004) studies previously cited. First of all, there is a substantial difference between these studies' evidence that recruitment and retention of support staff proved to be a major problem, and this study's finding that Adrian, Blair, Carmen and Dana were content to be in their positions. Their satisfaction could partly be seen from the relatively long time (an average of four years) they had already been working at the college by the time of the data collection's end. Also, when they were asked what they might see themselves doing a few years from now, this staff did not give indications of any need to move out of their present environment. Rather, they enjoyed the challenges and opportunities that their present positions gave them.

Also, this study departs significantly from the cited studies' observations that the learning technology support staff they investigated were concerned about deficiencies in career growth, work opportunities, recognition by academic staff and rewards by their institutions. Such concerns were not found among the staff of this study. They found their work to be their own reward, particularly as it gave them opportunities to provide support services to clients in a personal manner and to make their own discoveries about new trends and developments in e-learning.

The contrast between the indications of support staff's dissatisfaction in the cited studies and the evidence of fulfillment gained by this study's staff is a
phenomenon that defies any simple explanation. There may be many factors that account for this difference. One factor may be that since the cited studies are several years old already, the technological situation faced by their staff was not nearly as advanced as that of this study's staff. Therefore, the staff of the cited studies may have been faced with many more constraints. Differences in expectations might account for yet another reason why the contrast exists. The support staff studied by the University of Georgia (1998) report described the support staff they investigated as having "excessive…expectations" (Discussion section), whereas those held by this study's staff were few, if any. Adrian, Blair, Carmen and Dana may have hinted at a desire for reduced workloads, realistic job descriptions and reliable funding for their programs; but these desires aren't necessarily expectations, and they can hardly be called excessive. Finally, the contrast might emerge from differences in attitudes and perspectives about what constitutes a good career. For this study's staff, work provided a reward in itself, and this intrinsic kind of reward seemed to be sufficient for their fulfillment. But the staff in the cited studies seemed to feel that career growth, recognition and reward were a necessary part of a fulfilling work experience.

I do not mean to insinuate that the perspectives of the staff in the cited studies are less legitimate than those of this study's staff. Indeed, one of my purposes in conducting this study was to call for more recognition to be given to a certain group in higher education that adds value to web-based course delivery in many ways, and yet is not sufficiently acknowledged by distance education research studies so far.
Recommendations for Decision Makers

In light of the findings and their emerging themes as discussed above, I offer the following suggestions for those who make management decisions affecting online support employees. While it is my hope that these ideas would be considered for implementation, they will have achieved much even if they stimulate more serious attention towards the working conditions of support staff.

1. Help create a working environment where those working in web-based delivery are in as close proximity to each other as possible.

   If managers have the means and opportunity to bring this staff into closer geographical proximity to each other, finding ways of doing so would greatly help the enhancement of collaborative relationships between them. Closer proximity would remind departments of each other's importance, and would facilitate the communication that is so crucial for collaborative efforts. If the reduction of physical space cannot be considered, devising "collaborative" professional development days that bring support staff together would be a laudable plan. Then the staff could share ideas among themselves about effective practices for providing support. It would also allow them to more effectively establish the beginning of working relationships, if such relationships were not yet formed.

2. Invite support staff to provide their perspectives regarding the challenges they face, and the catalysts that help them, on a regular basis.

   This recommendation simply calls for decision makers to give online support staff an opportunity to offer their insights in a way not unlike what I have attempted to do in this study. The ways in which the staff’s feedback may be solicited could vary,
although face-to-face meetings with either groups or individuals may prove more effective than standard survey forms of an online or printed nature. This is consistent with the idea that the face-to-face mode of communication should be sought after wherever possible, so that the subtle nuances of nonverbal expression are included with verbal communication as part of the dialogue.

3. *Create job descriptions with clearer boundaries.*

Support staff would carry out their work with more certainty and confidence, and would possibly even have more time to fulfill their responsibilities, if they knew where their responsibilities began and finished. A revised job description that indicates to them the skills and responsibilities they are expected to fulfill, rather than the particular people they are expected to assist, would go a long way in facilitating this knowledge. Even if this provision was already in place, decision makers could still benefit from asking support staff about *other* ways in which their job descriptions might improve. Face-to-face meetings, as suggested in recommendation #2 above, would be a good opportunity to solicit feedback like this.

