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University ESL Instructors' Perceptions and Use of Computer Technology in Teaching

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UNIVERSITY ESL INSTRUCTORS' PERCEPTIONS AND USE OF COMPUTER TECHNOLOGY IN TEACHING

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ABSTRACT

This interpretive qualitative study examined university ESL instructors' experiences using technologies and their personal views of technology integration. The study also explored the factors that affected these instructors' decisions for using computer and other technologies in their teaching. The informants in the study were five ESL instructors from five different institutions of higher learning in the southern state. The qualitative data were collected mainly through interviews along with self-report surveys and document materials.

Overall positive statements were found in the instructors' experience and perception of their technology use in teaching. Nevertheless, it appears that these instructors' computer use is very minimal and their beliefs and perceptions of technology use are impacted by their experience of using technologies. Eight influential factors are identified from the emerged themes in affecting these instructors' technology decisions. The factors include: perceived benefits or value; anxiety; personal style; machines and language teaching; environment; peer influence; teaching style; and time. The findings in this study also indicate that instructors' demographic information has no influence on their perceptions and use of technology despite whether or not they use computers in instruction and how they use them.

Chapter I

INTRODUCTION

What is the impact of computer technology on university instructors of English as a Second Language (ESL) and their teaching? What do they think about technology integration? How do they use technologies? Do they implement technology into their everyday teaching? In the past five years, the classrooms in institutions of higher learning have changed greatly. One of the most significant catalysts of that change is the potential availability of computer technology. As the computers and Internet have become increasingly available to teachers and students and the number of ESL students in U.S. schools and universities has continued to grow, these questions have emerged as important to the learning and motivation of students and ESL teaching. The intent of his study is to seek answers for these questions in order to understand how ESL instructors perceive technology integration in ESL teaching at the college level and, thereby, gain knowledge about how technologies can be used to enhance and enrich the experiences of language teaching and learning.

Green (1997) predicted that instructional integration and user support would emerge as the two most important issues on information technology that challenge American colleges and universities over the next couple of years. Since then, the ever-growing use of computer technology in the classroom is being realized in the universities, and there has been an increase in the use of instructional technology in higher education classrooms. It seems that university classrooms should be the showplaces of instructional technology use; however, contrary to predictions and the apparent benefits of instructional technology use in the classroom, the research literature suggests little use of instructional technologies in higher education. In other words, technology is not being regularly integrated into instruction and teachers are still unprepared for using computers in teaching except in the most basic forms of instruction, such as

drill and practice (Geoghegan, 1994, Green & Eastman, 1994, Office of Technology Assessment, 1995).

The rapid development and diffusion of technology has, possibly, also affected the entire context and ecology of language teaching today. Some articles and books addressing ESL/EFL teaching and learning describe how incorporating technology promotes students' language learning (i.e., Warschauer, 2000a). Others examine the effectiveness of computer applications such as word processing and CD-ROMs that are used in the classroom, as well as the use of language labs (i.e., Wohlers, 1992). Most of the discussions appear to be based on anecdotal evidence. Also, the literature focuses more on how learners can benefit from technology use than on what teachers really think of it. In addition, research on technology implementation concentrates more on faculty members in general than on language instructors in the universities. For the purpose of this current study, the particular viewpoint from which I would like to address issues related to technology is that of the individual teachers – the university ESL instructors.

My focus on university ESL instructors is inspired by the fact that few studies examine the ESL instructors at the college level and their use of technology in teaching and more research is needed to identify this specific group. Additionally, my experience of teaching ESL students by using various computer technologies in the classroom during my internship in a university ESL program has helped me gain more knowledge about the teaching of adult ESL students and steadily increased my understanding of the use of technology in ESL teaching and learning. It has also given me a stronger interest in the area of using technology in ESL classrooms. Furthermore, the years of experience of teaching as an EFL teacher has convinced me that teachers' pedagogical beliefs and their beliefs in the students' motives for learning are very important in students' learning behavior. Thus, a teacher's perception and attitude toward technology integration can affect not only the teacher's instructional approaches but also the students' learning. These reasons have led me to portray ESL instructors at the college level and investigate their perspectives on technology incorporation.

Statement of the Problem

Computer technology is permeating the educational arena and changing the way teachers teach and students learn. One of the most relevant issues in the classroom today might be the

implementation of computer technologies into instruction. In the postsecondary institutions, however, despite the greater access to computer technologies, a growing familiarity with computers by faculty members, and the frequent use of computers for research and course preparation, the pervasiveness of instructional technology does not necessarily correlate with classroom use (Larner & Timberlake, 1995). It seems this is not isolated to ESL programs in universities.

Numerous articles and books, including the scholarly literature and trade publications confirm how technology contributes to the promotion of ESL students' motivations to learn (i.e., Johns & Torrez, 2001). Some authors also offer special class activities, software, and use of E-mail or the Internet for instruction (i.e., Macy, 2002; Warschauer, Shetzer, & Meloni, 2000). However, little research specifically focuses on ESL instructors at the college level regarding incorporation of technology into their teaching and how they make use of technological resources for instruction. Is using instructional technology one of the most effective approaches to teaching ESL at the college level? What do the university ESL instructors think of this question? Do they actually use technologies in their classrooms to encourage students' learning of English language? Instructors perceive their teaching environments in unexpected ways and technology may have had an impact on these perceptions in that it influences the instructors' decisions of whether or not to use technology as a means to supplement ESL instruction. The paucity of the research shows the need for more empirical studies on university ESL instructors' perceptions about technology integration and their actual use of technology for their teaching.

Purpose of the Study

The general purpose of this study is to provide information concerning university ESL instructors' perceptions and use of technology in teaching. Moreover, based on instructors' perceptions of technology integration, this research will explore any possible influences that lead them to incorporate technology for instructional purposes as well as any internal and external factors that affect some instructors' decisions to not use technologies in teaching.

The specific purposes of the study are: 1) to examine if the demographic information such as age, gender, length of overall computer-use experiences, number of years teaching in higher education is associated with university ESL instructors' perceptions and use of technology in

teaching; 2) to collect data to indicate the emerging themes in their discussion of factors that influence their technology integration; and 3) to present descriptive data relative to the emerging themes of the study. This exploratory research is an interpretive analysis of instructors' personal views of technology integration and their actual use of technologies in teaching. These areas – instructional technology, computer use in ESL classroom, attitudes toward technology use in general – will be presented in detail in the literature review in Chapter Two. To accomplish the purpose of this study, the primary focus will be providing answers to the following research questions:

1. What are the perceptions and experiences of university ESL instructors about computer technology integration?
2. Why do some university ESL instructors use computer technology for their instruction while others do not?

Significance of the Study

The research performed in this study is based upon the premise that teachers are the key to successful integration of technology into teaching practices. According to Knupfer (1993), a teacher's role in computer integration into the classroom is crucial. Teachers have the ultimate control over the implementation of educational innovations; they are often the ones who introduce technology to students and to schools. The teacher is the orchestrator who provides and participates in activities that allow students to use technology as a tool to create personal knowledge, ask critical questions, find goal related information, and evaluate and integrate that information (Grabe & Grabe, 1998).

Some empirical research has demonstrated that university faculty in general hold positive attitudes toward technology but in practice few of them use it in their instruction (e.g., Chisholm & Wetzel, 2001; Beggs, 2000; Bullock & Schomberg, 2000; Bruce & Desloge, 1999; Robin & Harris, 1998; Novek, 1996). There is also an expanding literature on pre- and in- service teachers concerning their attitudes and use of technology in the classroom (e.g., Drost & Abbott, 2000; Gurbuz et al. 2000; Leh, 2000; Wang, 2000; Wetzel & Chisholm, 1998; Savenye, 1993). Despite this literature, few empirical studies contribute to understanding how ESL instructors perceive technology and how the perceptions impact instructors' ideas of integrating technology into their

instruction. It is clear that an examination of the practices of ESL teachers in using technology, theorizing, and expressing opinions about technology use in ESL teaching and learning is lacking in the literature. In fact, studies investigating university ESL instructors regarding their perceptions in relation to technology integration in teaching have not been undertaken.

In an effort to find out why university ESL educators have continued to have difficulty embracing the technology with open arms, university ESL instructors' perceptions and their utilization of technology for instruction should be studied. This present study, focusing on university ESL educators in particular, aims to fill this gap in the literature. Adding to the body of empirical research pertaining to the perceptions of university educators toward technology integration will be significant for ESL education in higher learning institutions. The findings of this study indicate the great potential of using technology to aid language learning. Also, looking at these instructors gives the future researchers a degree of understanding of this neglected teaching population and their perceptions and attitudes relative to the use of technology in ESL teaching at the college level. Specifically, this study provides information about the need for greater understanding in the relationship between teacher beliefs about technology integration and classroom instructional practices.

Delimitations and Limitations

The following statements identify the delimitations of the study:

1. The focus of the present study is limited to perceptions toward technology integration and why some ESL instructors adopt computer technology in their teaching while others do not.
2. This study is limited to ESL instructors currently employed in universities in the spring of 2003.
3. The participants are delimited to ESL instructors who have taught ESL for at least one year at the college level and who are interested in participating in my project.
4. The self-report survey is delimited to questions developed by myself based on analysis of the literature reviewed.

5. This present study is limited to the involved participants and their responses to specific questions designed to acknowledge the research questions of the study. No attempt is made to generalize beyond the discussion presented in this research.
6. Any other subjects and/or conditions not specified are considered beyond the scope of the present study.

Definition of Terms

The following terms are presented to clarify their use in this study:

ESL stands for English as a Second Language, and *EFL* stands for English as a Foreign Language. These terms are chosen for the purpose of this study.

University ESL instructor, for the purpose of this study, refers to any English instructors who teach ESL courses in university settings.

ESL student/learner, for the purpose of this study, refers to any adult nonnative English speakers who enroll in ESL programs in the higher learning institutions.

Perception or attitude, for the purpose of this study, is used broadly and refers to an individual's degree of positive or negative feelings about the use of technology in teaching.

Technology or technologies, for the purpose of this study, is used in the broadest possible sense that includes the current computer-related multimedia, and telecommunications, as well as so-called old technologies such as audio, video, films, and television (it is assumed that other technologies such as the book, chalkboard, and overheads are in common use in the classroom by the majority of instructors and are not considered in the old technologies category).

Instructional/educational technology, for the purpose of this study, is defined as the use of technology to enhance the teaching and learning process. It involves the use and application of technology-based tools in the educational process (Jones & Paolucci, 1999).

Technology integration/implementation, for the purpose of this study, is defined as the instructional use of technology within the classroom setting.

Use of technology, for the purpose of this study, refers to using any technologies such as VCRs, video players, and so on and computer related media, such as multimedia, hypermedia, telecommunications, computer-based and computer-assisted instruction, and distance learning.

In this study, I often speak of technology integration as synonymous with technology use in teaching.

Organization of the Study

Chapter One presents the introduction and background for the study. The purpose of this study is also presented with the research questions. Moreover, the problem and significance of the study are presented in this chapter. This chapter also defines the terminology used for the study and lists the delimitations and limitations of the study.

A review of the literature concerning computer technology integration with an emphasis on ESL education at the college level comprises Chapter Two. The literature review consists of a brief historical background of the use of technology in ESL and includes instructor and student related literature on technology use in language teaching and learning. The attitude of faculty in general toward technology use is also included in the review.

Chapter Three describes the research design, participants, procedures, qualitative analysis, and issues of trustworthiness. This chapter includes three major sections. The first section is the design of the study, consisting of research questions. The second section presents data collection, including the sites, sampling, participants' general information and a discussion on ethical issues. The third section includes the procedure of data analysis.

In Chapter Four, a presentation of research findings and analysis is given.

Finally, Chapter Five encompasses an interpretation and conclusion of the results based on the themes that emerge from analysis of the data. The practical implications and recommendations are also provided for the future research.

Chapter II

LITERATURE REVIEW

This review is organized into sections in relation to the research questions about what influences university ESL instructors' decisions to use or not use technology in ESL teaching and what are the perceptions and experiences of university ESL instructors are about technology use in teaching. I have included literature in general on instructional technology in higher education, student and teacher related literature, and some literature on attitudes of faculty in general toward technology integration.

Overview of Literature

Instructional technology has existed as long as the concept of teaching and learning has; it has become most common in the past three decades. The demand for increased instructional technology use in higher education has become more urgent. Both the demands of the marketplace and the demands of students themselves require higher learning institutions to use more instructional technology. Much of the literature related to technology use focuses on the effectiveness of a particular technology like an electronic bulletin board system (i.e., Benton, 1996) and computer-assisted language learning (CALL) (i.e., Chapelle, 1998; Egbert & Hanson-Smith, 1999). The literature addresses very little why a certain technology is or is not used or the degree of instructors' use of it. Other studies describe students' use of computers and their attitudes toward technology use in their learning (i.e., Clovis, 1998; Carey & Crittenden, 2000; Forsyth & Archer, 1997).

Most of the studies are case studies of exceptional instructors or teachers using technology for their instruction, weighted toward elementary or secondary schools as opposed to higher learning (i.e., Becker & Ravitz, 1994; Ertmer, Ross, & Gopalakrishnan, 2000; Zhao, Byers,

Mishra, Topper, Chen, Enfield, Ferdig, Frank, Pugh, & Tan, 2001). Other articles available in the literature are discussion articles in which authors expand on their own thoughts on the topic of technology use in teaching based on their own experiences and/or readings (i.e., Arlington County Public Schools, VA, REEP, 1999; Cunningham, 1998). Many anecdotal references that appear in books and/or trade journals concerning the use of technology in ESL are about class activities and effectiveness of software applications (i.e., Braine, 1997; Warschauer, 1995). At present, there is little research addressing instructors' perceptions toward the use of technology in higher education, and even fewer studies investigate ESL instructors' integration of technology and their attitudes toward technology use in the classroom. Nor has much attention been paid to how the attitudes might have impacted adoption of technology in ESL education and ultimately impacted students' language learning.

Research that does discuss faculty use of technology in higher education (i.e., Novek, 1996; Bullock & Schomberg, 2000; Chisholm & Wetzel, 2001) usually focuses on the attitudes of faculty members in general rather than in examining why faculty or instructors do or do not use the technology. To date, the literature does little to explore the dynamics of what really happens in electronically mediated ESL teaching and learning environments, what ESL teachers and instructors think of technology integration, and why some use technology in their teaching and others do not. This literature review attempts to provide some background related to instructional technology used in ESL and language education, as well as information about instructors and students in language teaching and learning settings. Only by understanding what motivates or hinders teachers' use of technology in their teaching can we ensure whether or not technology can be acknowledged to be an integral part of teaching today.

It should be noted that for the purpose of this review, I have included literature that addresses both second language and foreign language because of the lack of empirical research on technology use in the field of ESL education. I also use the terms second language and foreign language interchangeably. In addition, because computers are a dominant technology, much of the literature reviewed focuses on computer-based technologies in language teaching and learning; therefore, the majority of technologies mentioned in this review refer to computer-related technology used in the classrooms, such as traditional computer-assisted language uses, multimedia technology, and networks. However, this does not mean that the studies involving other technologies are not as important.

Instructional Technology in Higher Education

Technology is inseparable from today's daily life. While business, industry, and even governments have been using technology to more effectively meet the needs of the consumer (Salisbury, 1996), education is making strides. The educational technology era has arrived and with it, major changes have occurred in both education and technology. The Association for Educational Communications and Technology (AECT) officially adopted and approved the following definition of instructional technology: "Instructional (educational) technology is the theory and practice of design, utilization, management and evaluation of processes and resources for learning" (Seels & Richey, 1994, p. 1). According to Newby, Stepich, Lehman, and Russell (2000), design is a substantial domain of instructional technology, and scholars in that field recommend that instructors give attention to the process of specifying conditions for learning before examining media use.

Media utilization includes the selection of the communications medium and the delivery system. Media and delivery systems have changed over time. When an instructor selects the media and delivery system based on the criteria that emerge from an instructional design process, a substantially increased probability is that the technological product will help students achieve their learning objectives in a much more efficient and effective manner (Newby et al., 2000; Ragan, 1999). Utilization involves the adoption of innovations. As new technological products and processes become available to educational professionals, they need to be in a position to evaluate them and provide students with access to the best of the new (Newby et al., 2000; Ragan, 1999). In summary, utilization is critically linked to the practice of design, which is out of the scope of this study.

Using instructional technology involves management such as the acquisition, maintenance, and delivery of services and supports that encourage instructors and students to use technology. Although evaluation is the last component of the definition of instructional technology, it receives much attention in higher education. Formative evaluation yields substantial improvements in the quality of the finished product, and summative evaluation yields important information as to whether the instructional system functions well on its own, independent of its original designers. When discussing instructional technology, we usually consider the four

components, design, utilization, management, and evaluation as a whole. In this study, however, I will focus only on the component of utilization and its impact on language teaching and learning, because it is from this perspective that I will be able to present the information regarding my research questions and thereby to significantly add value to the ESL teaching and learning process.

According to Frances et al. (1999), instructional technology will radically change higher education in the future. In fact, much discussion in the literature suggests that instructional technology has been widely used in education, particularly in higher education with distance learning. Great opportunities exist for technology-enhanced learning environments, and faculty and student demand is also growing. Colleges and universities are stepping up to the challenge of putting instructional technology to work in the classroom. Some colleges are just getting under way, and others have made instructional uses of technology a high priority. With computers being more accessible to faculty than ever before, and computer capabilities increasing dramatically (Breithaupt, 1997), instructional technology has continued to play a major role in higher education. It has transformed university and college classrooms and influenced to some extent faculty's pedagogical beliefs and changed the teaching and learning environments.

Over the past years, the use of instructional technology in academia has increased at an astonishing rate. Research relating to the diffusion of innovations in higher education has been based primarily on looking at the role of computer technology in schools and classrooms and the impact of technology on students and their learning outcomes (i.e., Hanson-Smith, 1997; Johns & Torrez, 2001; Meskill & Mossop, 1997). For instance, Baker, Hale and Gifford (1997) in their discussion of the model of mediated learning which puts technology to use in the classroom compare traditional classrooms with well-designed computer-related instruction and the results have shown that students' learning time has been decreased; their scores and attitudes toward learning have been improved. The potential value of integrating technology into instruction has also been documented in the literature. For example, Armstrong (1996) points out that computers can ensure that adding or updating lecture material is easier, delivery of information is consistent from class to class, the technical quality of the presentation does not diminish with age, and presentations can be designed to match the exact needs of the students.

Although there is only a very small body of research on teachers' use of instructional technology, attention to technology use in higher education has been readily directed toward

faculty use of instructional technology in the university classroom (Spotts & Bowman, 1995; Gueldenzoph et al. 1999-2000). There has been increasing pressure to change not only what faculty in higher education teaches, but how they teach as well. Advances in technology are changing the dynamics of teaching and learning in higher education (Grossman, 1999; Guskin, 1994a, 1994b; Merisotis & Phipps, 1999; Ragan, 1999). These changes present challenges to the traditional teaching model, yet offer educators opportunities to expand and change their instructional methodologies in order to improve instructional effectiveness and to better prepare students for today's and tomorrow's society. Advancements in instructional technology also offer an array of unprecedented opportunities and challenges for instructors engaged in using technology in their teaching.

