

CHAPTER I

Statement of the Problem

As the Internet becomes a familiar component in our homes, schools, and offices, use of technology in education can no longer be considered optional (Gordon, 2000). “The world in which children grow, learn, and interact will have significantly different modes of exchange than those of the previous generation” (Gordon, 2000, p. 3). Social, economic, demographic, and technological changes are presenting opportunities for secondary public schools to incorporate greater use of technology including new distance education programs for students who do not live within a certain school district boundary (Kirby, 1998). It is no surprise that distance education programs that use the Internet to deliver online learning are developing at a steady rate (Chaney, 2001).

One of the first efforts to offer secondary students online learning opportunities was The Virtual High School. The Virtual High School, a national project funded by the U.S. Department of Education, has seen substantial growth in the past four years (<http://www.goVHS.org>), and now reaches thousands of students in 26 states. Following the growth of this national program, distance education in the form of online learning is finding its way into more state and local educational systems.

In 2001, six states had online learning opportunities and at least eight more were developing programs (Chaney, 2001). In a study entitled, "Virtual Schools Across America: Trends in K-12 Online Education", the Peak Group LLC estimated that the 2001-2002 school year enrollment in online programs in the United States was 178,500. They projected that student enrollment will likely exceed 1 million students in the 2004-2005 school year (eSchool News, 2002).

Distance education is characterized by a geographic separation of teacher and student, the use of technology for communication of information, the capacity for bi-directional communication, and the presence of an educational organization influence (Saba, 1996). Distance learning is a term often interchanged with distance education. Steiner (1997) explains, however, distance learning is actually the desired result of distance education.

Distance education has been a recognized delivery system for over 100 years (Litke, 1998). Its roots are grounded in correspondence courses that were delivered through post-secondary institutions (Litke, 1998). Research on the use of computers to deliver post-secondary distance education services has spanned over 15 years. In 1985, Roxanne Hiltz at the New Jersey Institute of Technology conducted the first recognized study of a virtual environment, the Virtual Classroom™, that delivered distance education (Hiltz, 1995). Her original hypothesis stated that, “There will be no significant differences in scores measuring mastery of material taught in virtual and traditional classrooms” (p. 144). Hiltz collected data from 150 students enrolled only in online courses, 111 in mixed mode courses, and 121 in only traditional face-to-face or control courses. She found that “despite implementation problems, the results of this field experiment are generally positive in terms of supporting the conclusion that the Virtual Classroom™ mode of delivery can increase access to and effectiveness of college-level education” (p.168). Hiltz also identified that access and effectiveness did not impact student achievement as measured by course grades, assignment scores, and student testimony.

Use of computers to deliver educational services is now referred to as online learning. Research about online learning in post-secondary programs indicates, “the overwhelming conclusion...is that online learning activities are well suited for graduate level education” (Kearsley, Lynch, and Wizer, 1995, p. 37). There are over 350 articles, publications, dissertations, and other publications available on the topic of distance education at the post-secondary level (Lesh, 2000). In summarizing research on the effectiveness of educational technology in a distance education environment, Russell (1999) found the use of technology does not impact the learning process for the better or for the worse (Lesh, 2000).

Research into online learning in public secondary education is not as expansive as the research conducted at the post-secondary level. One of the first studies conducted with secondary students in online learning environments was conducted in Dutchess County New York. Similar to Hiltz's findings, initial studies conducted in 1995 with the Dutchess County schools indicated that student achievement was “not substantially better or worse overall when students' numerical grades in each online learning class were

compared with each student's cumulative average, or when compared to those of students in a traditional class" (Hawkins, et al., 1996, p. 2).

Student success is a key element for any educational innovation. As Hiltz's and Dutchess County's findings indicate, students can attain successful academic achievement in online programs. Recent findings continue to support successful student achievement. A clear example of student success is in the Florida Virtual Schools. Florida Virtual Schools have been tracking student achievement rates, and the organization found in the 2001-2002 school year that of the 137 students who took Advanced Placement courses through an online delivery system, more than half earned a score of 4 or 5 on a scale of 1-5 (Thomas, 2002). About 65 percent earned a score of 3 or higher, and that rate is higher than the 61 percent nationally. Student success, however, is only one part of an entire system. Additional elements must be considered (Frantz and King, 2000).