**Recommendations for Future Research**

In addition to recommendations for decision makers, I provide the following suggestions for further studies. These not only arise from the study's findings and resulting themes, but also from various issues left unaddressed by a small-scale study such as this. If my ideas serve to bring greater attention to the working environment and perspectives of online support staff, they will have accomplished much.
1. A long-term multi-site study focused on similar research questions.

Since this case study happened within one site and over a period of four months, it is limited in the insights it can provide. It lacks the substance of findings that would result from a similarly designed study involving many institutions and taking place over a longer period of time. One of the most significant ways that a larger-scale study can improve upon this one is the potential it gives for a greater number of observations to be made, and documents to be analyzed. This, in turn, would allow for a lot more triangulation between different sources of data than what occurred in this study. Therefore, a long-term investigation that features online support staff from various sites, and collects data over several more months, would be a welcome project for interested researchers to conduct.

2. A study on online support staff within other environments, such as a compulsory education setting or a corporate training setting.

The limitations of this study can also be seen in how it confined the specialty of online support to the higher education setting. Different findings and conclusions may be yielded if future studies of online support staff focused on a K-12 setting, a corporate learning environment, or any other field where web-based learning or training is taking place. Even if some of these reports yielded results similar to this one, they might still reveal the degree to which different environments affect the support staff’s work. Therefore, studies on support workers in a setting other than higher education would be projects well worth pursuing.
3. *A study on online support staff’s perspectives toward the needs of clients.*

While the staff accepted that my goal was to provide a profile of *them* and their work environment, many of their thoughts concerning their work showed an indissoluble relationship between them and the learners whom they supported. Two of the four staff workers, in particular, frequently measured how successful they were in terms of how effectively they were able to help learners. Therefore, a new study, which focused exclusively on support staff’s perspectives of online learners and their needs, will add significantly to distance education studies.

4. *A study focusing on support staff’s relationships to other forms of technology-based learning, both present and future.*

In addition to the limitations this study presented because of its duration of time, focus on only one site, and concern with only one learning environment, it also revealed a shortcoming by focusing only on the World Wide Web as the learning platform that the support staff assisted in. Research communities could benefit from studies on the catalysts and challenges of support staff who facilitate video conferencing devices, virtual reality applications, medical technology equipment, and many other forms of technology used for education or training.

So far in this new millennium, a new kind of web-based communication has arisen that this study did not address: the Semantic Web. As explained by Anderson (2004), this new version of the Web “will be populated by a variety of autonomous agents – small computer programs designed to navigate the Web, searching for particular information and then acting on that information in support of their assigned task” (p. 51).
New studies that focused on the ramifications that these “agents” have for support staff would be fascinating additions to distance education literature.

**Epilogue**

In a similar way to the appreciation I gained of the combinations of pipes, electrical wires, boilers and other items I had discovered while working as a "space audit" clerk many years ago, I finished this study with a greater appreciation of online support staff, their environment, and the complexities which are characteristic of their work. The services that this staff provides for web-based course delivery are extensive, involving many different kinds of responsibilities. Also, they not only meet the needs of instructors and learners at the time they begin their courses, but also throughout their whole online experience. In light of the difference that this staff makes, further insights that can be gleaned from their perspectives and their environment are worthy of serious interest and attention.
REFERENCES


Cheurprakobkit, S. et al. (2002). Technicians’ Perceptions About Web-Based Courses: The University of Texas System Experience. American Journal of Distance Education, 16(4), 259-263.


APPENDIX A: Interview Questions

The following questions do not represent all of those that I had asked the support staff. Rather, they are only of the "semi-structured" kind that I had prepared in advance of the interviews. Furthermore, I had not necessarily asked these questions to the staff in the order that they appear below. Also, I had not always used the exact wording of the questions below in the actual interviews.