These reviewed studies provide this research project with an overall background of how instructional technology can be utilized in higher education institutions with ESL instructors. As Gueldenzoph, Guidera, Whipple, and Dutton (1999/2000) show in their work, there is a strong relationship between technology and faculty perceptions of effectiveness of technology use. They further indicate that the more individualized a faculty member's teaching style, the more likely he or she is to employ technology in classroom. Nevertheless, studies have shown that various technology tools can support the teacher and the student to "turn toward" a joint task and facilitate their reciprocal understanding of the situation (Jarveka, Bonk, & Lehtinen, 1999).

Instructional Technology in ESL

In recent years, the composition of the American population has become increasingly diverse and as a result the number of nonnative English speakers has been increasing on the campuses of K-12 schools and postsecondary institutions. In addition, more foreign students are entering the U. S. institutions of higher learning, as well as many immigrant students who seek American dreams of a college education and enroll postsecondary institutions. The need for ESL instruction has become more and more important in K-12 schools and postsecondary institutions as well.

According to Vandrick, Messerschmitt, and Hafernik (1996), ESL classrooms have come to reflect the changes that have taken place in U.S. society in the past three decades. The use of technology in ESL settings is not a new application and has sparked keen interest among

researchers and practitioners since the 1970s, when computers have been used to support second and foreign language learning. As Wetzel and Chisholm (1998) have revealed, technology is embedded in the context of language arts. One of the most prominent technological devices for second language instruction has been the language learning laboratory using a series of audio devices (i.e., Angelis, 1973; Holmes, 1980; Stack, 1964) especially during the 1960s and 1970s. In the 1980s, the application of technology in language classrooms included the use of film, radio, television, language labs with audio and videotapes, computers, and interactive video (Cunningham, 1998). Various types of computer-assisted language learning (CALL) also became commonplace (Iandoli, 1990). Into the mid 1990s, the use of hypermedia, multimedia, the Internet, especially the World Wide Web, and various forms of distance learning become widespread (i.e., Macy, 2002; Merisotis & Phipps, 1999; Ragan, 1999). Presently, a significant amount of literature has explored the use of technology in relation to teaching and learning languages more effectively (i.e., Kern & Warschauer, 2000; Warschauer, 2000b; Warschauer, 2002).

Dunkel (1990) argues that the possibilities of using computer technology as a tool can include increasing language learners' self-esteem, vocational preparedness, language proficiency, and overall academic skills. Interest in using computers as tools to support language learning is growing, both from the perspective of a language educator and that of a language learner. However, among those studies, very little attention has been given to the ESL instructors and their students at the college level, much less their use of computers in teaching and learning.

Benefits of Technologies in Language Teaching And Learning

With the national standards for foreign language teaching providing suggestions and guidelines for developing activities to promote listening, speaking, reading, and writing in language learning (American Council on the Teaching of Foreign Languages, 1997), computer technology holds the promise and potential for offering ways in which teachers can help students improve their language skills. During the last few decades, the communicative teaching method of language teaching, which focuses on oral communication as the ultimate goal of language teaching, has replaced the grammar translation teaching method, which emphasizes students' spelling, reading, translating, and writing ability (as cited in Leh, 1995). The shift in ESL

teaching method to the communicative teaching approach has required the call for more authentic communication in the classrooms of ESL and led to an increasing use of technology.

Discussions of technology use in ESL and other language teaching usually focus on the benefits of the application of certain technologies in specific language areas. Major benefits of using computer technology cited in the literature include the advantages of multimedia, the Internet, and various forms of technologies explored by many researchers and practitioners. For instance, Liu (1994), Liu and Reed (1995) discuss hypermedia technology as a tool to enhance vocabulary learning among non-native English speakers. Kramsch and Andersen (1999) assert that multimedia technology can provide authentic cultural contexts that are important for language learning. In a study investigating the factors involved in applying multimedia in teaching English as a foreign language, Mustafa (2001) shows that there are variations in effect of those factors on using multimedia as a teaching aid in improving the oral skills in a foreign language. Others report Internet-based tools used in second and foreign language teaching and learning. For example, Wang (1996) provides descriptions of employing E-mail as a writing tool for dialogue journaling for ESL students to interact with more people, which helps the students in their written language acquisition. Also, more opportunities are offered by using E-mail to connect language students with native speakers to facilitate discussions on cultural issues (Cononelos & Oliva, 1993) and the activity of intergenerational E-mail exchanges among immigrant learners (i.e., Gaer, 1995). In addition, studies on web-based learning have reported that the World Wide Web (WWW) can be an efficient instructional technology in higher education. For example, Liou (1997) reports that when supportive Web-based materials are provided, the reading comprehension and writing skills of ESL college students have improved. Moreover, the increasing use of computer-mediated communication (CMC) has also become one of the most commonly discussed topics in language teaching (Alvarez-torres, 2001; Gonzalez-Bueno & Perez, 2000; Murray, 2000; Salaberry, 2000; Warschauer, 1995-1996; Warschauer, 1997; Zhao, Alvarez-Torres, Smith, & Tan, 2000).

While the interest in technology appears to center on the multimedia capabilities of providing authentic learning situations, some advocate CALL programs (Chapelle, 1998; Egbert & Hanson-Smith, 1999), especially voice-interactive CALL for improving learners' speaking skills (Ehsani & Knodt, 1998; James, 1996). However, reading and writing are the two most frequently explored areas when discussing advantages and limitations of CALL regarding its

applications in various skills areas. Furthermore, some educators assess the value of computer-assisted reading (i.e., Hong, 1997) and examine the effectiveness of computer-based grammar instruction (Nutta, 1998). Others like Chun and Plass (1997) consider the potentials of using video and audio to support text comprehension. Still others discuss using films to improve second language proficiency (Cardillo, 1997).

Technology in ESL

In addition to the discussions dealing with using technology in language teaching that focus on foreign language instruction, the literature concentrates on English as a second or a foreign language as well (i.e., Bezard & Bourguignon, 1994; Golas, 1995; Kitay, 2000; Markham, 1999; Walker, 1994; Wilson, 1994; Wood, 1999). Most of this literature concerns available language software available that uses a variety of approaches to teach language skills and addresses the importance of matching the students' learning style to the style of technology interaction. There is also much reviewed literature examining the effectiveness of different software application on ESL students' learning to support specific skills acquisition (i.e., Derwing, Munro, & Carbonaro, 2000; Schnackenberg, 1997; Shea, 2000). Most articles on this topic are discussions of the general benefits of word processing software and commercial software. For instance, Hyland (1993) describes word processing software used in the writing process for ESL learners. Although a sizeable number of studies focus on the use of software application and its advantages for improving specific language skills or increasing opportunities for individualized instruction, very few skill-specific research studies are found and even less discuss how technology can be used to support reciprocal understanding between a teacher and a student (Jarveka, Bonk, & Lehtinen, 1999).

Warschauer (1999), in his study exploring how technology is used in four university ESL classrooms, concludes that media diversity should be included in second language teaching. However, studies evaluating using technology in second language instruction report contradictory findings. Some research reports positive effects of using technology in teaching ESL (Cardillo, 1997; Fern, 1993; Petersen, 1990). Claybourne (1999), in his article, points out that technology can be used to enhance language learning. For instance, key pal exchanges using the Internet enable students to learn a language in context by corresponding with their peers. On

the other hand, many other studies report negative effects. For example, Stenson (1992) indicates in the study that using computer-based displays of speech in teaching pronunciation is not significantly effective in training international teaching assistants. In addition, Walker (1994) in her study about the effectiveness of hardware and software in a language center has found that using movies as video resources for multimedia ESL software is not successful because it was not a proper use of the resource, there was not enough interaction, and too much computer instruction was emphasized in a foreign language.

Even though the primary research on technology use in the field of ESL education is limited in certain studies to the benefits or evaluation of individual technologies like the multimedia software, the use of these technologies may still inspire pedagogical changes by the instructor, which also inspires students and influences students, ultimately helping them gain a better understanding of integrating technology into ESL teaching and learning. In addition, literature thus far seems to indicate that instructional technology in language and ESL teaching and learning shows a great deal of promise despite the fact that there has not been convincing evidence on the use of technology to improve English language skills in all areas. However, while much research on using technology in teaching concentrates on individual technologies as a central factor in its success, it is clear that to date, in ESL education, "there has been no study dealing with factors other than the courseware that effect using multimedia in teaching English as a foreign language" (Mustafa, 2001, p. 4). Review of the literature discussed above helps the current study gain knowledge concerning the impact of using technologies in language education pertaining to ESL instructors and provides the possible factors that might be significant in human-computer interaction in their teaching with technology at the college level.

Student and Computer Technology

The impact of technology and information has affected ESL education, as well as ESL students. Today, as students with varied backgrounds enter colleges or universities and seek education, a shift in the characteristics of student populations is occurring, and universities need to look for ways to serve this market. One of the prominent characteristics for classrooms in American schools and colleges is that more and more students are ESL speakers who are either participating in classrooms in which English is the main language for delivering instruction or

attending ESL courses in preparation to enter the higher learning institutions in North America. Their characteristics differ considerably. They may have different levels of experience and learning, different learned capabilities, different abilities and traits, different language proficiency in both first language and second language, and varying knowledge of technologies.

The student population may dictate some technologies that have advantages for encouraging or promoting their use in instructional situations. Research supports the use of technologies with ESL students to help them acquire the linguistic, social and technological skills needed for success in the digital age (McGrath, 1998; Warschauer, 1996). In its report, the Office of Technology Assessment (1995) states that the use of visual images and sound to enhance lectures may pique student interest and motivate student learning. According to Bowman and Plaisir (1996), integrating multimedia helps ESL students gain more opportunities for success and the use of the varied technologies truly motivates students and enriches the ESL learning environment. It may be true in ESL settings where an ESL student can make mistakes without feeling guilty when interacting with their instructor and peers via online activities, and it ultimately encourages the student to learn more.

Because the levels of students in a class are different; that is, the ability of some students is high and that of others is low, using interactive and individualized technology-based instruction, including electronic mail, computer conferencing, or other similar telecommunications allows ESL students to find greater opportunity to participate and feel more comfortable joining in the class discussions. They may also feel greater equity and opportunity in online discussions. With more time to formulate questions and statements, students with limited language skills may be able to think about their answers and respond to them the way they feel more confident about. Moreover, if, at the lower levels of English language skills, the ESL students can also find a variety of online exercises that are suitable for them to practice listening, speaking, reading, and writing at their own pace. In a study of college students' perceptions and experiences with technology in a computer-assisted language learning environment, Bradley and Lomicka (2000) found that tasks and activities that involve the use of the computer to generate materials can promote successful learning. Levine, Ferenz and Reves (2000) in their study also surmise that the technology-enhanced learning environment contributes to the development of EFL critical literacy skills to a greater extent than the conventional learning environment does.

It is becoming increasingly important that the use of technology in teaching meet the needs of individual students' learning abilities and success in the classroom. According to Strech (1995), the use of technology in language instruction directly impacts students now and in the future. With the use of various technologies, ESL students may be able to overcome some barriers that they encounter when learning English. However, technology use is a responsibility for both the learner and the teacher. For ESL students, learning academic content is complex. They need to learn the English language and use it for learning; therefore, in adopting technology into teaching, ESL instructors may have to consider the selected technology and the different levels of the students and take into account that these ESL learners may have special needs in connection with technology used and English language skills. On the other hand, the ESL learners need to be familiar and comfortable with computers and other technologies, so they can reach their own goals to emerge into this world. Nevertheless, learning processes are human, not technology, driven. Students must learn to adapt to new situations by learning how to think and how to learn and develop language and technical skills for today's job market, which requires more abstract problem solving, creativity, and divergent thinking.

Some trade publications and other journals often have anecdotal mention of learners benefiting from the use of technology or technology used to enhance learning for special needs students like ESL learners. For example, Northup and Tracy (1998) in their article describe how the Kyrene School District in Arizona is using technology to enhance student learning and increase student achievement in both the foreign language and ESL programs. Other examples of how higher education is using technology to benefit students can readily be found by looking at trade journals such as EDUCAUSE and T.H.E. Journal.

In addition to the literature mentioning technology use and learners in language learning settings, a few studies have looked at students' perceptions and attitudes toward technology use and indicate enthusiastic responses and positive attitudes from the language students. Ritter (1993), for instance, reports that ninety-two percent of the students express a preference for using a computer program while learning new vocabulary and eighty-eight percent "regard it as a good addition to more traditional ways of vocabulary acquisition" (p. 66). Ritter also reveals in his work that students' anxiety levels are lower when they use the technology. He suggests that when students' anxiety levels are lower, they become more active in participating in the learning process. In their study of investigating students' reactions to the Web-based vs. lecture-based

instructional formats, Sankaran, Sankaran, and Bui (2000) conclude that matching course formats with students' learning strategies and their attitudes toward the specific formats can enhance students' learning performance and affect their learning outcome. They also find that newly immigrated ESL students prefer the Web-based instruction. Beauvois and Eledge (1996) in their work examine the attitudes of university students toward using a synchronous tool and find that most students, regardless of their personality profiles as measured by the Myers-Briggs Type Indicator personality test, perceive computer-assisted classroom discussion to be affectively, interpersonally, and linguistically beneficial. Also, some research reveals that students like online activities that allow them socially interact with both native and nonnative speakers (Donaldson & Kotter, 1999; Lee, 1997, 1998; Osuna, 2000; Van Handle & Corl, 1998). These studies seem to suggest that students generally enjoy the autonomy of working alone and at their own pace by using computer-based technologies even though Soo and Negeow (1998) oppose that autonomy and self-direction do not necessarily lead to improved language learning. The limitation of these studies is that by focusing on the students, they fail to take into account the teachers' beliefs and attitudes as factors influencing students' use of technology in language learning.

Is there any likelihood that students' knowledge about using technology may influence teachers' use of technology in their teaching? Frand (2000) in his article reveals that students are accustomed to being able to access the computer technologies and are already arriving in the universities with a familiarity with the technologies and an established experience in distributed learning. Albright and Graf, as early as 1992, have pointed out the fact that "most of today's college students have grown up with technology and often are more technologically literate than many of their professors" (p.13). Most students have greater access to technology such as computers at home at an earlier age. By the time they reach the university level, many are very sophisticated technologically, including most of the ESL students enrolling in American colleges.

Even though there is no information on learners influencing the use of instructional technology in language education, the literature discussed above indicates the benefits of language students' use of technology in their language learning. These studies also suggest the students' positive attitudes toward technology use in the classroom. Clearly, understanding the impact of technology use on language students and their beliefs about language learning with

technologies is helpful since this present study is to investigate ESL instructors' incorporation of technology into their instruction that might be affected by today's language students.

Instructor and Computer Technology

No discussion of technology's impact on teaching would be complete without the input of instructors. Teachers play a decisive role in how successful technology will be in education (OTA, 1995). Teachers are an important factor in the learning process, and how they think and plan relates to the process. As teaching is a dynamic activity, the teacher is the key to its coordination and success (McLaughlin, 1991). The thinking, planning, and decision-making of an instructor make up a major part of the context of teaching. As suggested by Clark and Peterson (1986), this context of teaching includes the conditions within which students learn, teachers teach, and materials and curricula are interpreted. Teachers' behavior, including planning and technology-use decisions, is substantially influenced by their thought process (Clark & Peterson, 1986). What they think is no small part in guiding their actions. A teacher's thinking about the worth of instructional technology can influence his or her potential use, which can be part of the learning process. The use of technology can then influence the expected outcome. It may also hold true that a teacher's belief in integrating technology to teaching and learning is very important while the appropriate use of technology with international students acquiring English as a second language is of critical concern.

Interestingly, in spite of the widespread recognition of technology use and the effective use of computer technology in the classroom (Education Week, 1997; Office of Technology Assessment, 1995), "there has been relatively little research on how and why American teachers use technology" (OTA, 1995, p. 51). There is even less research that has been done on technology from the point of view of teachers. The few studies conducted on teachers have typically focused on exemplary technology users (i.e., Becker & Ravitz, 1994; Ertmer, Gopalakrishnan, & Ross, 2001; Pierson, 2001; Zhao et al., 2001), rather than those who do not use technology in teaching.

Since computer technology started to emerge in higher education, most university instructors have become familiar with technologies. Technologies such as computers and telecommunications may give teachers and professors access, through networks, to a wealth of

information. Using E-mail and conferencing capabilities may allow teachers to confer with colleagues and exchange ideas on a variety of topics. Instructors who understand the advantages of the technology may be likely to incorporate it into their instruction. ESL professionals have also seen the technological influence on English language teaching. Some foreign language and ESL educators are fond of using technologies in their teaching because of the authentic teaching materials that allow learners to be exposed more fully to cultures of target language (Herbst & Wiesner, 1992; Hill, 1991). The language instructors see the computer as an optional tool among many to be exploited for language learning purposes and see how it can be employed as a tool for helping teach the language. Nevertheless, few instructors use this tool in their teaching (Leh, 1995). While the enthusiasm for using computers was strong during the 1990s, language educators also stressed the importance of applying design principles in developing CALL applications (Allen & Periyasamy, 1997; Collentine, 1998; Masters-Wicks, Postlewate, & Lewental, 1996; Oller, 1996) and the need to create computer software based on sound pedagogy and language learning theories. With the growth of technology in teaching being so rapid, why have ESL instructors been generally slow to adopt technology, and even slower to make productive use of it?

Early studies on the impact of technology on teaching show that teacher use of technology is generally influenced by their knowledge of the technology, access to instruction and support, and incentives that favor teacher use or disuse in the classroom (Pisapia, 1994). The findings of Marcinkiewicz's (1994) study indicate that self-competence and innovativeness are most closely related to teachers' computer use. Why are some instructors considered exemplary technology users while others avoid technology? Why do they choose certain technologies over others? Becker and Ravitz (1994) in their study suggest that four factors in the teaching environment made exemplary computer users: collegiality among users, school support for using computers for consequential activities, resources allocated to staff development and computer coordination, and small class sizes. Becker (1998) in his study on teachers' Internet use also reports that the three most important variable in predicting a teacher's Internet use are the teacher's level of classroom connectivity, a teacher's computer expertise, and the teacher's pedagogical beliefs and practices. Though the studies summarized are K-12 level teachers, the findings may also apply to higher education instructors and predict the factors that may influence university faculty

members, especially ESL instructors' decision on using technology in their teaching at the college level.