Gary Frantz and James King have constructed a Distance Education Learning (DEL) Systems model (Figure 1). The model identifies elements that are part of the distance education system. The designers created the model to illustrate three perspectives: systems/environment—a large scale picture of the system's components; functions/structure—what the system is and the functions it performs; and process/behavior—how distance education and learning act in a living social system. The model can be used in a variety of ways, including as a guide to, "design, implement, and evaluate distance learning programs" (Frantz and King, 2000, p.34).

Comparing the comprehensive nature of Frantz and King's model to past research conducted with online learning, the narrow scope of previous research becomes readily apparent. Most of the previous research in online learning has focused on the outcomes of the online learning programs. Hiltz's research and the research associated with the Dutchess County Schools focus on the outputs. Research on the other components of the model is not, at present, very expansive. Some research findings on the inputs of the model are starting to be reported. One of the key inputs that is receiving more attention is instructional faculty (Betts, 1998; Frantz and King, 2000).

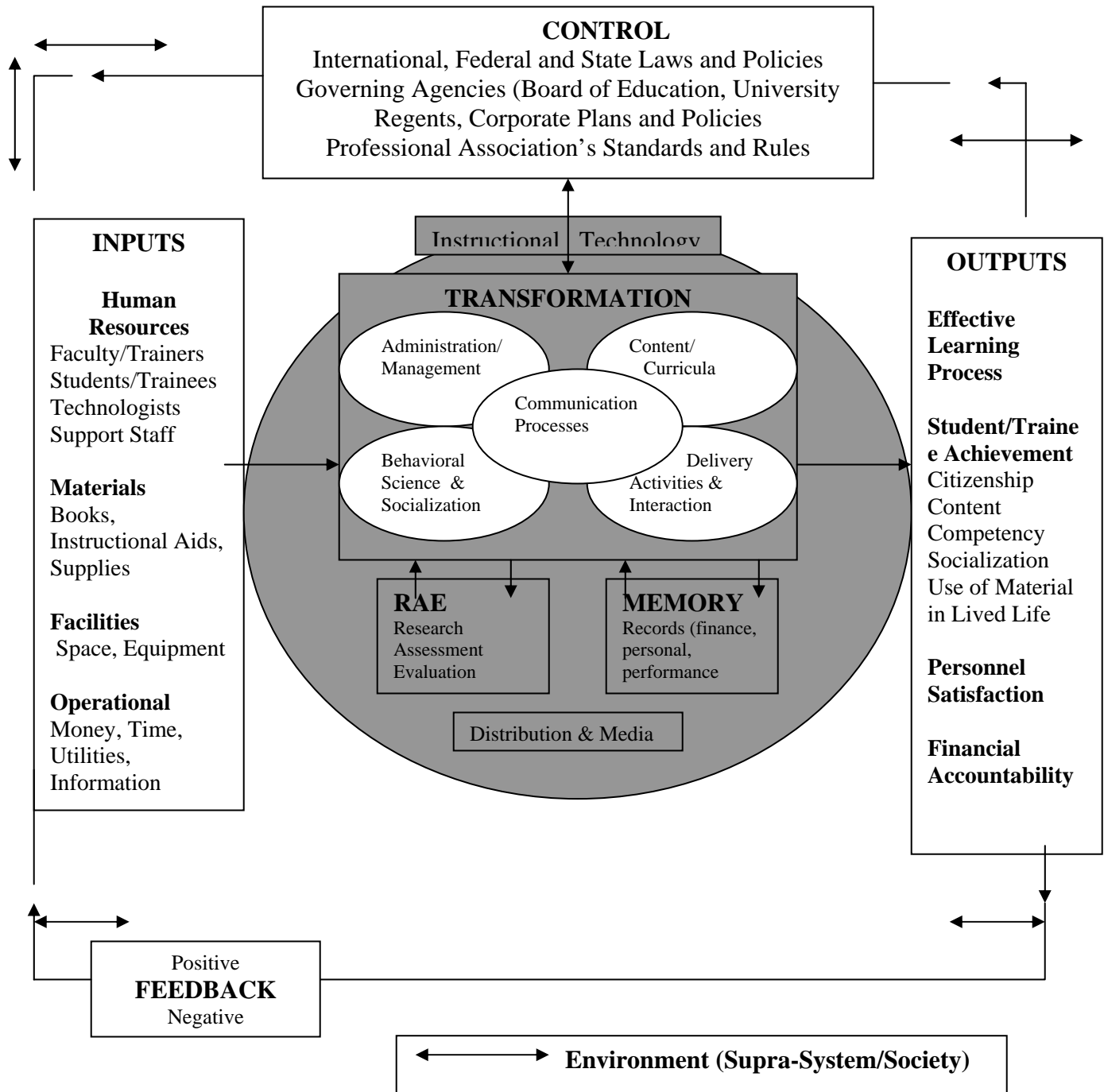


Figure 1: Distance Education/Distance Learning (DEL) Systems Model

Research focused on faculty participation at the post-secondary level indicates strong resistance to participating in distance education programs delivered in the form of online learning (Betts, 1998; Wolcott and Betts, 1999; Schifter, 2000; Rockwell, 2000). Many barriers to faculty participation as instructors of online programs have been identified (Betts, 1998; Clark, 1993; Dillon and Walsh, 1992; Gilbert, 1996, Olcott and Wright, 1995, Verudin and Clark, 1991). Barriers include: increased workload; lack of recognition for the amount of time, energy, and innovation placed into the initiative; reward and compensation for faculty participation; policies which are not aligned to the needs of distance education instructors; and faculty perceptions about their own capacity to learn about and deliver instruction with newly emerging technologies.

Research on faculty motivation to participate in online learning programs indicates that faculty members who choose to participate in distance education programs are motivated more by internal reward systems rather than external systems (Betts, 1998; Rockwell, 1999; Taylor and White, 1991; Wolcott and Betts, 1999). Internal motivators reported by faculty participants included the ability to reach new audiences, the opportunity to develop new ideas, a personal motivation to use technology, an intellectual challenge, and overall job satisfaction.

It should again be noted that all of the aforementioned research has been conducted at a post-secondary level. Conclusions reached surrounding faculty participation and nonparticipation are based on interview and survey data collected from post-secondary faculty. To this point, similar studies on public secondary faculty have not been conducted. There is little, if any, published research on the topic of faculty participation and/or nonparticipation in distance education programs.