- What is your understanding of "support"?
- What 'images' or 'metaphors' might you use to describe the services you provide for online course delivery in this college?
- If I had your qualifications, and were called to take on your position for a week, what are the tasks and responsibilities I would be expected to fulfill?
- From the literature I’ve consulted, online support is shown to involve so much more than technical support: developing resources, training, doing administrative tasks, and more. To what degree is this versatility true of you in your position?
- What are the kinds of things for which you would say, 'if it weren’t for A, B, C, I would find it far more difficult to carry out my position than I presently do’?
- Suppose you passed by someone you had worked with previously, and they stopped you in order to tell others who were with them, “Ah, here’s (name), the support person we couldn’t live without...” How would you respond to comment like that?
- What are some things that come to your mind for which you say, “If it weren’t for these difficulties, I could carry out my position more easily or efficiently”?  
- When I observed you in the orientation sessions, I was struck by_________. In what ways has this served to help your delivery?
- As you know, the college recently announced on their website that there is an expansion plan underway at the main campus that will allow for double its present student capacity. How do you and your department hope to benefit from this?
- What are your future aspirations? Where would you want to go from here?
• Where do you see yourself in relation to online learning 5 or 10 years from now?

• What kinds of things that you've done during this fall period would you consider to be great accomplishments?

• What kinds of things that you've worked on during this fall period have yet to be completed?
APPENDIX B: Timeline of Research

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 7, 2004</td>
<td></td>
<td>Permission granted by college to proceed with study</td>
</tr>
<tr>
<td>September 16, 2004</td>
<td></td>
<td>First meeting with all four staff workers; study design is discussed and ethics consent forms are signed</td>
</tr>
<tr>
<td>October 7, 2004</td>
<td></td>
<td>Interview #1 with Adrian</td>
</tr>
<tr>
<td>October 15, 2004</td>
<td></td>
<td>Interview #1 with Blair</td>
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<tr>
<td>October 22, 2004</td>
<td></td>
<td>Interview #1 with Carmen</td>
</tr>
<tr>
<td>November 5, 2004</td>
<td></td>
<td>Interview #1 with Dana</td>
</tr>
<tr>
<td>November 25, 2004</td>
<td></td>
<td>Observation #1 of Adrian and Dana</td>
</tr>
<tr>
<td>November 26, 2004</td>
<td></td>
<td>Observation #2 of Adrian and Dana</td>
</tr>
<tr>
<td>December 7, 2004</td>
<td></td>
<td>Interview #2 with Blair</td>
</tr>
<tr>
<td>December 9, 2004</td>
<td></td>
<td>Interview #2 with Adrian</td>
</tr>
<tr>
<td>December 10, 2004</td>
<td></td>
<td>Interview #2 with Carmen</td>
</tr>
<tr>
<td>December 16, 2004</td>
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<td>Interview #2 with Dana</td>
</tr>
<tr>
<td>January 17, 2005</td>
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<td>Interview #3 with Blair</td>
</tr>
<tr>
<td>January 18, 2005</td>
<td></td>
<td>Interview #3 with Adrian</td>
</tr>
<tr>
<td>January 31, 2005</td>
<td></td>
<td>End of data collection</td>
</tr>
</tbody>
</table>

*Note:* Document analysis and data analysis were ongoing throughout this period.
Appendix C: Ethics Approval

CERTIFICATION OF INSTITUTIONAL ETHICS REVIEW

This is to certify that the Conjoint Faculties Research Ethics Board at the University of Calgary has examined the following research proposal and found the proposed research involving human subjects to be in accordance with University of Calgary Guidelines and the Tri-Council Policy Statement on "Ethical Conduct in Research Using Human Subjects". This form and accompanying letter constitute the Certification of Institutional Ethics Review.

File no: CE101-3905
Applicant(s): Sean Rixon McCausland
Department: Graduate Division of Educational Research
Project Title: Conditions Which Facilitate and Challenge Distance Support Staff's Contributions to Online College Courses: A Case Study

Restrictions:

This Certification is subject to the following conditions:

1. Approval is granted only for the project and purposes described in the application.
2. Any modifications to the authorized protocol must be submitted to the Chair, Conjoint Faculties Research Ethics Board for approval.
3. A progress report must be submitted 12 months from the date of this Certification, and should provide the expected completion date for the project.
4. Written notification must be sent to the Board when the project is complete or terminated.

Janice Dickin, Ph.D./LLB,
Chair
Conjoint Faculties Research Ethics Board

March 15, 2004
Date:

Distribution: (1) Applicant, (2) Supervisor (if applicable), (3) Chair, Department/Faculty Research Ethics Committee, (4) Sponsor, (5) Conjoint Faculties Research Ethics Board (6) Research Services.