The factors that contribute to university instructors' use of technologies for instructional purposes have been researched continuously in the past decade. The factors offered as inhibiting or encouraging the use of technology in teaching are ones directly related to the instructor. In their work, Albright and Graf (1992) cited the following examples: faculty commitment to traditional teaching methods, fear of technology, hesitancy of faculty members to recognize technology as an integral part of the curriculum, and undergraduate experience. Faseyitan and Hirschbuhl's (1992) research indicates that the university faculty's general attitude towards computers and utility beliefs are the significant predictors of adoption of technology for instruction. Early studies also mention that few instructors use technology in their teaching because they do not have enough access to equipment (Leh, 1995). Nowadays most postsecondary institutions can provide enough access to equipments for instructors and students, making such a problem non-existent today. Technologies have moved on. Kagima and Hausafus (2001) suggest that lack of educational opportunities, institutional support, and promotion and tenure rewards are still significant barriers.

While these factors may be considered as external influence on instructors' use of instructional technology, their internal motivations cannot be ignored. In a review of the literature examining social cognitive factors influencing faculty's use of technology for instructional purposes, Dusick (1998) indicates that based on social cognitive theory and human performance models, there are some factors that influence faculty's technology integration can be grouped into such categories as personal, behavioral, and environmental factors. She further points out that the personal and behavioral factors include faculty's attitude and anxiety, self-efficacy, willingness to make a time commitment and take personal risk, computer competency, beliefs, knowledge, perceived relevance. In Bruess' (2002) study, the findings suggest that the instructors' motivation, their personal interests in and needs for technology, student knowledge of using technology and their access to equipment are impediments to instructors' use of technology in the classroom.

Fear of technology or anxiety may influence use of technology in teaching (Albright & Graf, 1992; Bruce & Desloge 1999). If instructors experience anxiety with technology, they will be less likely to use it in their instruction. Some instructors are concerned with the issue of

delivering computer-based instruction to their students, who are sometimes more literate than their instructors. As a result, they are compelled to learn about the new computer technologies as quickly as possible and as adult learners, may experience anxiety and frustration during this process. With students more technologically capable than the instructor, some instructors may seek to avoid uncomfortable classroom situations where the student would be showing the instructor how to operate the equipment. The experience that the instructor has with the equipment or software may definitely affect the decision to use technology. While teachers are the ones who feel the need for greater knowledge of the equipment and greater knowledge of what technologies to use and where to use them (OTA, 1995), how do they handle such a situation that students' ability of using technology is greater than the instructor? This suggests that if technology is to be infused in the classrooms in higher education, including ESL classrooms, one thing that may be considered is the potential anxiety of the instructors expected to use the technology.

University instructors who are hesitant to adopt new instructional technologies often cite a lack of time to learn the new technologies or prepare for lessons as a reason for not using them. It might be true that without adequate time to learn to use the computer or not given time to learn how to integrate technology, teachers will remain wary and fearful of the technology. Acceptance is not necessarily a quick process. The university instructors also often require proof that using technology will be advantageous to teaching and learning even though technology can provide them with continuing education access to new ideas, other professionals outside their immediate area, and support needed as they apply the new techniques (OTA, 1995).

A teacher' teaching style based on theories and beliefs may also either inhibit or promote his or her use of instructional technology. Clark and Peterson's (1986) review of research on teachers' thought process implies that teachers do have theories and beliefs systems that influence their perspectives, plans, and actions. Consequently, it seems that instructors who constantly seek change and improvements derived from new theories, and experiment based on these theories and beliefs, may be more likely to try new technology without waiting for empirical evidence of its effectiveness. Based on the findings about the teacher educators' pedagogical beliefs, Chisholm and Wetzel (2001) suggest that the educators' high comfort level with technology use in classrooms is related to their constructivist approach to teaching. Their cultural preferences and instructional strategies also contributed to the influence of their use of

technology. Pierson (2001) in her case studies on exemplary technology integrators also indicates the positive relationship between the teacher's pedagogical expertise and technology integration.

Few studies deal with teacher/faculty training for using technology. Examples of higher education institutions offering workshops on learning technologies and computer training programs can be found in Beggs's (2000) and Bullock and Schomberg's (2000) studies. According to Bullock and Schomberg (2000), through this type of technology training program, university faculty members have understood the role, use, and benefits of technology for both teaching and learning in higher education. Findings in Beggs' (2000) study also indicate that faculty has also recognized some common barriers to instructional technology and influences that help them overcome the barriers in the adoption of technology into instruction. Those results formed the profile of faculty's experiences, attitudes and values in relation to the technology integration initiative (Bullock & Schomberg, 2000).

Though limited, these related reports have pointed out some possible predictors in teachers' using technology for instructional purposes. No research, however, has focused on the factors related to the attitudes of language teachers, including university ESL instructors. Is there any likelihood that university ESL instructors view technology integration differently? Since the instructor is the primary focus of my study, when I look at this particular group of instructors in the situation of technology integration, I will take into account not only the factors mentioned above but also the variables that influence instructor thoughts and attitudes toward technology in language teaching and learning.

Attitude toward Using Technology in Teaching

As more and more educational institutions have adopted technology into their everyday work in the past years, and as teachers are being compelled to include technology in their everyday teaching practices, beliefs and attitudes often account for a large part of the teachers' willingness or reluctance to participate in the use of technology in their classrooms. In fact, beliefs and attitudes toward technology use play an important role in the adoption of instructional technology and likelihood of influencing students' learning in the classroom. It is important to note that the issues in research on faculty attitudes in relation to technology integration can

contribute different results based on various factors such as environments and individual preferences.

A number of studies have examined the teachers' beliefs and attitudes toward technology with concentration on elementary and secondary education (Becker, & Ravitz, 1999; Dexter, Anderson, & Becker, 1999; Ertmer, Gopalakrishnan, & Ross, 2001; Ertmer, Ross, & Gopalakrishnan, 2000; Marcinkiewicz, 1994; Winnans & Brown, 1992). Others look at pre-service and in-service teachers to examine their perceptions of teaching with technology. These studies investigate impact of the computer training programs or technology courses on teachers to examine their attitude changes (Drost & Abbott, 2000; Gurbuz et al. 2000; Kellenberger, 1994; Leh, 2000; Savenye, 1993; Wang, 2000; Yildirim, 2000). Wetzel and Chisholm's (1998) study on attitudes of pre-service teachers majoring in ESL and BLE (bilingual education) towards the technology courses indicates that the courses increased the pre-service teachers' comfort level and help them gain confidence in their ability to integrate technology into ESL and BLE language arts classrooms. The teachers also appear to improve the attitudes toward computers and their use. The data from Gurbuz, Yildirim, and Ozden's (2000) study show that student teachers developed positive attitudes and their confidence increased with computers following the participation in the computer literacy course. The outcome of these studies, as Gurbuz et al. note, support the view that participation in a computer course affects pre- and in-service teachers' attitudes toward computers positively.

Literature about technology integration in higher education generally discusses the integration of technology into teacher education programs (i.e., Ennis & Ennis, 1996; Zachariades, Jensen & Thompson, 1995; Speaker, Dermody, Knighten, Wan, & Parigi, 2001; Topp, Mortenson & Grandgenett, 1995), with a few focusing on faculty's beliefs and attitudes toward distance education or certain technology used in teaching (i.e., Montgomery, 1999). The small number of studies that do focus on technology and higher education instructors appear to be based on case studies about outstanding professors who are integrating the latest technology in innovative ways (i.e., Chisholm & Wetzel, 2001). Among these studies, there is generally a positive response toward computer technology. As shown in the work of Spotts and Bowman (1995), a majority of the faculty holds positive attitudes toward technology and reports that instructional technologies are important to their teaching but they continue to depend upon more traditional methods for delivering instruction.

A search on language instructors' attitudes toward using technology in their teaching brings a study on the attitudes of foreign language instructors through a technology training workshop in a university (Leh, 1995). This study reports that the language instructors' attitude toward using technology in language teaching, including ESL teaching, is very positive although technology is not heavily used by the instructors; in other words, their actual level of use is minimal despite the two-week workshop. Based on the findings of two surveys answered by language instructors in an English-teaching unit at Hong Kong University, Bruce and Desloge (1999) discover that issues of technology, workload, and support can contribute to levels of anxiety and resistance in the workplace. They also find that some language faculty remain skeptical that technology can enhance language teaching despite there is a positive response to the prospect of having to integrate technology into teaching practices. The real administrative and logistical problems of implementation are also the instructors' concerns. These data agree with what other literature indicates that language instructors are in favor of using technology in their teaching because of authentic teaching materials provided by technology and learners allowed to be exposed more fully to cultures of target language (Hill, 1991; Herbst & Wiesner, 1992). However, these studies also suggest that despite the increasing positive attitude toward the use of technology for instruction, many educators still fail to implement technology into instructional settings.

Today, the communications and information systems available are unprecedented. A satellite dish, a computer network, an online service, or local or distant telecommunications system are common in K-12 schools and higher learning institutions. Not only are these technologies utilized by the administration, or the teachers, but also by students. Furthermore, the predictors of using technology that have been identified as attitude, anxiety, and receptivity to change that has been the primary area of interest in instructional technology are less existed to today's instructors in colleges and universities. Then what has really hampered teachers' integration of technology?

Even though the literature does little to answer such questions as to why some instructors in the university choose not to use computer technology for their instruction and research, it is supportive of the influence of instructors on instructional technology use. Another major limitation of these studies is the lack of focus on language teachers, especially ESL instructors, since most of the studies look at teachers in general. However, despite a search of literature failed to locate any research on investigating ESL instructors' perceptions and attitudes toward

technology use in the classroom, the literature discussed above helps to establish useful information for the present study about the attitudes of teachers toward the use of instructional technology.

Summary

The majority of reviewed studies, including the anecdotal articles, indicate the effectiveness of individual technologies used in the language classroom, instructors' and students' use of computer technology in their teaching and learning, and their overall attitudes about integrating technology into instruction. From the above discussion, it becomes clear that little empirical research concentrates on ESL instructors and their attitudes toward use of technology in teaching from K-12 to postsecondary institutions. Nor has research been conducted about what motivate university ESL instructors to resist or embrace the use of technology for instruction.

What do ESL instructors really think of integrating technology into ESL teaching? Why are some ESL instructors resistant to using computer technology in their teaching while others are not? This study examines ESL instructors, in particular university instructors, thereby focusing on a relatively neglected area of prior research.

It is this literature about instructional technology in general, the instructors and their attitudes, their integrating technology, and student background and knowledge of using technology that I have used in designing this study. I have attempted to address some of the limitations by taking into account not only university ESL instructors' instructional practices of technology in their teaching but also their perceptions of technology integration in college ESL teaching. I have taken into account the factors that have already been raised as well as additional ones that may emerge from the qualitative data. The following chapter describes the methods used in data collection and analysis for this study.

Chapter III

METHODOLOGY

Research Stance

Researchers always approach their studies with a certain paradigm or worldview, a basic set of beliefs or assumptions that guide their inquiries (Guba, 1990). In this present study, I use the research design of qualitative interpretive inquiry to examine why some university ESL instructors use technologies in their teaching while others do not.

Qualitative inquiry, according to Denzin and Lincoln (1994), is the "interpretive, naturalistic approach" (p.2). Interpretivists believe that "to understand this world of meaning one must interpret it" (Schwandt, 1994, p.118). They advocate making sense out of a social interaction. Interpretivists consider every human situation as "novel, emergent, and filled with multiple, often conflicting meanings and interpretations" (Glesne & Peshkin, 1992, p.19). Every individual has his or her own unique ways of thinking and in order to capture the participants' point of view and understand why some participants feel or think the way they do, in which way they perceive, and what meanings they attach to context, the researcher must elucidate what and how meanings are embodied in the language and actions of the participants. With the use of qualitative interpretive inquiry, the researcher is able to interpret the participants' thoughts and offer a wealth of information for the reader to understand the individual participants' actions.

Within this interpretive naturalistic approach, "no specific method or practice can be privileged over any other" (Denzin & Lincoln, 1994, p.3) and research methods vary considerably. The methods used in interpretive research usually consist of detailed interviewing and observations that enable a researcher to understand and interpret the multiplicity and complexity of the participants' perspectives therefore permit a deeper understanding of why behavior or action may occur. Qualitative data allow a description of this understanding about

how the participants' perceptions on factors influence their decisions about what they are doing. For this study, the qualitative interpretive inquiry has most appropriately answered my specific research questions that investigate the decisions influencing ESL instructors' technology implementation and the naturalistic approach helped obtain the information most effectively.

As Stake (1995) asserts, "interpretation is a major part of all research" (p. 9). In taking this stance, I am able to parallel the interpretative inquiry approach to research. The use of qualitative interpretive inquiry in this study has not only provided the rich description of each informant's perspective but also deepened the understanding of the interpretation of the results. According to Patton (1990), a qualitative paradigm, with its small participant numbers and open-ended interviews, presents detail, depth, and meaning at the very personal level of experiences.

The openness of qualitative techniques has allowed me in this study to approach the researched and to examine the uniqueness of each participant's viewpoints on technology integration and therefore present answers to the problem. Second, I employed this design because the population of the researched is relatively small. Third, I used the qualitative design to present a detailed view of the topic. To study this topic, I could ask open-ended research questions, listen to the participants I am studying and understand and interpret them. Fourth, I have chosen the interpretive naturalistic approach so that I can study individuals in their natural settings without the involvement of experimental and control groups. In this way, I could let the voices of my informants speak and carry the story through dialogue, and from the dialogue their perspectives are presented in front of the audience. Finally, by using this approach, I engage a story telling form of narration.

Research Design

This study employs a qualitative research design. This design enables the research to inquire, comprehend, and describe the experiencing world of the participants and the meaning of these experiences (Bogdan & Biklen, 1998). The focus of this study is to examine the university ESL instructors' perceptions and experiences of technology integration in the ESL classroom. I am also interested in finding out the reasons that influence some instructors' incorporation of technologies into their teaching. To meet this end, based on synthesis of the reviewed literature and the results of the pilot study that I previously conducted, analysis of instructors' stories

through their own voices are interpreted and described to create the understanding of individual instructors' perspectives toward technology implementation.

Qualitative researchers often rely on triangulation, or the use of several kinds of methods or data in their research. Janesick (1994) acknowledges that "Triangulation is meant to be a heuristic tool for the research" (p.215). The qualitative techniques I have used for this study are based on data triangulation – the use of a variety of data sources, and methodological triangulation – the use of multiple methods to collect and analyze data (Huberman & Miles, 1994; Stake, 1995). For this reason, open-ended semi-structured interviews were conducted as the primary method of data collection, along with self-report surveys and document analysis. Open coding, constant comparison, and a systematic matrices are used in the process of data analysis.

The Sites

This study involves five public and private universities from various cities in a southern state in the U.S. Through an investigation of the 2001 Membership Directory from a local TESOL organization, I located the total of six universities that offer ESL or IEP (Intensive English Program) throughout the state. Despite my effort to desperately recruit participants for this project, I was only able to include a small population of the informants from five institutions although the matter of particular sites is not very relevant.

The three public institutions are located in three different cities and the two private in the same city. One of the two private institutions is a Jesuit university and offers intensive English program for international students from all over the world. The other is a private, non-sectarian research university. It also offers intensive English program. One of the three public research institutions has an independent ESL program as well as a spoken English program in the English department for preparing international ESL students to be teaching assistants for the university. Another public research institution offers both intensive English program and ESL program, the latter is located in English Department. The third public university offers ESL program located in the department of Modern Language. The information about the nature of the ESL/IEP programs where the participants work, the student body and education level, and technology implementation for classroom use in each participating institution is shown in Table 1.

My research problem does not call for a specific number of research sites. It is my own concern that the multiple sites for this study may help create a richer contextual framework for the portraiture. As Miles and Huberman (1994) assert, understanding of context is crucial to a study because context drives the way we make sense out of meaning. In addition, choosing participants from various institutions allows me to document the environments that the participant takes for granted but I can see through the different circumstances and atmosphere that may influence information collected and the perceptions by those interviewed. Furthermore, the unique backgrounds of the institutions' implementation of technology will provide more credibility to this study. It is hoped that the data from the multiple sites provide context validity and trustworthiness for this research.

Table 1. Information of the ESL/IEP programs and the structure of their student body

Institution	Type	Program	Student structure	Student levels	Tech implementation
1	private	IEP	non-credit	adult learners w/ various education backgrounds	yes
2	Catholic private	IEP	non-credit	adult learners w/ various education backgrounds	yes
3	public	ESL	credit	graduate	yes
4	public	ESL	credit	graduate & undergraduate	yes
5	public	IEP	non-credit	adult learners w/ various education backgrounds	yes

Note: The sites are listed in no particular order.

Participants

Five participants from five different universities described above are my data sources. I initially decided on as many ESL instructors as possible because I wanted to select at least one from each institution with a minimum of five instructors if there was a loss of participants for unforeseen reasons. I eventually recruited five informants from five institutions where I had

access. I consider data generated from these five participants provide fruitful information regarding my research project. Also, the population drawn from various universities provides a variety of backgrounds and perspectives for this study.

Data were collected from these ESL instructors over the course of the spring semester of 2003. I gained access for the interviews of the instructors through a former colleague, the program director at one of the sites, with whom I did my internship. The program director intended to help me disseminate my letter that stated the purpose of my research and the criteria on volunteer participants for this project to university program directors at one of their executive meetings but the directors from other universities did not show up. I then sent emails to each program director asking for their volunteering and to distribute my letter to the instructors in their programs. I received no response.

After I did not get enough volunteers through this first phase of recruiting, I approached the director asking for her personal referrals. The director then sent emails to the ESL instructors with whom she is acquainted. As per my request, she attached my letter and asked those instructors to participate in my study. Two instructors responded the director and they contacted me directly expressing their willingness to devote their time and energy to my project. One of them forwarded my email to her colleagues in the same program but I had no luck to get any response. After meeting and interviewing with her, I was introduced to her colleague in another university in another city. During the process of recruiting, one of my former colleagues recommended his wife, also a former classmate of mine, as my potential participant. Another former colleague had already volunteered when I presented in a state conference about my pilot study. Therefore, I personally know two out of the five participants in this study.

My criteria for informant selection are based on: (1) a full-time instructor who has taught ESL for at least one year at the college level; (2) the instructor must currently teach at the current institution when the study is conducted; and (3) the instructor should be interested in participating in my project. I do not limit the characteristics of my participants to gender, age, ethnicity, or whether or not he/she uses technologies for instruction. However, close to the end of data collection, I realized that I would not be able to have more participants and all of my informants were females. Therefore comparison of gender differences in technology use is not discussed in this study.

Confidentiality of the participants is protected throughout the study. I asked each participant to give herself a pseudonym for this study and told them that they could change their pseudonyms at any time until this project was final. The pseudonyms match with both surveys and the interviews. Once the study is completed, the files will be kept in a secure place for a considerable amount of time and then destroyed. No names will be associated with the findings in the study.