As public school secondary online programs continue to grow at a substantial rate (Russo, 2001) public school administrators interested in developing online education programs are at a disadvantage if there is no information about factors that influence public secondary faculty to participate in a distance education programs. Also problematic is the lack of information about the potential barriers within the public school reward and compensation practices, faculty perception of their ability to deliver

quality courses, and perceived staff development needs in faculty training with new educational technologies.

Statement of Purpose

The vast majority of research presently available related to online learning programs at the secondary level addresses student achievement and experiences. There is very little research about developing and implementing online learning programs at the secondary level (Litke, 1998). Even scarcer is research about faculty participation as instructors in the secondary online programs. The purpose of this study was to qualitatively explore, through a case approach, factors that influence secondary educators' development and delivery of online learning courses. Specifically sought were faculty perspectives on their experience delivering online instruction from the initial training experience through course development and implementation.

The overarching research question guiding this study was "What are the influencing factors for secondary faculty in the development and delivery of online learning courses?" The researcher was interested in learning from the experiences of faculty who participated in a district sponsored training that was designed to help instructors develop and eventually instruct an online course.

The specific online learning program that served as the case for this study was in an upper Midwest suburban school district. District administrators expressed the initial interest in online learning programs. Subsequent discussions led to an exploration of other online programs that resulted in the decision to initiate an online learning program. All secondary faculty members were presented with the opportunity to participate in the program. Program administrators provided training to interested faculty members. Subsequently, instructors offered several synchronous online courses to high school students. Ultimately, this online learning initiative transformed into a charter school.

The researcher collected data from the faculty who participated in the online program. All faculty members who volunteered for the program went through some type of training to deliver online courses. Some of the program participants completed the training program, developed an online course, and instructed an online course. The faculty who did not instruct a course completed the training and started to develop an

online course. By means of semi-structured interviews, this study gained data from both of those who actually taught a course and those who did not. The researcher designed the interview to elicit responses that were used to provide data related to seven research questions.