Pilot Study

Based on standard research procedure as described by Gay (1992), I conducted pilot interviews during the pilot study. The purpose was to test the methodology and revise it before conducting the dissertation interviews. By doing this I could also develop the interview format that provided more open-ended responses concerning the informants' experiences and perceptions of using technologies in their teaching. In addition, the results of the pilot study may provide some valuable information for the formulation of the research questions and interview questions for this current study. A copy of the pilot study results may be found in Appendix II.

The pilot consisted of three in-depth interviews with university ESL instructors who consented to be interviewed. While all of the three instructors discussed similar topics based on the questions asked, there appeared differences in their motivations to use technology. A copy of the pilot interview questions is attached in Appendix III.

A pilot study can test many aspects of one's proposed research (Glesne & Peshkin, 1992). Reviewing the pilot study suggests some changes in the phrasing of the questions. The idea of open-ended format is to allow the respondents to talk about technology use that they perceive important to them. Doing the three pilot interviews has allowed me the opportunity to rephrase questions to let the informants take the answer in the direction they want. Additionally, I have also modified questions in the interview format about whether the participants' perceptions of technology use have influence on their decisions regarding technology use in teaching.

Analysis of the pilot study has helped me restructure the format of the interview questions. For example, I have reorganized the interview questions under four categories based on the research questions: experience of using technologies, perceptions of technology and technology integration, potential factors that influence technology use, and general information related to

their teaching and technology use. There are five to thirteen questions under each category. This has allowed the interviewees an open-ended opportunity to discuss the issues they think are important rather than me specifying the importance of a topic. After these changes, I think the format and structure of the interviews is suitable for collecting data for this study. By doing so I believe that more trustworthiness has been brought to this present study analysis. The reader may find the dissertation interview questions in Appendix IV.

The pilot study has also helped me look at how I might analyze the information. For instance, I have used the categories of the interview questions as the initial themes and looked for phrases or recurring themes as the sub-themes. After comparing and contrasting, I assigned the sub-themes to potential factors based on my judgment call, which suggested bias. To try to reduce this potential, I included the interview questions in the direction of focusing on if they think a subject or statement is a factor influencing their decisions of using technology in teaching. For example, I brought up the topic that impacted the instructors in the pilot study on their use of technologies. For this present study I have also made a systematic matrix (Miles & Huberman, 1994) for the themes and compared them to see any similarity or differences between the interviewees that may suggest why certain a factor is more influential.

Data Collection

There are usually three data collection techniques dominating in qualitative inquiry: interviewing, observations, and document collection (Glesne & Peshkin, 1992; Patton, 1990). Since the purpose of this study focuses on the instructors' perceptions of technologies and the factors influential on their technology decisions, there is a variety of sources used to collect data for my research: (a) transcripts of the semi-structured interviews with participants; (b) self-report survey of demographic information; and (c) pertinent document material such as syllabi that are made for the semester when the participants are involved in the study, information from websites in regard to the instructors and their programs, and information from on-line platform like Blackboard. Using multiple sources – triangulation of information – enriches the evidence and guards against potential errors (Creswell, 1998) that may occur during the process of research. This approach is an important methodological technique for insuring the representativeness of

the data set and estimating the trustworthiness of the researcher's interpretations and conclusions of qualitative data.

Procedures

Data were collected over the course of the spring semester 2003. After I secured the possible informants through the help of a former colleague, I contacted them and emailed a letter to each of them stating the purpose of my research and the mutual responsibilities of the researcher and participants. Once I received their responses agreeing to participate in the study, I sent them the consent form I had signed along with the self-report survey. The reader may find a copy of the consent form in Appendix I. The copy of the self-report form is also included in Appendix V for review. At the same time, I emailed the self-report survey to each participant for her convenience to return to me. In order to obtain more in-depth information from the participants, after I collected the self-report survey, I analyzed the data from the surveys and then modified the interview questions based on the analysis of the demographic information. The brief demographic information from each participant is shown in Table 2. During the analysis of the demographic information, I contacted each participant to schedule interview times. Prior to the interviews, I gave the participant the copy of the signed consent form. The interviewees were reminded of their confidentiality and identity protection.

Relatively little difficulty was experienced in scheduling initial interviews with these instructors. I interviewed each participant once with some follow-up questions by emails. The participants chose the interview sites and interviews lasted approximately 45 minute to one hour long. Each interview was audio-taped with the consent of the participants and the tapes were transcribed by myself for use in the analysis and discussion. After each interview was conducted and transcribed, the data were synthesized with demographic information, information from the self-report forms, document materials and the results were combined with the findings of the interviews. The themes emerged from the individual cases were first categorized separately. Cross-case analysis was then used for all of these cases. Then I interpreted the findings based on the major themes that emerge from the data. Finally I checked with the informants about the findings of their perceptions of technology integration and the reasons why they use or do not use technology in their teaching.

Once I finished the initial analysis, I emailed the interviewee a copy of my findings concerning the particular individuals asking for comments and suggestions. Meanwhile, I scheduled for a face-to-face discussion with each informant. Three informants had prompt responses to my request for face-to-face member checks with me. Because of time constraints, two informants were unable to schedule a meeting with me. They did not respond my request for an email member checking either. Therefore, the face-to-face member checks were conducted with three instructors. I met with them in person discussing the findings and my interpretations about their stories to confirm the analyses and interpretations. Two of them even took time to correct the grammatical errors in my papers. The feedback from each of these three participants resulted in revision of interpretations for each individual case. During the same time, I consulted with my methodologist and major professor to review my findings for confirmability (Lincoln & Guba, 1985).

Though the data in this study is from a limited population, the triangulation of information (Stake, 1995) and the contextual framework of the multiple sites contribute to the validity and trustworthiness of the data. They also increase confidence in research findings therefore help describe what has really influenced those university ESL instructors on technology use in ESL teaching in higher learning institutions.

Interviews

According to Creswell (1998), there are four basic types of information while inquiring qualitative techniques; they are interviews, observations, documents, and audio-visual materials (p. 19). Among them the interview approach is used to provide the participants with opportunities for responses. The interviewing inquiry technique allows participants to describe their experiences, expressing their opinions, and providing in-depth data that would provide an extensive understanding of interviewees' implicit values related to the specific topics. Their own words describe how they interpret events, their attitudes and beliefs, and suggest motivations for their actions. It provides in-depth information for me as the researcher to analyze individual informants' accounts of their perceptions of factors related to technology use in their teaching.

For this research project, the interview approach is selected as a means to gather data, rather than the surveys and written questionnaires that characterize many of the studies discussed in the

chapter of literature review. In this study, in-depth semi-structured interviews are the core and the primary method used to portrait this relatively neglected group of instructors on their technology integration. The focus of the interviews is on these instructors' perceptions of technology implementation and influences that have affected their technology use in teaching. The interview questions were designed relative to the research questions stated in Chapter One. To carry out the interviews, I have developed an interview guide. According to Patton (1990), "an interview guide is a list of questions or issues that are to be explored in the course of an interview" (p. 283). The format for the interview questions is available in Appendix III. The form of interviews was used to collect qualitative data, along with information from self-report survey and documents.

I followed the prescribed list of open-ended questions and audio-taped the interviews. During the interview, while open-ended questions were initially asked, more specific questions were asked if the informant failed to address the issues. I probed at some questions that I was not sure about and also added summary questions at some point that directly asked what areas the interviewee thought were most influential in their decision on technology use. This helped my interviews to return to the intentions of the study and data collection. The questions, however, were by no means limited to the list. As a result, questions were not asked in the same order for each interviewee, nor were exactly the same questions asked.

I used the interview format because I wanted to look deeper into what instructors are saying about why they do or do not use technology in their teaching. While the self-report information helps show what technologies the instructors use and when they use these technologies, it does not answer why. Are there characteristics that influence the instructors' decision to use or not to use technology in classroom? What are they? This interview format allowed me to give more emphasis to the instructors' beliefs and perceptions of teaching with technology, rather than just their experiences, and to examine in greater detail the motivations behind the instructors' use or non-use of technology. The interview data suggested: 1) the way instructors were using or not using technology and 2) why or why not certain instructors used computers and others did not. Interview data also provided the richer information from which more themes emerged that were related to the topic. Obviously, with such methodology, ESL instructors, as a specialized group of English teachers, could shed more light on perceptions and beliefs, practices, and experiences for this study.

Self-Report Survey

The self-report form is designed to obtain demographic information of the informants related to their experiences of using computers and other technologies. The survey consisting of 20 questions and statements on demographic information, technology use, and program context was used prior to the interviews (See Appendix V). Because empirical research has not been conducted regarding ESL instructors' use of instructional technology in higher education, I have developed a self-report survey based on the analysis and review of literature as well as the results of the pilot study.

The survey is divided into three sections without breaking numbers and obvious divisions. The statements in the first part are to collect background information about the participants (demographic information about gender, age, degree earned, and years of teaching ESL). The item of gender is still on the form is because I was not sure if I could have more participants during the process of data collection. The other part of the survey ascertains technology use. It is directed at determining participants' self-reported knowledge and use of technologies for various purposes. Participants are also asked to indicate whether or not they are using computer technologies in their teaching. The third component covers the information related to the program and student structure in the individual institutions.

The early version of the survey was used with instructors in the pilot study other than the possible informants for this study and its content was proved to be valid. After some revisions and changes were made due to the results of the pilot study, the survey along with an instruction to fill out was sent to all of the participants.

Ethical Issues

Ethical issues always occur within the research while conducting interviews. Much preparation was needed by me as the researcher to stay psychologically focused so that I would not be distracted or show any preferences on any given issue. Some interviewees expressed the wish of having some related information. At the information level, I shared with the informants some teaching materials, computer skills, and possible instructional methods used in certain

subject area after the interviews. I was cautious to stay noncommittal and avoid facing the dilemma of making decisions for the interviewees.

The major ethical issue in this study is to ensure the anonymity of the participants. I reminded the informants in the beginning and at the end of the interviews that their personal information will remain confidential such as their names which are replaced by pseudonyms that they selected. General information such as their age and educational experience are used only because these factors are considered as potential influences that might affect instructors' decisions of technology use for teaching. Additionally, both the universities and the site locations are a concern because of the small population; thus, the names of their institutions are not mentioned throughout the study.

Data Analysis

According to Wolcott (1994), using a high level of details to describe each participant's story, systematically analyze their stories, and then carefully interpret them is the way of transforming qualitative data. Throughout the study, I was engaged in data analysis. The analysis of the transcripts of semi-structured interviews was the central focus of the data collected, along with demographic information of self-report surveys and artifacts, to create a profile of these instructors' perceptions about the use of technology in teaching as well as their actual integration of technology. These data were analyzed using within-case and cross-case methods that increase the trustworthiness of the findings (Miles & Huberman, 1994).

Coding and Categorization

Data analysis was an ongoing process during the research and was done simultaneously with the data collection. Janesick (1994) points out, "There is no one best system for analysis. The researcher may follow rigorous guidelines described in the literature, but the ultimate decisions about the narrative reside with the researcher" (p. 215). Data volume was so big that in order to avoid being overwhelmed I transcribed each interview shortly after it was conducted and started to code data by using an open coding method (Creswell, 1998). In order to stay close to the data, I initiated my coding scheme by dividing the interview questions into different

categories such as technology experience, perception, factors, and general issues. Each question belonged to a category in the interview serves as a major theme. In analyzing the interviews, the transcripts were reviewed for references to these categories and different emerging topics were identified as themes in the subsequent analysis and then grouped into the individual question categories (Miles & Huberman, 1994), such as experience category or perception category. Each category may contain different themes, for example, when talking about their perceptions of technology, the instructors mentioned timesaving and such issues as environment. I interpreted environment as a factor. So the theme of environment is grouped into the factors category. Also, some similar type of themes emerged in more than one category. For example, the topic of time was mentioned in the categories of experience and perceptions as well as in the category of factors. It was placed in the category of factors because I thought it mostly fitted that category. I repeatedly sorted the data in the process of analysis and identified themes and patterns as well as differences and similarity among the transcriptions. Through a constant comparative analysis (Glaser & Strauss, 1973), I categorized and coded the data generated in the individual transcripts trying to look for similar themes and patterns and eventually a closer comparison among the participants. The emerged ideas or themes related to the categories became themes and the identical themes were formulated and organized in the relevant categories.

A system of matrices

Sometimes many statements seem to say diverse things, so I reviewed the audio tapes and transcripts individually. In order to organize the information better as every interview was done and information was analyzed, I completed a within-case conceptual display (Miles & Huberman, 1994) for each participant before engaging in the next. In the matrix I listed the participant's quotes in response to the themes and categories (Miles & Huberman, 1994). To help with the analyses of the interview data, I highlighted the information I needed from the interview and how it related to my primary premise (See Appendix VI). This helped provide me with insight into the process and aided me in making adjustments each time to obtain information better.

The creation of a system of matrixes is to organize data so that patterns can be recognized visually (Miles & Huberman, 1994). All of the interview matrixes were constantly examined

individually. While going over all of them multiple times and making notes on them, I created a new matrix with the themes or sub-themes that were identical in nature from each individual interview matrix. On this theme matrix I "copy & paste" the participants' quotes under each related themes and sub-themes. This matrix allowed a more manageable form. By using this cross-case conceptual display, I primarily made constant comparisons among generated data to see if patterns existed among the data (Miles & Huberman, 1994). The patterns that emerged from these comparisons are reported in the results chapter. Also, to assist in data analyses, I combined this cross-case matrix with the table that I have created to record the demographic information obtained from self-report survey (See Table 2). In addition, I also blended the data collected from documents with the data collected from the interviews and surveys through these matrixes and tables and focused on the salient points made by the informants.

To look for similarity and differences in the instructors' perceptions, I searched for the frequently mentioned topics in each question category and its sub-themes. A topic that was mentioned in more than one category suggests uniqueness that may influence the instructors' decisions on technology integration. Since this study is qualitative in nature, no quantitative analysis is performed on the data; however, I still looked for any possible correlations between various factors. When analyzing the results, the comments or quotations in the theme matrix were used instead of the titles of the themes and sub-themes that were used to guide the indirection of the discussion. With their approval, the quotations from the participants were used to generate assertions and support the discussion why instructors decide to use or not to use technology for their teaching. Based on the data about the programs from various sites, I also discussed the institution contexts of each of these instructors to support interpretation of how this would be an influence on their instruction. Interpretation of the findings is in the discussion chapter.

Trustworthiness

The credibility and quality of qualitative research is often enhanced through attention to the issue of trustworthiness in the research design. While planning, collecting and analyzing data, and writing up my findings and interpretation, trustworthiness is always a major concern for this present study since the central goal of my study is to interpret the university ESL instructors'

perspectives through their own voices thereby understand why some instructors adopt computer technology in teaching and others are resistant in using it in the classroom. According to Denzin (1994), "the foundation for interpretation rests on triangulated empirical materials that are trustworthy. Trustworthiness consists of four components: credibility, transferability, dependability, and confirmability" (p.508). He further points out, these four components are equivalents of internal and external validity, reliability, and objectivity.

To achieve trustworthiness of the research, I have addressed the aspects of trustworthiness that might affect the interpretation and presentation of this study. The first is about the triangulation methodology. I incorporated a variety of techniques of data collection and analysis. Data was collected through semi-structured interviews, self-report survey, and document analysis. All of these data collection strategies are based on the epistemological assumption of the qualitative interpretative paradigm (Denzin & Lincoln, 1994) that creates an in-depth understanding of the information presented and therefore the likelihood of obtaining valid data is increased. I also utilize a triangulation of analysis methods, including a constant comparative analysis and a system of matrices, to enhance validity of the findings. The combination of these analysis strategies has permitted me to compare and contrast different individual and group findings and corroborate my points. Meanwhile, I constantly communicated with my major professor and my methodologist in the committee in order to identify flaws that might occur and ensure accuracy of my interpretation. Triangulation is a major component of credibility, transferability, and dependability. Use of various methods in collecting and analyzing the various data helps to ensure the conclusions drawn within this small population and has enriched the results of this research.

The procedure of member checks illuminates whether the evidence is accurate and the concepts are fruitful; ultimately, it provides verification and confirmation (Stake, 1995). In this study, member checks were performed with three out of five participants throughout the process of analysis (Stake, 1995). As soon as I finished the initial analysis, I contacted each informant and emailed a copy of each individual's findings that pertains to them. I invited them to provide comments and suggestions regarding their individual information. Meanwhile, I requested a face-to-face discussion about the findings and interpretation for their approval. I met with three informants in person. The other two informants could not schedule a meeting time because of the preparations to end the semester. One of them later responded my request for member check but

her suggested meeting was after my defense date which made it impossible for me to meet with her. I then emailed all of them a copy of my summarized interpretation on the whole group for the discussion purpose. All of the participants are anonymous in the summary. The feedback from each participant resulted in a revision of interpretations for each individual case. The same procedure was repeated with each subsequent revision until the informants were satisfied with the results. Combined with a triangulation of information, employment of member checks in this study confirmed the analyses and interpretations and helped resolve any bias that I may have created during analysis and interpretations and it ensures that the findings of the study are sound, valid and trustworthy.

The appropriate and effective use of the researcher influence on data collection may possibly be positive and provide beneficial results during the process of research. The process of qualitative research is holistic. Each piece of data and analysis, as well as the sound relationships with participants go to the whole and the latter may surprisingly make this journey enjoyable. Among five participants, I personally know two instructors before the research started. I think that building good working relationships with each other may make the informants "less readily feign behavior or feel the need to do so;" therefore, they might be "more likely to be frank and comprehensive about what they tell you" (Glesne & Peshkin, 1992, p. 146). At the same time, electronic mail was used as a convenient and effective means of communication between the participants and the researcher. Thus, all these contribute to trustworthy data.

Concerns

My major concern is about the researcher bias. This issue may be the most challenging one to me as Patton (1990) indicates that researchers always "go into field with expectations" (p.278). For this reason, the previously conducted pilot study has served as a starting point for me to understand my influence as a researcher on the informants and to stay aware of not imposing my values on them. The practice of designing an interview guide has helped me minimize my influence and practice not to pose preconceptualized questions during data collection. Although I have employed member checks with most informants about the interpretations and presentations, it is inevitable that "all texts are biased, reflecting the play of

class, gender, race, ethnicity, and culture, suggesting that so-called objective interpretations are impossible" (Denzin, 1994, p. 507). However, I have made every effort to remain unbiased.

The issue of generalization is another concern of this research. A study of five instructors is not considered as generalizable to a larger population; however, as Huberman and Miles (1994) indicate, "looking at multiple actors in multiple settings enhances generalizability" (p. 435). In addition, although the value of the case is its uniqueness, and the population is "too limited for development of generalizations," according to Glesne and Peshkin (1992), the study still "is likely to contribute to an understanding of similar cases, such that going beyond the case in your ruminations will not be farfetched" (P.148). Nevertheless, precaution is warranted since the uniqueness of such a qualitative study restrains the ability to replicate it exactly in other contexts.

Summary

In conclusion, this present project explores how university ESL instructors perceive technology integration and the reasons that might affect their incorporation of technology into teaching. This interpretive research has adopted an interview method as a primary strategy to collect data. Prior to interviews, demographic information on the informants was obtained from self-report surveys. The interviews were designed as a semi-structure with an interview guide and they were audio-taped. The instructors were interviewed in one session for 40 to 60 minutes. Each participant was also given follow-up questions after my initial analysis through email. The participants were referred to or recruited from volunteers in multiple sites through the assistance of the gatekeepers such as my formal colleagues and the participant. Participants set the time and place for the interviews.

The data analyses of this study started from establishing research questions as categories, displaying emerging major themes and sub-themes through a systematic matrix of collected data related to the research questions, presenting an interpretive analysis based on the findings. The result of this interpretive research will provide an understanding of these instructors' perspectives of technology use in teaching and what has influenced their decisions on integrating technology.

Informed consent and confidentiality are assured in this study. Also, it is important for me to be aware of the issues of trustworthiness in the study. Triangulation methodology, member

checks, and multiple sites were used to increase trustworthiness of this study. The following chapter is to analyze and present the data collected from interviews, demographic information, and document materials.

Chapter IV

FINDINGS

The principle purpose for this study is to discover university ESL instructors' perceptions of technology integration and to ascertain data to indicate whether or not the instructors utilize technology in their teaching and why. By using qualitative methodology, I collected and analyzed interview data along with data from self-report surveys and documents such as syllabi and class schedules. The analysis of data, relevant to the research questions, is presented based on four main question categories that formatted the interviews: experiences of using technology, perceptions of technology and technology integration, influences on decisions of using or not using computer technology in teaching (factors category), and the general issues. The general category discusses the emergent themes that could not be included under other specific categories.

The findings are reported in the cross-case analysis format. Because the purpose of this study is to examine these ESL instructors' use of technology and explore the influential factors that may affect their technology decisions, my data analysis consist of all themes that may help identify influential factors. As Denzin (1989) suggests, thick description makes thick interpretation possible. The next chapter presents interpretation of the factors emerged from these themes. In this chapter, the data represent some expected and unexpected results, as related to the use of technologies from this particular group of instructors. This chapter provides a picture of each individual participant to and the results pertaining their perceptions and use of technology in teaching.

Description of participants

The participants in this study are five female instructors teaching English as a second language in different universities throughout a southern state. The participants in this study are those instructors who were interested in participating in this project. Each instructor chose her own pseudonym at the beginning of this research project. They were also reminded that they could change their pseudonyms at any time until this project was final. Two of them, Susan and Blue, come from private universities and Floppy, Denise, and Kochka from public institutions. They are all full-time faculty in their universities. These five instructors range in the age from 25 to 55 years based on the information obtained from the self-report forms distributed prior to the interviews. Four of them have Master's degrees and two hold double Master's degrees. The fifth instructor is graduating in May with a Master's degree. They all have taught ESL in their current institutions from two and a half years to 20 years at the time I interviewed them. Table 2 displays a brief description regarding each participant's demographic information and their student structure. The brief description of each participant is also provided below.

All of the five instructors have used computers for at least seven years. The average number of years of their using computers is 9.2. The self-report surveys show that each informant has used computers and other technologies in teaching for two to ten years with average 4.8 years. All of the participants have access to computer technology at work; but the primary uses of computer technology for most of the five are in communications and preparation. Word processing is the most used computer technology regarding teaching and learning, and other uses include email and internet searches. Four out of the five have used video and audio equipment in their classrooms. The brief summary of the information on the participants' use of technology is shown in Table 3.

Table 2: Demographic information of the participants

Instructor	Susan	Blue	Floppy	Denise	Kochka
Age	35-44	45-55	45-55	35-44	25-34
Yrs of teaching ESL	13	20	12	4	7
Yrs in higher ed	10	20	4	2.5	4 ½
Degrees/field	Bachelor sociology/ anthropology	Master French & TESOL	Master Applied Linguistics	Master MBA & TESOL	Master Education
Student levels taught	various	various	graduate	graduate & undergraduate	various

Note: The participants are listed in no particular order.

Table 3: Information of the participants' use of technology

Instructor	Susan	Blue	Floppy	Denise	Kochka
Self rate of using comp.	below average	average	average	average	average
Access to computer	at home / at work	at work	at home / at work	at work	at work
Yrs of using comp.	8	10	7	15	6
Training	none	informal	informal	formal	informal, a little formal
Use of tech in teaching /yrs	occasionally / 4	occasionally / 10	occasionally / 5	occasionally / 3	frequently /2
Primary use of computer technology	utilization instruction/ prep, communications, research	utilization instruction/ prep, communications, research, administrative tasks	utilization instruction/ prep, communications, administrative tasks	utilization instruction/ prep, communications, research, administrative tasks	integration instruction/ prep, communications, research, administrative tasks
Computer use in teaching	inside/outside classroom	inside/outside classroom	outside classroom	inside/outside classroom	in the comp. lab /outside the classroom
Types of technologies used in teaching	computer, TV/VCR, radio, cassette recorder, telephone	computers, videos	television, VCR, video camera, audio recorder, overhead transparencies	computer, Blackboard, Internet	computers, Internet, CD ROMs, Blackboard, video
Technical assistance received	colleagues using technology	colleagues using technology	computer service	professional colleague	colleagues using technology

Note: The participants are listed in no particular order.

Blue

"I would have to say I've used computer in ways that I think will save me time but not in ways that would cost me to have to spend more time learning about them."

Blue, an ESL instructor with 20 years of ESL teaching experience, has master's degrees in French and TESOL and fell in the age range of 45 to 55. She has been teaching in higher education for 20 years. At the time of our interview she was the acting director in the intensive English program at a small private university. Blue states that she had used computers in her teaching for ten years although she has no formal training in the use of computers, and she has learned how to use them by herself.

With ten years of experience in using computers, Blue claims she is an average computer user. In regard to technology use in ESL classroom, Blue says that most of the time she uses various technologies, such as video, VCRs, films, and televisions in her classroom. She also uses word processors in the computer lab for the lower level students in the writing class since the students in her program have various English levels. Based on her syllabi, Blue gives students an orientation to the computer lab in the second week of the semester. She also asks them to type and edit essays with word processor. Although Blue uses the computer frequently, her primary use of computers is for communication and preparation purposes. Sometimes she uses the internet to search the materials for her classes.

Blue makes overall positive comments regarding her uses of technology in teaching. She states that using technologies including computers not only "simplifies things" for her but also is "a little bit motivating" for students. She perceives computer technology as an aid in language teaching. She stresses that it is easy and timesaving for her to use computers for the purpose of preparing the lessons and communicating with students.

Susan

"I think it's an excellent idea. I mean I don't have to be good at it or use it a lot personally to be able to understand how important it is. I realize on the intellectual level how important it is and how much it helps students."

Susan is a 13-year veteran ESL instructor with a bachelor's degree in sociology and anthropology. Being 35 to 44 years of age, she has been teaching ESL in the higher learning institution for ten years and was teaching in a large private university at the time I interviewed her. She teaches ESL students whose English levels are various in the intensive English program.

Susan says that despite a computer at home she never had any formal or informal computer training and rates herself below average in computer knowledge. She states that although she has eight years experience in the use of computers and used them in teaching for four years, her use of computers for teaching is very limited. For example, besides using computers for preparing for the lessons and contacting with students, Susan sometimes uses the internet to research the topics that she teaches in the class. She only asks the higher level students to search the internet for related topics to what they are learning. She uses video and TV/VCR frequently in the classroom.

Susan expresses her positive view of technology and its use in teaching. She agrees that technology is merely a tool and insists that she uses technology only as "a supplement" for her teaching. Although she has the overall positive statements about computer use in teaching, Susan expresses her concern about "the distance between students and the teacher." She implies her anxiety and lack of confidence of computer knowledge regarding language teaching.

Floppy

"In general, I believe technology is a tool that can enhance classroom work. It would only become a problem if too much emphasis were placed on the technology itself rather than on the subject matter."

Floppy has twelve years experiences of teaching ESL with four years working in the higher learning institution. She is at the age of 45 to 55 and has a master's degree in Applied Linguistics. For about four years Floppy has taught spoken English to international graduate students who are trained as teaching assistants to teach undergraduate classes for her university at the department of English at a large public institution of higher learning.

Floppy has access to computers both at home and at work. She ranks herself average in the use of technology for personal and professional reasons. According to her, she had some informal computer training and used computers for seven years. She uses a computer mainly for word processing and email. Floppy is the only instructor who used only video equipment for her class because as she says that the equipment fits what is being taught.

In her opinion, Floppy thinks that technology such as a computer is "like a tool." She says that it is "only important as a tool to do the job." Throughout the interview, Floppy asserted that using technology in the classroom depended on the subject area.

Denise

"It's quick, it's efficient, it saves time, it saves money."

Denise is around 35 to 44 years of age. She holds two master's degrees, an MBA and one in TESL (teaching English as a second language). Prior to teaching ESL in this small public university two and a half years ago, Denise had two years experience of teaching ESL. Her students are those who enroll in the undergraduate and graduate courses in her university but their TOEFL scores did not reach the level that the university requires for admission.

Denise had some formal training in computers when she worked in another field. She claims herself an average computer user. She had used computer technology in teaching for three years at the time when I interviewed her. She utilizes computers in the areas of preparation, internet searches, and administrative tasks as well. Denise uses computers both inside and outside of the classroom. She sometimes uses the computer and the projector she obtained through a grant in the classroom for the purpose of displaying materials pertaining to the class content. One semester ago, Denise started uisng Blackboard outside of her classroom mainly for the administrative tasks such as keeping tracking students' grades and posting announcements. She states that she is trying to master other aspects of Blackboard. Denise also often utilizes video equipment in the classroom.

Denise' perceptions of computer technology are very positive. She perceives computers as "a supplemental." She especially sees Blackboard as an easy and convenient way to keep

communications with her students. She also expresses an idea that the use of technology is different when doing any learning activity.

Kochka

"I think that it will be a good addition, a good complement, but … I don't think that computers are the only way to learn a language. I just think that in terms of linguistic development I just don't think it's possible."

Kochka, an ESL instructor whose age range is from 25 to 34, has a master's degree in education. She had been teaching ESL for 7 years and at the time of the interview she was with an intensive English program at a large public university for almost five years where Kochka is the academic coordinator in her program. Receiving support from her administrators, Kochka started to teach CALL classes two years ago teaching ESL learners who have various English levels.

Rating herself average in computer knowledge and having six-years experience in the use of computers, Kochka states she has some informal computer training and took an education course related to basic computer use in teaching. Kochka is the only instructor who integrates computer technology into her instruction. Her CALL class is held in the computer lab where each student operates a computer and the teacher has one with a projector. Kochka mainly uses Blackboard, and she extensively uses the Internet and CD-ROMs for her class. Before teaching CALL classes, Kochka had used word processor to edit and make up worksheets and materials for the students. She also used audio/video material such as tapes, the video camera, and movies in regular classes.

Kochka also perceives technology as a tool in language learning. She thinks that integrating computer technology should allow the opportunity for students to use computers while learning a language. Although she teaches CALL class and uses computers extensively, Kochka expresses anxiety about lacking enough computer knowledge. She also believes that interactive teaching should also be used in a language classroom.

Presentation and Analysis of Findings

Analysis of the data revealed thirteen major themes based on the four main categories of the interview format in light of the research questions. The four categories are: (1) instructor's experiences of using technologies; (2) instructors' beliefs and perceptions of technology and technology implementation; (3) instructors' stated reasons for using or not using computer technologies in instruction; and (4) other related issues. The thirteen emerging major themes are: technology is a tool; technology in language teaching and learning; teacher as a learner with technology; benefits of using technology; comfort levels in using computers; personal styles with technology use; reality factor; environment; time; students knowledge and interests in using computers; other possible factors affecting computer use; students levels in English; and teaching style. The influential factors emerged from these themes.

Since all but one participant claimed that they used computer technology in teaching to some extent, I ddi not divide them into users and non-users of computers, each emerging theme or pattern is therefore grouped into the closest category in the content and all of the categories include favorable and unfavorable statements (Miles & Huberman, 1994).

In this section of presentation and analysis of study findings, I present in detail the major findings related to each instructor about her experience and perception of using technology. My interpretation regarding a particular issue or a phenomenon will be fully discussed in the next chapter.

Experiences in Using Technologies

Interviews revealed that most of the participants had some experience with various technologies. All of the participants stated that they used different technologies to some extent in different situations either inside or outside of the classroom. Almost all of them used computers as a means of communications and a tool for preparing lessons and materials. For instance, Susan used word processing as a typewriter and printed things out. She also used computers for communications such as email. Sometimes she used the internet to find the latest news or to research the particular topics for classes, as she said, "I use the computer more and more for preparation for my classes." Susan did not use computers for instruction except asking students

to search the internet for the topics they were learning. She explained that was because she did not have enough technology experience. She stated that "if I were to do more with technology I really have to have a lot of vision and plan and expect what they [students] are going to encounter and what problems they are going to have."

Although she used other traditional technologies such as TV, VCR, radio, and cassette recorder in the class, Susan occasionally asked her students to use computers in the lab. She said that the use was very basic and "very structured." She would give students a particular site or a number of sites and asked them to search on the internet and find something that they would research and present on or write a critique about it the next day. She spoke of her plan of implementing Blackboard, an educational platform that many universities are using to teach distance education, into her teaching in the semester when we had the interview.

Right after she finished the TESL degree program, Blue joined her classmates to continue to "correspond with each other and support each other in our teaching." For three to four years, they exchanged their ideas through emails. Blue believed that this "incredibly valuable" activity is "extremely beneficial" to improve her teaching skills as well as her computer technology competence. When she started using a computer in the early 1990s, she had to teach students how to use the computer as well as whatever else she was teaching. Blue used computers mostly in reading and writing classes in the lab "for students in basic to low intermediate writing levels to work on their papers" or "to find something related to something we read in class and give a website as further information as a place you can get further information." In Blue's words:

> "I just made the decision this was a useful thing that we needed to do, you know, learning how to do some research on the internet and what's available there and doing those reading and research projects together on the internet. I just took the time to do those."

According to Blue, she sometimes did reading projects with her students in the reading class but had done it much less than before because one of the purposes of doing this type of project a few years ago was to teach students how to browse the internet while reading online articles relevant to the topics they learned in class. Nowadays, Blue said, "the students know a lot about how to browse the internet. I don't see the need to teach them how to use it any more." In the

past year she also had used less computer related technology than she had before. Now she used more other technologies such as video and VCRs in several ways. According to Blue, “if you were playing a tape that is devoted to listening and speaking practice, on the tape recorder, you are certainly using technology, but that’s not as interesting to students as it might be.”

When mentioning the different technology use, Blue claimed that it depended on the class she taught. For listening and speaking, Blue said that she recorded excerpts from television programs, brought them to the class and popped it up in VCR. Blue thought that it was “definitely more interesting” to watch news and listen to that than to listen to a tape in which the conversations were made up by educators for ESL listeners. She used word processors to work on writing papers with students in basic to low intermediate writing levels. In grammar class, she may show a scene from a film and ask the students to speak and/or write about that scene using a particular grammar structure, such as with perfect modals, she may ask students to tell what the characters in the film should have done but didn't, what they could have done but didn't, and what they might have done if conditions had been different.

The experiences of participants’ using technologies in teaching were different according to the areas that they were teaching. Floppy taught spoken English to the international students. She relied mostly on speaking and listening in the class, therefore the main technologies that she used in the classroom almost every day were using the VCR, television and other video/audio equipments. Throughout the semester, students were required to have three video presentations besides other assignments. The recorded presentations were about students interacting with either native English speakers or among the peers. The instructor analyzed the students’ presentations with individual students and “see if there was very high, high level of comprehension.” Video and audio equipment was “indispensable” in her oral English class because “they fit the situation” and helped give the instructor “very good analytic information about each student” and then affected the feedback which could affect what the instructor did in the classroom. Floppy remarked on how she used those technologies:

> “I use the video camera to record the students. I use the television to watch certain cassettes, segments of the cassettes, or sometime to watch a student’s presentation. I use the audio equipment very minimum. I do use it, but again to record students’ presentations so that I can more clearly and efficiently analyze their language. At the

> beginning of the class, I record them on the audio or recorder where I can listen more than one time, and I can try to analyze differences in their speech which is difficult to do if it's live, and you haven't recorded it."

Floppy expressed her desire to continue her current use of technology with students. Like other participants, she also used computers for communication, creating materials on the word processor, and looking for information on the internet. Floppy stated that she did not have much use for the computer in the classroom, neither did she ask her students to search on the internet because it did not fit their situation. She said, "I have no reason to use it in the classroom. My work is mostly oral English." However, she thought it was necessary to use a computer to prepare materials and communicate with students individually or as a group.

Kochka used Blackboard as a major means of classroom instruction and it was a "central organizer" for her to instruct and communicate with students. She searched for the website links and other online materials that were related to the topics students were learning in their regular classes. In the 50-minute class, the students used the Internet through Blackboard doing all kinds of exercises already on the websites such as reading, writing, vocabulary, grammar, listening, even some pronunciation but Kochka usually made up her own exercises to ask the students to do based on the materials on the internet. She also assigned various activities to students. For instance, in a listening exercise, Kochka took some songs from a MP3 website and put the links of the songs on Blackboard. She then made up a cloze by taking out some of the words. Students listened to the music with headphones on and filled in the missing words. She thought that such a class was "kind of fun activity" that would enhance what was being taught in the regular classroom, as she indicated:

> "…most of them [students] know that that MP3 site is out there, but they may not necessarily use it for any kind of English learning, so I'm at least using something that they know about technologically."

She further stated, "I use their knowledge, something like that, that type of website, whatever, and try to turn it into something to help them learn English." Kochka also used video cameras for other class she was teaching. She said that the video camera was "excellent for

interactive speaking/listening" but the constraints had been lack of equipment and it was a little difficult if a movie was to be made because of the short period of time in her program.

Denise's experience of using technology in teaching was a little different when compared to other participants. She is the only instructor who teaches ESL students and her students are those who are enrolled in the university and the majority is full-time students. In order to bring technology into the classroom and also due to the financial constraint in her department, despite extra teaching hours, Denise wrote a proposal and was awarded a grant to get a computer, a document camera, an overhead projector, a cart, and other supplementary equipment. She placed this equipment on the cart and brought it into the classroom. After the interview, Denise showed me how she operated this equipment. She would have various types of sample paragraphs on the disk or on the hard drive of the computer and used the document camera to project the sample paragraphs or used the computer to project them on the screen in front of the classroom. Denise also used Blackboard mainly outside of the classroom "but in relation with the class." She posted assignments, grades, announcements, course documents which include the syllabus, or communicated with students when needed. Denise described:

> "The first day of the class when we reviewed the syllabus, I showed them how to use it [Blackboard]. …. Because when the students go home they can consult Blackboard to see if they have any homework, to see what their grades are, to see if they have any announcements. … It makes getting homework and grades a lot easier. Students always know how they are doing and what they have to do. They are held accountable for their work."