Research Questions

The researcher was interested in learning about influences on participation in secondary online learning programs from faculty who completed training and instructed an online course as well as from faculty who chose to discontinue their online course development. Specific areas of inquiry were categorized to address four stages of the online course development process: initial training, course development, course delivery, and post-course delivery reflections. Research questions were as follows:

1. What influences a teacher's initial decision to learn more about developing online courses?
2. What factors influence participants' perceptions of receiving an effective training experience in online course development and delivery?
3. What factors influence the course development experience?
4. What factors influence online course implementation?
5. Are there other factors that, if present, would have enabled persons who did not complete the program to achieve successful completion of the program?
6. What are the perceived effects of online course instruction for students?
7. What are the effects of online course instruction for the participating teachers?

Conceptual Framework

Gary Frantz and James King developed the primary model that guides this research. Their model, Distance Educational Learning Systems (DEL) model (see Figure 1), contains all of the elements involved in a distance education system. The portion of the model that is of interest to this study is the experiences faculty members have with what the model identifies as "transformation."

The transformation process identified in the model is involved with the transformation of inputs into outputs. In this model, the input of human resources undergoes the transformation to become an output related to an effective learning process. This study examined the experiences program participants had as they underwent a transformation. The transformation involved learning new skills in online course construction and delivery, interactions with program administrators, and creation of online content and curricula. For those who completed the online program, it also involved delivery of the online course.

As this study involved elements in the transformation process that brought about a change in the individual, it is also important to include research-based knowledge about the educational change process. The primary research-based model that guided exploration of how teachers prepared for and engaged in the online initiative is the Triple I model of educational change developed by Michael Fullan.

Michael Fullan (2001), in “The New Meaning of Educational Change,” proposes a model that identifies three major phases involved in educational change. He notes, “most researchers now see three broad phases to the change process” (p. 50). The three phases he identifies are as follows: Phase I—Initiation, Phase II—Implementation, and Phase III—Institutionalization and/or Continuation. Each phase carries with it specific identifying characteristics. The initiation phase is characterized by actions “leading up to and including the decision to proceed with implementation” (p. 53). The implementation phase refers to initial use of the initiative. Continuation or Institutionalization refers to the phase of the change process as it becomes “embedded or built into the structure” (p. 89).

These three phases have, by definition, a chronological order. There may be movement from one phase to another during the process, but in essence they are sequential components of an entire phenomenon. As used in this study, the sequential nature of Fullan’s change model assisted in understanding the experiences of program participants as data were collected in relation to a participant’s experience at various stages of the online learning program. The following table (Table 1) shows the chronological nature of the framework as it relates to the study.

Table 1
Chronological Chart of Online Learning Initiatives and Fullan's Change Phases

Online Learning Initiative	Fullan's Change Model Phase
•District becomes interested in online instruction for students	Initiation
•District presents option to all secondary faculty to participate in training about on-line instruction	Implementation
•Faculty volunteers participate in training for online course development	Implementation
•Faculty members develop online courses	Implementation
•Faculty members deliver online courses	Implementation
•Faculty members are given the option to become members of the online charter school run by the district	Institutionalization/ Continuation

Fullan's Triple I model and Frantz and King's Distance Education Learning Systems model (DEL) provided the conceptual underpinnings for investigation of this

case. In addition, both models were used to guide the construction of the research questions and specific interview questions involved in this study.

Delimitations and Limitations of the Study

The major delimitation of this study is its focus on a specific online education project that was implemented in an upper Midwest suburban school district during the 1999 to 2003 school years. Limitations of the study include acknowledging not all of the participants involved in program are involved in the study: therefore, the data may not totally represent the complete perceptions of the total program population. As well, participants' potential incomplete recall of past events and experiences affect the quality of information received. Member check was used to verify participant responses and minimize any accuracy issues. Finally, participants' level of disclosure might also have been affected by the familiarity the researcher has with some potential volunteers for the study. The researcher works in an administrative capacity in the district used for the study, and that might influence participant responses.