After showing me how she used Blackboard, Denise expressed her desire to find more useful aspects of Blackboard for her teaching use. However, Denise did not use the computer as frequently as she would like to because of the problem with Internet connections in the classroom. Because most of her teaching is composition, she encouraged her students to go to university databases or other reference databases to research their work and cite their sources. This was also reflected in the syllabus of her basic composition course in which she required students to "develop … research skills for practical applications." She provided students with the library flyers that had detailed information of online databases, such as a database name and its

related password. At the time of the interview, although it was rare that Denise used Blackboard in the classroom and it was just the second semester that she used Blackboard, she displayed her enthusiasm in the use of computers and Blackboard in teaching. She expressed, "…more and more I have slowly begun to integrate that into my classes."

Most of the time, Denise used document camera, video, and television for her advanced writing class. She showed a short story or a biography of the author by projecting them on the screen or using a VCR tape. Actually she did not indicate in the survey her uses of video equipment and seldom talked about these uses in the interview. In the process of member checking, Denise talked about her class of training international ESL students as teaching assistants in her university, she was given this class after the semester already started. In this class she used video camera to tape their speaking and showed them what they needed to improve and what they should avoid. She said she did not see the need to use presentation software like PowerPoint because it did not fit in the kind of teaching that she did for her classes and also because "I want everything to be more students-centered. I don't want to be standing up there lecturing to the students."

Summary Because the experience of using technologies by each individual participant is so diverse, it mandates a second finding of instructors' practice with technologies. No definitive position can be formulated. Nevertheless, the findings for the instructors' use of technologies have shown that most of these participants have used non-computer-based technologies in class at various levels. The results demonstrate that they have mostly used email for communications and word processing for preparing for the lessons and materials. Three participants use computers to research the internet for reading, writing, and other classes. One instructor, Susan, occasionally asks her students to search the internet for a specific topic. Different from other participants, Floppy only uses audio and video equipment in teaching while Kochka uses computers extensively in the computer lab because of the nature of their classes. Moreover, none of the informants actually speaks about using any type of presentation software for instruction until I mentioned and one instructor. Denise states that her classes are not suitable for such use. It is apparent that the instructors are not infusing computer technology into their ESL instruction but are using it for preparations and communications in relation to their teaching.

Perceptions of Technology and Integrating Technology

This category focuses on the participants' opinions of technology and technology incorporation in their teaching. Three participants use technologies other than computers in teaching, the other participant uses video equipment, and another informant teaches students with computer-based technology. As a result, this category records participants' voices regarding their personal views based on their own experiences of using any specific technology. Three themes emerged in this category and they include: technology is a tool; technology in language teaching and learning; and teacher as a learner with technology.

Technology is a tool

Responding to the topic of what they thought of technology, most of these participants viewed technology from a utilitarian perspective and made similar comments that technology was a tool. Floppy, for example, believed that technology was "an invaluable tool for students" that could "enhance classroom work." She made the remark:

> "It's like a tool. In general I think technology is very important, is very good because pencils are important and papers are important. I think it's just a tool. It's only important as a tool to do the job. … I think they are very helpful tools."

Kochka felt that technology was not only a tool but also a "facilitator" for what students were learning. According to Kochka, the CALL class in her program was designed "as a compliment" to enhance what students were learning in the regular classes and meanwhile provide students with opportunity of using computer technology in language learning. She indicated:

> "It's just a media, really, and it's real easier, like, fantastically full of material, easily access, which makes it really easy to use and, you know, there are lots to choose from. But I think it's a tool, I think it's a compliment."

Blue viewed technology as something that simplified everyday tasks. She stated, “You can simplify things a great deal.” She felt that using technology could not only make things simpler but also get messages to people more quickly, saying, “Just think about typewriters versus computers.”

Susan considered technology as “a supplemental” in language teaching and learning. She said that when she used technology she always used it as a supplement to the materials they already had in place. She stated, “It was never before the core of my teaching or the lesson of the information I wanted to get. It was always to supplement.” “For example,” Susan explained, “if we were talking about or studying Crime and Punishment, and I see a report on TV that I think would work well with the unit, I'll record it and show it in class after I've created a worksheet for it. Or if there's a really cool web site on the same topic that I find out about, I'll use that instead, or in addition. The same with a song that has lyrics dealing with the topic, I'll use that.” According to Susan, technology was something that was added to the existing materials that she used for the class.

Denise also thought that it was a good idea to make use of technology such as a computer as a supplemental material although she was “not utilizing the equipment to its fullest.” Denise felt that technology “support materials.” For example, when talking about using Blackboard, she said that she liked the idea using Blackboard so that students could always have support there.

Technology in language teaching and learning

This utilitarian perspective is also reflected in the responses given by the participants when they looked at technology in the ESL classroom. When I probed the participants’ opinions about technology integration in ESL teaching and learning, their reactions were various. Floppy first explained to me her concept of teaching and learning, which was that the teaching and learning process was not separated. She said, “I believe that those two processes are very linked. And I don’t necessarily think that the teacher does all the teaching and the students do all the learning.” She stressed that technology “just facilities both processes.”

Denise indicated that technology was efficient especially in her use of Blackboard. She stated that she used it for administrative tasks and “it is a big convenience.” Denise thought Blackboard was “very easy, very convenient” and provided the “ongoing communication

between the teacher and students." She stated it, "We can provide support in the classroom." But as she said, she had not used it inside the classroom yet. Denise concluded that technology was "quick, it's efficient, it saves time, it saves money."

Blue had the similar viewpoint towards technology integration as other participants'. Although she was the only participant who had used computer technology in her teaching for ten years while other participants had practiced it for two to five years, she described it in a very simple manner saying she liked it. Blue felt that the use of technology in ESL teaching was "great." She said that technology "definitely gives a little spice, creates interests, a little sparkle to the class."

Kochka stressed that the point of using technology was that "you do something different or try a new way." She indicated a generally favorable impression of Blackboard. She said that it helped her organize the class more easily. However, she was concerned how "realistic" that would be for speaking and listening through computers. Rather, she said that computers may offer good opportunities for pronunciation practice. Kochka also thought that an interesting website used to help students learn culture could be "helpful for them in real life or linguistically." For example, a website about Mardi Gras could make students aware of the local tradition as well as providing an interesting website.

Varying from the other participants, Kochka proposed a different idea toward the computer technology use in ESL teaching as she believed that it was necessary for students to use computers while learning a language because sometimes students did not have contact with computer technology. In doing so, Kochka explained, perhaps future university classes would not be as intimidating for a lot of ESL students since they planed to have a career where they would be using English and most of the time they would also be using a computer. Kochka felt that watching a movie or accessing to a website on one screen for a whole class was "just not enough interaction there." "I think," she indicated, "if we use technology, students should be interacting with the technology, or alone, you know. There needs to be more hands-on activities for it to be effective" although she admitted that not every teacher had a chance to use a computer lab because of the schedule and other reasons.

Kochka firmly believed that real life interaction was the best way in language learning even though technology was "a great compliment." During the conversation, she kept mentioning that technology could be used "to advance skills in an interactive way." She thought that it would

eventually progress because of the real interaction. “I think,” she said, “it can really speed that progression up, it can solidify skills, you know, stabilize skills and strengthen them.” When mentioning her computer classes, she stated that she thought it was enough to have two hours a week using the computer to enhance students’ English skills. Kochka indicated, “We don’t want to substitute classroom interaction with technology.” She made the following remark:

> “I don’t necessarily think that computers are the ultimate future of ESL teaching. I think that it will be a good addition, a good compliment, but I don’t think you can learn the language only through computers. I don’t think that’s the way to learn languages, you know, interactions among humans. I don’t think that computers are the only way to learn a language. I just think that in terms of linguistic development I just don’t think it’s possible. Uh, a language is so tentative, I mean, you can learn grammar and everything but you can’t really learn how to interact properly or grow developmently if you are sitting by a computer even if the computer has some kind of listening activities or somehow some kinds of speaking, it’s just nothing can really beat face-to-face interaction. I think that’s the only way to really truly learn a language very, very well.”

In agreement with the opinion of Kochka, Susan insisted that she did not believe technology could replace the teacher although she felt that the use of computer technology was important in teaching and learning. “I definitely see the value of it,” Susan said, “[but] I don’t think I ever consider computers as ‘the answer’ to the language problems or to the learning questions.” She stated that she did not think a computer “will be something in the future that would outdo physical presence of the teacher and students.” She explained that it was because she was concerned about “the dynamics that happen in the classroom.”

The data also indicate a specific perspective. Floppy clearly stated before participating in this project that she only used video equipment for her teaching because her class was oral English and she did not see any uses of computers in such a class. She added a unique perspective on viewing the use of technology in ESL classrooms. She emphasized that “which technology” to be used depended upon the class. She said, “The type of technology the one uses would depend on what’s being taught.” Floppy believed that “it would only become a problem if too much emphasis were placed on the technology itself rather than on the subject matter.”

When talking about the use of technology, the instructors described their different uses in different subject areas. For example, in a composition class they would use films and projector while in a reading class the internet search was used. As Susan expressed her similar opinion, "technology doesn't drive the lesson, topic, or activity I want to have happen in the class; rather the choice of technology follows the curriculum." Denise indicated: "I think the kinds of activities used with technology are different just as activities that are not related to technology are different. … any activity you do, or an assignment, I think that the use of technology is also different."

Teacher as a learner with technology

Some participants also expressed that ongoing learning was part of their teaching. They viewed themselves as learners regarding using technology. For instance, Susan said, "It's like practicing and preaching. I know the value of it but I haven't gotten myself over the hump to actually learn it well and implement it. So I know that there's something I need to work on it personally and professionally." She also mentioned several times that she was not good at computer technology even though she thought that using technology had challenged her. "And that's good," she said, "because I become a learner as well." Additionally, Susan stated, "I can emphasize a lot more with what students are going through because I also have to deal with frustrations of new things."

Denise liked the use of Blackboard, she spoke of the advantages of using Blackboard for both students and the teacher. She was self-motivated and interested in using computers in the classroom. She expressed her excitement about using Blackboard and insisted giving me a tour of it. She said that those features in Blackboard were helpful and had encouraged her to explore more. "It's a learning experience," she stated, "I am open to learn more, and use it more."

During the interview, Kochka indicated that she wanted to learn more because she saw that there was a lot of technology stuff that she did not know about and needed to learn such as the different aspects of using a digital camera and making a web page. Blue, who was leaving teaching career soon, also expressed her desire to "learn more so that I don't get behind."

Summary The participants' personal views of technology in relation to incorporating it into their teaching were explored. Three themes emerged in this category. They are: technology

is a tool; technology in language teaching and learning; and teacher as a learner with technology. These themes have illustrated that all of the participants talked positively about technology and integrating technology into teaching. In fact, the findings indicate that what they have perceived is based on their experiences of using technologies. For example, computers are used for the purposes of internet search, communication and preparation. These uses have brought convenience to them. For these participants, technology is just a tool and it is seen as a means, not an end, to supplement their teaching. In addition, some participants have offered very unique opinions about the issue of technology use in ESL teaching. For instance, Kochka and Susan indicated "interaction" and "dynamic" effect while Floppy asserted that "which technology" to use depended on the nature of the class. The issue of language effect in technology use implies a correlation between language teaching and technology use. That is, the instructors' use of technologies is related to whether a technology is appropriate for a particular class. All of the participants also provided numerous examples regarding technology use in their teaching. Furthermore, most of the participants viewed themselves as learners related to using computer technology and expressed the desires to learn more about it.

Factors Impacting Technology Decisions

Factors, both internal and external, that may have had an effect on the informants' decisions to use technology are not explicitly stated by the participants but rather gleaned from various pieces of information. Some factors appeared crucial to some participants are not necessarily important to other informants, for that reason, any factors considered influential to a particular informant's technology decision are presented in this section.

In this category, the reasons for using or not using technology are identified based on the major themes that emerged throughout the interviews. For example, the theme of benefit of using technology comes from informants' perceptions of technology as well as from their comments about their experiences of using technology. There are six major themes pertaining to instructors' technology decisions that are discussed in the following. They are: benefits of using technology; comfort levels in using computers; personal styles with technology use; time; environment; reality factor, and other possible factors affecting computer use. The factors that were identified

as most influential on instructors' technology decisions are interpreted and discussed in the next chapter.

Benefits of using technology

All of the participants were aware of what benefits using computer technology could bring to them professionally. They saw some value in it and expressed overall positive sentiments. This benefit factor was also reflected in some comments made by the participants that using technology had helped them to various degrees. Kochka, for example, believed that using technology was "very beneficial" for her and had helped her "be more creative in my teaching." She remarked:

> "It just seems you are going to be exposed to so many more ideas that are on the websites and you have to think 'wow, this is a great website, how can I use it?' You have to think of some way to use it. Or you must think creatively in order to make a decent class with technology."

Kochka admitted that the sense of creativity in using computer technology in teaching also affected her and made her "become much more confident." She said:

> "You know, I feel, actually just in regular speaking, in regular classroom teaching, you know, I feel like, if I can do that in the computer lab, I can overcome a lot of fear that way. Well, I'm going to overcome smaller fears that I had about just regular teaching, you know, it's just a confidence builder at this point, (smiling) maybe it wasn't at the beginning, but now it is."

Susan saw the value of using computer technology too. She expressed the same feeling, saying, "I think it's going to make me look at what I do in a different light and force me to be creative." She indicated that using computer technology had helped her look at language and the content of her teaching in a different way. And she was also "really motivated to get into it." She further stated:

> "I think it's impacting me because I'm being challenged to keep up with new ideas and different ways of thinking. And without that, I think I would be kind of stagnating and getting stuck. So it's challenging me."

As for Blue, she thought technology helped make things easy for her especially when using computers in the lower level writing class. "I would say it makes certain things easier for me," Blue said, explaining that she could move around and assist students when they were writing. "You can do deleting, changing things so easily," she stated, "It just makes it easy. It's the easy way to work on the paper on the computer screen, I find, rather than a paper and pencil." Denise also agreed that "it's a whole lot easier if I want to get updated information" like the stories that she found the extra activities and an idea on the internet for students to work on.

The participants also saw a benefit of using technology for students and their learning. Some expressed that they used technology to serve students' needs better, Floppy said that the video equipment she used in class was "the heart of our program because this is spoken English." Floppy insisted the importance of this type of technology for her students. "I do it because it's good for students," she stated, "and students like it." She demonstrated that it was very crucial to use this equipment to help students "become aware of language issues" and others such as teaching methods since those ESL students were trained to be teaching assistants at the university.

Denise used her computer on the cart to project examples of documents and showed students what was a good paper and what they should avoid. She believed that using this had impacted her students' learning and therefore she set her goals "to become more proficient." Even though she used Blackboard for administrative purpose, Denise stated that "it's easy, and it gives them extra resources. They can find everything that they need either on Blackboard or on the Internet."

Blue saw computer technology more as an interest factor to motivate students, "it's kind fun," as she put it. She stated that she was not sure whether or not the students were learning more quickly or better with technology. However, she believed that "there's an interest factor there that maybe it's a little bit motivating." Blue also thought there was an ease factor "making it easy to get a lot of information quickly on the internet to prepare their papers or their work

much more easily than you could without that technology." She said that it certainly was easy for students to contact her through emails.

Susan realized how much the use of computer technology was helpful for students "because I know I've been exposed to some really good programs that exist, software programs and simulation kinds of games and they really make learning fun and assist students." By giving students the assignment in class or for homework to research the information on the computer related to what they were learning, Susan said, "this kind changes the direction," she explained that students went all kinds of directions and came back to class with the different information and exchanged it with the teacher. Susan indicated that it could put pressure on them to take responsibility for their learning and meanwhile affected positively on their learning. "There are multiple intelligences over there," Susan remarked, "they may be not quick in the classroom but when they get it from the computer they absorb it."

In addition, Susan pointed out that using computer technology could give some students who needed time a chance to "process thoughts and process the language" because they often were not able to do speaking at the moment in the classroom situation due to "their culture or personality." She explained that those students could do it on their own schedule, that they could bring together the language that they could not produce at the moment when the teacher demanded in the classroom. In this way, Susan said, "they are able to go back and reflect and put things together." She emphasized, "I think that really benefits the students in terms of their language learning." Meanwhile, Susan was also concerned that technology was going to dominate to a point where students would probably become "a little bit alienated from the learning experience."

Kochka thought that technology was valuable not only for her but also for students. She said, "it's kind of fun to mix it up a little bit, just try to add to their English learning experience besides being in the classroom." Even though she believed real life interaction in the classroom, Kochka felt it was "great" for some students to learn a language with technology. She observed that people learned differently and for some students who were very shy, the computer could help them. "Even if it's visual," Kochka said, "something visual on the computer as opposed to reading a book" could help those students in their learning. Also, she believed that if students could learn how to use technology for other purposes at the same time when they learned English

and felt comfortable learning those skills together, "it's just a great added benefit and it's a double benefit [to them]."

Comfort levels in using computers

When the participants were asked about their comfort level with the use of computers, Floppy stated that she felt comfortable with "what I need to know how to use them [computers]." She further explained, "I'm certainly not a computer science person but I can do everything I need to do very comfortable." She emphasized that "I don't feel uncomfortable around the computer."

Susan found that "to venture into something new is often a frustrating experience" for her. She stated that "the overwriting reason" for her not fully utilizing computer technology was because she was not at that point "where I really feel comfortable or knowledgeable to handle myself in the situations with other people about computers." She said she did not "see the parameters" even when she searched for something on the internet, she would "go off tangents and get lost easily." She admitted "it upsets my perception." When she started to use computers more and more she found herself still not feel very comfortable using a computer in the classroom, as she put, "I've accomplished a lot for a particular task but I myself don't feel secure with it. … And yeah, although I accomplish things, I feel that it's usually frustrating."

She was not alone. Kochka who was frequently using Blackboard and other computer-based technologies also expressed the similar feelings. She indicated that she liked the computer in some aspects and did not like it in others. She stated:

> "I'm somewhere in the middle … I still get a little bit apprehensive because I don't consider myself to be a technological person. Yes, so I still get a little apprehensive but I try not to let that hinder me from, you know, keep me from trying to learn something new or trying to do something new with the students. But I have to [use computers], I will not win it."

Both Blue and Denise expressed that they felt comfortable with the basic use of computers; however, they were concerned more about technical issues while dealing with computer

technology. Blue thought that it would make her uncomfortable "when they don't work, [and] I don't know what's wrong with it." On the other hand, Denise explained, "I'm comfortable with, uh, if I have a technical problem in the classroom that I can fix it. I'm not comfortable with going into the hard drive and typing in these, you know, if there's a problem, and I'm not comfortable fixing it."

Personal styles with technology use

The participants' comfort level is most of the time connected with their computer knowledge. Four of the five informants mentioned that they were not "computer science person" when speaking of computer use in instruction. One of them mentioned it during the member checking. As the interviews progressed, however, only Susan and Kochka implied that their unease with computers was associated with the lack of knowledge about computer skills. According to Susan, she rarely let herself "get into the situations where I'm 'talking about' the technology with the students." She admitted that she felt intimidated by computer technology, "I am always crossing my fingers that nothing goes wrong in the class that they have to ask me [how to fix it]." Susan said that she felt frustrated because of "maybe not knowing exactly how to use it." She mentioned her computer knowledge was "limited" and acknowledged her anxiety was "directly related to my low level knowledge of computers." She also remarked that "In my mind I've gotten that concern [of distance between students and the teacher] but I think it's a little bit ignorance."

Although Susan already scheduled to incorporate Blackboard to her classroom because of the requirement of her own graduate work, she felt pressure. She indicated that she had "philosophical objections to" using computer technology and she stated "maybe it is the distance between students and the teacher." Susan also expressed some fear. "That's fear I have walking into this situation of technology" where "it's the focal point of your day and you get into the classroom and the system is down" even though she had several backup plans. She was concerned that "it is the dependence upon the technology."

Kochka expressed that she sometimes felt pressure to a certain extent in the use of computer technology. She admitted that she still did not feel "entirely confident" because she did not know "enough tricks" and she was worried about being put in the situation where she did not know

what she was doing or required to learn something really complicated in a very short time. She explained that when dealing with something new she usually made sure she knew exactly what was going on before going into the class and using it. "Otherwise," she said, "I will be very nervous and something would go wrong (laughing)." However, she stated that she "let students take care of problems [and] overcome my pride."

Throughout the interviews, Susan and Kochka explained that this might be related to their personal styles regarding their learning and actual technology implementation. Kochka indicated she did not consider herself "to be a technological person." She said, "… my goal is not to become a computer science major and I never will. … I just don't have that type of personality or learning style." She stated that she did not like to stare at computers all day and there were some aspects of computers that she "hate[d]." She remarked as follows:

> "It'll be nice, you know, occasionally to not teach it, you know, for a session. To be only in the classroom, it's always nice to have a break from it. It's nice to go back to that traditional teaching once a while."

Susan agreed. "You know," she said, "as a general rule people tend to like things that they are good at and that they are comfortable with?" She further stated that she did not think she would ever become "the type of teacher that has technology as the center of learning." She said that knowing her own personality and what was important to her, she could always try to "create a balance" where she would find her interest and motive to get into the use of computer technology.

Reality factor

Another surfacing theme is the awareness of the existence of computer technology used in the society. Some participants felt that the realities of the outside world reflected the increasing use of computer technology in teaching thereby pressures them to use technology in order to catch up with the wave of the digital era. As Blue stated, "… I don't get behind."

Kochka indicated that the technological atmosphere was "a big motivation" for her to use computer technology. She said, "It just helps me think of outside the classroom." She indicated:

> "I think it's very beneficial for me because it's just necessary to keep up with stuff like that. I mean, There's so much technology out there that I've no idea about. And for me, to be able to use it in the classroom advances my knowledge, advances my learning, I get to actually focus on and try to find stuff that is out there and it opens up more opportunities for me and allows me to know what's going on. That's a big motivation."

She further stated another "big motivation" was that it was necessary for her to keep up with new things and found different ways to help students in practical ways. She said that she was exposed to "new stuff that is out there that you could use for ideas in the classroom." Kochka remarked that she had to learn those "new things" because "if I don't, I'll feel really behind the times."

Presenting the same view as Kochka, Susan agreed that "when I look at what's out there, you know, it's like open frontier of technology that offers all kinds of alternative ways of thinking about things." She admitted that she would "feel really behind the times" if she ignored the fact of increasing use of technology in teaching. She said this sometimes motivated her to get into the technology world and to bring it into the classroom although she was not very familiar with using computer technology in teaching.

To Denise, adopting computer technology in teaching is the trend because "that's the way it is today" as she put it. Looking around, she said, "Everything is on computers. … Today everybody uses it." Denise thought that this had motivated her to involve computer technology in class and felt that nowadays using computer technology was "just like anything." She further explained,

> "Today everybody has a cell phone, cable TV and computers. Everybody uses technology and the current generation of students has always used computers, so if you don't use computers, you are just behind the times. You basically have to use technology in the classroom."

Environment

Environment also is an important influence in whether or not the participants decided to use technology. An environment includes working atmosphere, resources, and support that affect each other in regard to technology integration. The issue of work situation including the administrators' support discussed here was based on each informant's claim rather than the researcher's observations.

All of the participants stated that they had adequate technical support, saying that they could always receive technical support inside or outside of the classroom either from professionals or colleagues who knew about technology. They all claimed that they had access to the computer lab and four of them stated that they could access to other technology equipments. They were also positive about administrator support in the sense that support whatever these participants were doing with their teaching.

The conditions in each participant's working environment were different. According to Blue, the institution where she was teaching had "a very good computer network, good tech support, and a couple of multi-media rooms for presentations involving the internet and video on a big screen." However, the computer lab for the ESL program was actually "greatly in need of updating," as she put it. On the other hand, Blue said that her administration was "very supportive and encouraging" by providing equipments and she had access to what she needed and a lab assistant for technical support. She said that colleagues in the program also shared what they did with using technology in the classroom.

Back a few years ago, a colleague of Kochka's secured the computer lab from another department in the institution with the support of the administrators who were excited about adding technology use to their curriculum. The lab was maintained by that department and Kochka and her colleagues used the lab for the purpose of the computer class. The program also had other equipment like video and audio that was very accessible in other classes. Additionally, according to Kochka, her program also provided the training opportunity for an instructor who was interested in teaching the CALL class. Although the administrators in the program encouraged using technologies for instruction, "we still believe in interaction," Kochka remarked, "We don't want to substitute classroom interaction with technology. Yeah, that's the general philosophy in the program."

Floppy worked in the department of English and taught graduate ESL students. According to Floppy, the class that she taught had been in existence for longer than five years when she came and technology had already been used and the main part of the class was also already in place, she had just expanded the use of it a little bit in her class. Floppy stated that her administrators did not interfere with what teachers were doing in the classroom but they had "a receptive attitude towards technology" and provided "very nice set of equipment." Therefore, "we have tremendous tools to help our students," as she stated. However, she said, she and her colleagues in her program usually did not discuss the subject of technology use for teaching.

Denise' work situation is not as favorable as the others. She is the only instructor who teaches credit ESL students in her institution. Her ESL students had access basically to all the computer labs on campus. When asked if she was supported to use technology for teaching, Denise said that she requested an IBM at work instead of a MAC computer that everybody else in the department used and the department supported her in that sense. "I wouldn't say that they're not supporting technology," Denise explained, "but they have no money to give us [even] paper, they just have no money." She stated that while handouts were needed for classes, she had to pay for photocopies with her own money for class. Denise obtained a set of computer projection equipment through a grant she was awarded. She would like to update her classroom with the computer and other related equipments but again "the money is very restricted" and she needed to write a grant for that. She said that she had to write more proposals if she wanted to use more technology and other materials in the classroom.

According to Susan, her institution was able to provide the support such as workshops, seminars, and other programs to enlighten faculty about resources available and how to use them. And in the department ESL students could use a computer lab where some laptops and software were provided. A lab instructor usually was in the lab assisting both students and teachers. The administrators usually supported the instructors if they used technology in instruction, but they did not provide time for the instructors to improve their professional development such as learning how to integrate computer technology into language teaching. As a result, Susan "rarely try to motive myself to do, for example, some kind of tutorial just to education myself a little bit more which I actually don't do it as often as I'd like to." Moreover, the administrators "don't give the message that it's a really good idea that we do something with technology in the classroom," as Susan put it. It was up to the instructors to decide whether or not to adopt

computer technology in their teaching but "unfortunately nobody tries." As Susan stated that "we are all at the basic level [in using computers]." She pointed out, "We don't have the environment. It's not the physical environment, but, it's not the priority in our department." She said, "so it's easy for me to just go on the way that I've been going and I'm happy with the materials that we have had already; so I am busy, and so why would I create more work?" Susan admitted that if the atmosphere was encouraging about using computer technology in instruction, then she might be really motivated because "I would have the feeling of staying up on the certain level."

Time

When mentioning their use of computers, all of the participants spoke positively about time concerning computer use in terms of preparation and communications. The conversations were overall positive in the context. Blue indicated that "when it simplifies things it certainly saves times" even though she admitted that more time might be needed in doing reading projects. She also stated,

> "Certainly it saves me time when I use it for preparing, you know, when I'm using it for preparing to teach, that saves me time. Inside the class, everybody is at the computer and I'm walking around, giving assistance as needed, writing assistance. That saves some time. I would have to say I've used computer in ways that I think will save me time but not in ways that would cost me to have to spend more time learning about them."

Denise had similar comments but on using Blackboard and the Internet: "Certainly it's time saving for me and for the students." She indicated that she had enough time to deal with technology. She stated her opinion, saying, "If you have to prepare for a course whether you use the computer or you don't use the computer you still have to spend time to prepare." She gave an example about how she found not only some extra activities but also an idea while researching on the Internet for a story and "incorporate[d]" them for her classes. As Denise explained,

> "Sometimes I get caught up researching things and because it's interesting, you know. I'll go off and search the net and, maybe spend more time but it is because I want to and I find an interesting thing, you know. … not a waste of time. If I want to find a story and I have to go to other literature books, I might have to read the table of contents and read the index and I might search in a second and third book. So I can spend a lot of time doing a traditional search or I can find it on the Internet. … An Internet search doesn't require more time than typing an assignment, going downstairs, making photocopies, or going to the library and putting these on reserve. So whatever you do, it's going to take time. Using the Internet allows me to work in my office."

Denise said that for the students and for practical reasons using computer technology surely saved time. Meanwhile she also admitted that it certainly would take more time to use PowerPoint for the purpose of instruction. But she did not use it because the activities that she did with students did not fit PowerPoint.

Kochka used Blackboard for instruction almost daily. She thought that it was "actually less time-consuming" than a regular class because "from all the accumulating web links related to our regular classes in the past several years, we've had such a wide selection of different sites in Blackboard that it's 'luck of the draw.'" Even though she still needed preparation time, Kochka indicated that using Blackboard did not need a lot of lecture time; therefore, it took her less time to "think about" what to say in class. Moreover, using Blackboard and other technologies in the lab allowed her more individual student time and decreased lecture time encouraged students to work independently or in group work.

Susan also thought it to be convenient and timesaving to use computers for preparation and communications but she also considered time as "a huge investment" in implementing computer technology into instruction. She was the only one participant who was concerned that time probably was the biggest obstacle if adopting computers into daily teaching, even searching the internet needed time. She said she may not use as much technology as she wanted because she did not have enough personal time to learn how to use technology and incorporate it into teaching since her administration did not provide time for the instructors to "refresh." In her case, the lack of time may be because of the working situation.

Other possible factors affecting computer use

The results of self-report survey and interview data for this present study have shown some information about the influence of the possible factors in the participants' use of technology.

Age does not appear to be a factor. Two participants who are between the ages of 45 and 55 felt comfortable with what they are doing with computers while the two younger participants whose ages range from 25 to 34 and from 35 to 44 express their lack of confidence in computer skills. The participant who is very enthusiastic in trying new technologies is from 35 to 44. But none of these informants seem to be rethinking their instruction to take advantage of current computer capabilities.

No conclusion can be drawn about the influence of the number of years of teaching experience because the population is too small and each participant's years of teaching experience is very diverse and their use of computers also various. Nor can definitive position be formulated about the relationship between the participants' education levels and their using technology since most of them have the same degrees and some used a certain aspect of computers more than others.

The kind of computer training they receive does not seem to have a big influence. While three of the five participants who received informal training and the one who had formal training use computers at various degrees with different purposes, the one participant who has no any kind computer training does also use computers to some extent in teaching.

Summary The results of the findings have revealed total six major themes in regard to factors that may impact participants' decisions of using technology in teaching. They include benefits of using technology, comfort levels in using computers, personal styles with technology use, reality factor, time, environment, and other possible factors affecting computer use. Each emerging theme reflects individual participants' different point of view regarding their decisions in technology use in teaching.

All the informants overwhelmingly see the value and benefit of using technology for students and themselves in terms of communication, preparation, and internet search. The theme of personal style seems to show some hidden psychological issues. The overall comments on their environment are favorable regarding resources and technical and administration support;

however, each participant's work situation is different and influences them differently to some extent. Obviously, peer influence plays an important role in their decision.

The links between some factors mentioned above are considered as possible relationships; nevertheless, the nature of this current study is qualitative and has no intention to make quantitative analysis. The results appear that these factors are weak indicators of influencing these participants' use of computer technology in their teaching.

General Issues

In responding to general questions, what most interviewees discussed often includes a variety of topics. Some topics mentioned in different categories can be included in several areas because they are related in some way to the area, but they may also fit just as comfortably under others. As such, some of the issues are presented in this category of the general area.

Teaching style

When I asked about their classroom organization and teaching styles, the informants provided me with their teaching styles as well as their philosophy of teaching. Therefore, my analysis was based on what they responded. Most informants were extremely talkative when mentioning their classroom teaching. They spoke frequently about how they taught in the classroom, such as using videos for speaking and listening, word processing for writing assistance, computers for the internet search, and activities based on materials from a website. The context of all statements was positive. Most of them spoke about encouraging student participation and interaction. They talked about getting students involved and less lecture-based delivery. For example, learner centered teaching was Denise and Kochka's style. Denise asked her students to "do a lot of group and pair work." She said that "the teacher-fronted" was usually explaining a new type of paragraph. Kochka, on the other hand, usually had her students work together which she thought it was still interacting. She also did individual assistance if the class was small enough.

Blue stated that she had "a structured style with freedom for flexibility within that structure." In this style, she gave her students "a clear picture of the goals of the class and how

we will work together to reach them." She usually tried to find an alternative that would work for students if needed. In class, Blue lectured and also involved students in either pair and group activities or individual projects according to the choice that students were given.

Floppy had a similar style as Blue's. She stated that she had "a very clear idea of what I'm doing in the classroom and what, where I want the students to be at the end of the semester." She said she was very aware that the class objective was for students to speak and talk. Therefore she carefully planed activities that focused on students. Floppy said her teaching style was "communicative" because she believed that "it is important to be a good listener as well as a good speaker."

Susan said that she used a very eclectic style, an approach "described as something akin to Gardner's Multiple Intelligence theory." She described her teaching as "more hands-on." She said that she combined aspects of what she had seen, read about, learned and applied it into her classes. She thought that in this way students of different abilities and talents could "have a chance at some point to grasp on to something fun and helpful."

Students' levels of English Proficiency

When the participants did use computers for communications with students outside of the class or asking students to search the internet and assisting their writing in the classroom, they usually do these activities with a specific level of students. In each of those ESL programs, students' levels are assigned based on their overall English efficiency. Most participants saw it a little difficult for some lower level students to exchange emails with the teacher in English. But for classroom use, "it varies from class to class," as Blue pointed out. She said she was more likely to use computers for writing classes in the computer lab but with the lower level students because she thought that more help was needed while they were writing the paper. Blue also felt that "it makes certain things easier" for her in a lower level class because lower level classes tended to be smaller and could fit into the computer lab more easily, also their paper was short and took less time when she gave individual assistance within one class time. "It's just quicker, you can see it more clearly [on the screen], and it saves time." When she needed to do that with the advanced students, she said she often did it on the individual basis in her office. In class they did other things such as learning about different types of sentence structures.

On the other hand, Susan usually used computers predominately with the advanced students mostly for internet searches. She said that there were some things that advanced students could do with technology that they could not necessarily do in the classroom. Susan gave an example of students' virtual tour of American Indians culture on the computer. She thought that doing so students would be interested and be able to remember and retain what they had learned. However, Susan had not really used computers with lower level students. She stated the thought of having a class of lower level students who were not proficient in English or technology and who looked to her for assistance was intimidating. "If we didn't understand each other, then what are we to do?" Susan implied that it may be students' English level and her own computer knowledge that prevented her from doing so. She said that it was probably how she "unconsciously operated computers" with students at different levels.

Kochka said that she enjoyed teaching all students who were at various English levels. She indicated what she sometimes did was making different activities according to the level from the same one website. She admitted, however, some activities could only be done with certain level; for example, she adopted a musical website for the higher level students to practice listening. Kochka also stated that it was more difficult to find easier reading exercises for lower levels and therefore that made it harder for her to do some creative things with the lower levels. She stated that she used "my judgment as a teacher" to pick the appropriate materials for each level; for example, she chose some songs from a musical website and made the exercises out of them for higher level students because she said it would be easier for those students to understand what the singers were singing.

Both Denise and Floppy taught undergraduate and graduate ESL students. The difference of the student level was not an issue in their use of technology. However, Denise made the comments that if the lower level students had not achieved a certain level of communication in English efficiency then what technology the teacher used needed to be adapted to the level.

Student knowledge and interests in using computers

In my pilot study, the issue of students' knowledge of using computers was one of the major factors that affected those instructors' adoption of computer technology in their classroom (See Appendix II). Surprisingly, no participants in this study mentioned this issue until I brought it up

because I wondered why there was such a difference. The responses from all of the participants were similar and none of them spoke of this sometimes making them more aware of computer technology. Throughout the conversations, all of the participants indicated that their students liked to use technology in class.

Blue started using computers in the classroom back ten years ago and she had to teach students how to use computers and prepare their papers with the word processor besides what she was teaching. However, Blue said, to date, students were familiar with it and there was not a great need to teach them how to use computers since "they're more computer savvy than I am" and liked using computer technology. Floppy agreed. She said as for the technology she was using in class, "students like it." She stated, "I don't think the students resist technology." Floppy felt that for college/university students, technology did not stand in the way. She said most of university students were not inhibited by technology.

Denise also had the same opinion. She said that "students today are from the different generation from my generation, so it [computer technology] is normal for them" and that "most of the students like it and know how to use it." She thought their level of knowledge on how to send emails and search the Internet was efficient but some older students and those who had no experience with technology in their countries needed help with their computer skills, including word processing skills. Since they were full-time students and had access to different computer labs, Denise said they could practice with the computers.

Like other participants, Susan also indicated that some students in her class were "more knowledgeable than me" and they were really interested in using technology in the classroom. She stated, "Because they can learn in different ways not only in the traditional way that we do in the classroom."

Kochka was the only participant who used computer technology in class every day. She certainly dealt with student and computer issues more often than other participants. She stated that a lot of her students "know a lot more about computers than I do." She also saw "most of students like it" and were "generally glad that they had used computers" in the classroom. Kochka admitted that student computer knowledge had influenced her to some extent. When something technically went wrong in class and her attempt for fixing it failed, she just asked computer savvy students to do it. She said to her students that she was a language teacher not a

computer expert, “You shouldn’t be pretending that you know everything.” She made such comments:

> “Certainly I no longer feel ashamed because, you know, it’s just not a point. And I tell them the first day in the class, look, at least 80% of you know more about computers than I do, and it’s not the point that I know more about computers, it’s a point that, uh, what I have for you is directed to help you learn English.”

Denise and Susan also saw their students as a resource. Denise stated that if she had a technical problem, “I ask a student to help.” She said, “Why not? If they know more than I do, why not?” Susan said she had tried to “use their skills to put them into the role of teacher or tutor for the moment” to assist the fellow students and even the instructor if the technical problems occurred. She remarked as the following:

> “I have no shame about utilizing students’ skills because I know how good that is for them and it doesn’t make me feel any lesser about a person or a teacher to be able to utilize their skills. I capitalize on that. And it works very well. I usually have a very good report with them and … The same, by the way, applies to using video cameras, for example, because there’s always somebody there that can use it better than me. So I feel fine letting them take the helm.”

Summary Two themes emerged in this area and they are: students’ levels of English proficiency and teaching styles. The issue of student knowledge and interests in using computers is also discussed in this section. Each participant has her unique pedagogical belief and they spoke of their philosophy of teaching when talking about their teaching styles. But none of them mentioned whether or not technology use had influence on their teaching style. In other words, they did not relate their teaching style to technology use. The findings show no intention that these instructors are to use something new to replace their current teaching methods. The findings have shown that the students’ English levels affect some of instructors using specific technology for a particular level, that is, three informants have used technology activities usually based on different levels of students and they do so because of the concern about student English

proficiency. The other two have homogeneous level of students and it is not a concern for them. To these instructors, students' knowledge of and interest in technology has no impact on their integration of technology.

Summary

This chapter consists of descriptions of participants, the presentation and analysis of the data that are related to the responses of the participants in accord with the research questions, and a brief summary at the end of each section.

Eleven themes emerged from the findings and they are shown in four categories in relevance with the issues related to participants' experiences and perceptions of technology and use technology in their teaching. The summarized findings have shown that most of the participants are basically self-trained with the basic computer skills, each developing primarily in a particular area of use that they need personally and professionally. That is, word processing and E-mail are largely used for preparation and communications. Computers are also used by some instructors to search the internet for a specific task. Besides two instructors, Floppy and Kochka, none of the others has become dependent on computer technology for much of their teaching.

From the data, it is found that although they have different backgrounds of using technology and different experiences of utilizing technology in their teaching, these instructors generally possess positive sentiments toward technology. Almost all of them emphasize the utilizable function of technology in a number of examples rather than just giving out such a term as an aid or a tool.

Regarding the analysis of the findings of the four categories, these instructors' views of technology from a utilitarian perspective also reflect on the internal and external factors that may affect their decisions to use technology in teaching. They all see the value and a benefit of technology for both students and themselves although they have different point of view in relation to the factors about the issue of technology integration. The following chapter interprets and summarizes the present study.

Chapter V

DISCUSSION AND CONCLUSION

This research addresses two questions concerning university ESL instructors' perceptions of technology and the factors that affect their decisions to use computer technology in teaching. The study was undertaken through qualitative methodology in order to ascertain issues regarding the instructors' practice and views of computer technology in teaching. These issues in turn provide insight into the factors that influence individual instructors' decisions to implement computer technology into their instruction. This chapter is to present an interpretive analysis of the results and summarize the findings. The organization of this chapter is as follows: interpretation and discussion of the findings, summary, implications and recommendations for future research.

Discussion and Interpretation of Findings

The interpretation of the study results is presented in the form of two research questions with examples drawn from the data. The rich description and explanation help capture the experience and personal view of individual instructor in the study and also enable me to bring creative synthesis to the data. As Patton (1990) and Denzin (1989) state, analysis and interpretation balance description. From the analysis emerged eleven themes presented in the previous chapter. Of all of these themes eight major influential factors emerged. They are: perceived value or benefits; anxiety; personal styles; machines and language teaching; environment; peer influence; teaching styles; and time. They are condensed from the themes that best describe how these instructors use technologies and what they perceive technologies. In other words, a theme discussed in Chapter Four is not necessarily interpreted as an influential factor. Nevertheless, the factors that demonstrate instructors' technology decisions are not existed in isolation, the instructors' experiences and perceptions of using technology reinforce

the factors, so my interpretation is interwoven with the presented findings in accordance with the research questions.

1. What are the experiences and perceptions of university ESL instructors about technology integration?

At the beginning of every interview, I told each informant that the interview was structured into four categories starting with their experiences of using technology. Except for one instructor who used only video equipment for her class clarified with me about the definition of "technology" used in the interview, all of the other instructors talked almost solely about computers in the term of "technology," despite the fact that I separated the terms "technology" and "computers." When they needed to, they specified the particular technologies such as video and VCRs during the interview. Additionally, in the self-report surveys one of the instructors indicated only computer-related technology rather than other technologies that she also actually used in the classroom. The responses of these interviewees appear that they think that using technology explicitly mean using computers and related technologies. This phenomenon suggests that the use of computers is being accepted as a supplement in ESL teaching by these instructors while video, VCRs and the like already are considered as part of language teaching just as videos and projectors in the language classroom.

Experiences

The findings do not reveal much negative experience in their use of technology especially of computers. The results show that except one instructor who does not use computers in the classroom and another uses them extensively, the others occasionally use computers in extremely limited applications for a particular task inside or outside of the classroom. For instance, word processor used in the writing class; a computer used with the projector to display document materials; and the Internet used to find materials and ideas for the class. Other than that, few mentioned using other aspects of computers in their teaching. In addition, the analysis of the self-report surveys and syllabi indicates the consistence with the findings of interviews. The possible explanation for this might be that the use of email, word processor, and the internet in relation to

the class is considered by the three instructors as using computer technology in teaching despite the levels of their use. When I interpreted it to the instructors during the process of member checks, they agreed with me.

If one's only experience with certain technologies is positive, this may shape that individual's viewpoints and affect his/her perception and attitude. Of all of these instructors, none of them mentioned any prior negative experiences with technology, which suggest their overall positive sentiments about technologies. For example, one instructor who expresses most interests in using computer technology in teaching. She implies that if it were not for the time constrains she would write more grant proposals to have her classroom updated with computer technology. She also expresses her desire to learn more about the use of different aspects of Blackboard. Her case suggests that personal or professional experience in the use of technology is a great source of information in relation to the influence which affects the adoption of technologies in instruction.

The ESL instructors in this study use different technologies such as video, VCRs, and television frequently in teaching. They all use computers for class preparations and e-mail communications. They make a strong point in favor of using computers for this purpose. This indicates that each one of them sees an obvious benefit in using computers as a means of communicating with students and preparing lessons. Occasionally some of them use the internet to research on the topic regarding their teaching. The findings indicate that they believe that technology is just a tool and can be used to support teaching and learning as a supplement.

Perceptions

Inquiring into instructors' personal views can explicate their ideas about their use of technologies. The instructors have shared their similar perceptions of using technology into language teaching as an aid for them, but not as a substitute. In other words, they perceive the role of using technology in language teaching as being supplementary and supportive. All of them have supported the idea of using technology as a tool to enhance teaching and promote learning. One instructor asserts the importance of video equipment in her classroom while the other stresses computer use in her teaching is "a supplement." The findings suggest that the instructors' experiences of using technology affect their perceptions. For example, they use such

technologies as videos and projectors because to them the equipment is already part of their instruction. They use computers for a limited purpose because they think computers bring them with convenience and help them meet certain teaching goals as an "easy" means in that sense. Therefore, although they make the minimal use of computers inside or outside of their classroom, their perceptions of computers are overall positive just because the aspects of computers that they use have proven to them beneficial and easy-use. My interpretation of this issue seems to affect what they have perceived and they expressed their unawareness of this issue during the member checks.

Among the overwhelmingly positive statements of computer use, there are also subtle differences. One instructor is concerned that it should not place too much emphasis on the technology itself when dealing with language teaching. Her concern implies the linguistic consideration and the specification of language teaching. The other two instructors also offer a different perspective and they talk about it in more humanistic terms: "… in the [traditional] classroom I feel more comfortable to walk in and feel the situation out"; "it's just nothing can really be face-to-face interaction," or similar comments about the importance of human presence. Although they have very positive statements about computer technology and its use in teaching, they both hold the view that computers is not "the answer" to the language learning neither are they the ultimate future of ESL teaching. The findings seem to imply their contradictory feelings toward using computer technology.

Given the fact of how the instructors use different technologies and how they perceive computer use in teaching, it is not surprising that they possess overall positive views toward technology integration regardless of the amount or type of knowledge they have acquired even though most of them do not implement computers in their instruction. As one instructor states, "I don't have to be good at it or use it a lot personally to be able to understand how important it is."

2. Why do some university ESL instructors use computer technology for their instruction while others do not?

To answer this question, I first remind the reader that out of the five instructors, one instructor does not use computer technology in her classroom in any form but she uses it for communication and preparation. Another instructor, on the other hand, uses computer

technology, mainly Blackboard extensively in the computer lab. The other three instructors actually use computers minimally and use them only for the purposes of preparation, communication and occasionally internet searches. Second, the reader might have realized by now that all of these instructors express overall positive perceptions of technology use with a few subtle differences. My interpretation of their technology decisions is based on their experiences of using technologies and the real meaning hidden behind their positive sentiments.

The results of the study reveal several internal and external factors, of which some have already been identified in previous studies such as time and support. However, the factors that impede or encourage the use of computer technology by these instructors are not readily evident. The factors considered the most influential to some individuals are not necessarily thought as important to the others. That is, a situation that encourages or hinders one instructor to use a specific technology may not affect another. For example, most instructors think a computer is timesaving and "makes things easier" for them, while one instructor states released time is needed to learn how to use computers and implement them into instruction. This suggests that each instructor's decision to use or not to use computer technology is influenced by many factors that may be overlapped.

The following presented factors that are considered influential in each instructor's technology decisions are extracted from the major themes discussed in Chapter Four. Take the example of the factor of peer influence. This factor is discussed under the theme of environment in the category of factors in the previous chapter where I presented the external environment and their reported work situation. As I analyzed it I noticed the other meaning coming out of the instructors' voices; that is, they mentioned the way their colleagues usually did in teaching and I interpreted it as peer influence, one of the most influential factors that had affected their technology decisions. I have tried to be aware of my bias during interpretation; however, some of the factors interpreted in this way may reflect my subconscious inclination.

Perceived value or benefits

Results from this research show that all of the instructors perceive technology use as beneficial to them in permitting them to "simplify things." Given that the instructors use mostly video and television in the classroom and limit the use of computers, it is no surprise that most of

their perceptions are based on their minor use of computers. In addition, as discussed in the previous section, they all view positively about their specific uses of computers because they see the benefit or value in the use of the particular aspects of technologies. The results of this study are consistent with rarely existing college-level ESL teaching and technology research (i.e., Bruce & Desloge, 1999; Leh, 1995) in that the university language instructors, including ESL instructors hold positive attitudes toward computer technology use though few integrate it into their classroom. The findings imply that one of the main reasons for all of the instructors' technology decisions seems to depend on perceived benefit or value that they are convinced of based on that major use. In other words, it could be suggested that computer technology might be not of primary interest to some of these instructors and the use of computers is probably limited to the level where it is considered as beneficial and important to them.

The perceived benefit or value is also seen as a motive to help students make their learning fun in different ways such as computer technology is believed by two instructors to be an assistant to promote students especially those introverted type of students to learn more because of their "culture or personality." The mention of "students like it" seems to suggest that another reason for these instructors to use computers is because of students' attitudes toward computers. However, the outcomes from this initial research suggest that overall positive perception does not necessarily translate to a more utilization of computers. Although instructors believe computer technology is merely a tool and its benefit or value is realized, their use of computers has not shown an increase and also there is no indication that they are ready for more computer integration except for one instructor who will try Blackboard in her teaching. The finding suggests that there may not be a strong correspondence existing between the instructors' positive perceptions and their actual behavior with it in their classrooms. The data seem to imply that whether or not technology is used depends on a teacher's motivation and desire to use it.

Anxiety

All of the instructors indicate that they feel comfortable with using technology only if they know how to deal with the technical problems that may occur during the class. Also, three instructors mention they are more of language teachers than technology persons when speaking of their comfort level. Nevertheless, none of them states technical issues as a negative impact

though only two instructors express their anxiety of a lack of confidence in their computer skills. They do not consider themselves knowledgeable about the use of computers. Although neither resists to computer use in the classroom, one expresses her desire to "have a break" from the computer class and the other indicates that she has no "negative thoughts yet" because she has not "gotten into that point," but she also implies that technology won't be the center of her teaching. The findings appear that these two instructors have ambivalent feelings towards the use of computer technology. The findings imply that technology cannot enhance teaching if the instructors are not comfortable and knowledgeable in its use.

The lack of confidence creates anxiety, so it is likely that if the instructors learned more about using computers and practiced incorporating them into their instruction, they may overcome the anxiety barrier and more willing to use them. The finding is interpreted that these instructors' decisions regarding computer use are probably due mostly to personal thoughts but not to anxiety. The fact that they are not inhibited to use computers seems to suggest that while using computers appears to offer them a benefit that is enough to overcome the inhibiting factors, they will likely to use this type of technology for the time being. However, if the instructors have concerned that human interaction in the language classroom might suffer due to the use of computer technology, it is potentially a barrier for them to fully introduce computers to their teaching under certain circumstances.

Personal style

It is interesting to note the clear tendency by four instructors to indicate they were not "computer science" or "technical person." They regard themselves as more language teachers than technology persons. The reason for this tendency may be more likely related to their lack of knowledge of computer skills. Two instructors, for example, imply their anxiety as something related to personal style while the other two instructors stress the importance of subject areas. Throughout the interviews these two instructors specifically described their thoughts and their way of doing things. While I analyze this, I recognize the fact that I could be biased. Being the researcher, I may be reading into the conversations that some people may think is what I want to find. However, their facial expressions, the phrases they chose and the way they said things got me this impression that psychological issues involve in their use of computers. They indicate that

they do not want to "feel behind the times" in this technology-based society but their own perceptions of themselves might cause the use of computer technology to be a little difficult by affecting their attitudes. The data from the current study suggest that computer use for these instructors is not only a result of learning but also the concerns of an individual's psychological view of computer technology. Psychological issues are not the focal point of this study; nevertheless, their messages reflect that the influence of the notion of personal style perhaps implies that they may think using computers is a technical skill and they are not trained to use computers in ESL teaching. In this regard, they probably consider using video, TV, or VCRs in their classrooms as part of the language instruction but not yet using computers as an integral part of their daily teaching.

Machines and language teaching

The findings have revealed a number of common themes. One theme that serves as a significant factor is these instructors' using computer technology in language teaching. Because the integration of computer technology by these instructors is so limited, it seems to mandate some other finding of instructors' using computers. When speaking of technology use, the instructors described the way how they used different technologies with different classes, such as word processors for a writing class, video and VCRs for the class of listening and speaking. The findings seem to imply an unawareness of a correlation between language teaching and the specific technology they use for the subject area.

Nevertheless, no instructor offers her opinion of the knowledge about teaching ESL with technologies. Based on their own experiences, two instructors state that not every technology is suitable for a specific subject area and that which technology to use is based on the nature of the class. The findings are suggesting that although technology including computers is considered valuable for both teachers and students, a specific technology needs to fit into the particular classes being taught instead of the class fitting into the technology. In other words, it is the specific subject area that decides which technology is used; as one instructor indicates "the choice of technology follows the curriculum." The findings suggest this may be why the instructors do not consider computer use as a priority in their teaching. In addition, the findings seem to suggest that instructors' view of second language acquisition would influence their

technology decision is not solely based on a resistance to or an adoration of computers and other technologies. Rather, as Smith (2003) states in his study of computer-mediated interaction that it is important for language teachers who are using computer technology to understand the norms of language use in technology and their potential relationship to second language acquisition. Even though this discussion requires a degree of investigation and is beyond the scope of the present study, this issue seems to be of significance while dealing with ESL teaching in relation to the use of technology. More work is certainly needed on such an issue as increased interest in computer technology is expected inside as well as outside of ESL classrooms.

Environment

Another distinguishing factor that has been identified is the technological environment. The invisible pressure of nowadays trend influences to a great extent most of these instructors' use of computer technology in teaching. They have realized that computer technology is becoming ubiquitous in our daily lives and its use in education has been increasingly addressed. In fact, the finding indicates that four instructors have seen computer technology as a way to the future and they feel the push, a pressure that comes from the digital, information-oriented society. As one instructor remarks, "that's the way it is today." I interpret this as positive because she seemed to enjoy the way she was using computers when she showed me what aspects of Blackboard she was using and showed me how she used her computer on the cart. She also desired to update her classroom with computer technology.

However, although the other instructors express the desire to learn more about computer technology, my impression based on the findings suggests that technological atmosphere seems to prevent them not getting "behind the times" rather than encourage them to incorporate more computer technology into the classroom. Nevertheless, the finding in this investigation seems to suggest that it is their exposure to technology in this every day world that has resulted in their favorable attitudes toward computer technology and that forced them to use computers for some personal and professional purposes.

The instructors' awareness of technology development in today's digital era does not necessarily reflect their thoughts on their departmental atmosphere or work situation. In other words, working situation sometimes influences instructors' decisions to use a certain technology.

The five participants in this study come from five different institutions and each of them has her own experience of using technologies in that unique environment. According to all of the instructors, they have enough access to equipment, adequate technical support services, and appropriate administrative support. It seems that the availability of equipment and support typically influences the use of technologies. But "it's not the physical environment" as one instructor implies. The findings indicate that the use of computer technology is not "the priority" in most of their departments. It appears that some of the technological environment, with regards to the departmental atmosphere, is not very positive, let alone be interested in it. Although all of the administration is said to be open and supportive, the instructors' computer use seems to suggest that some departments do not morally support computer use by providing a computer technological atmosphere. It is evident that such a situation may influence the instructors consciously or subconsciously on their technology decisions. It suggests that the technical support and availability of equipment may not necessarily encourage technology use; instead, the type of atmosphere in which the instructors are working is more influential.

Peer influence

Whether or not individual instructors use technology is congruent with their colleagues' influence. For example, in the case of one instructor, the specific technology has long been existed for teaching the specific subject area in her program, so the likelihood of incorporating the same technology for her is not minimal. This finds twofold, one is suggesting that peer influence plays a decisive role in whether or not to use a computer or other technologies in teaching. Another important reason is due to the nature of the content of her classes, as one teacher indicates. The finding of this study appears that the influence of one's peers on technology use contributes to her adoption of technology in teaching.

The findings in this study have suggested that peer influence is more influential in the instructors' decisions. One informant, for example, who expresses her willingness to try to adopt computers in her classroom, is somewhat skeptical because as she indicates her colleagues know as much about computers as she does and no one even tries to use computers in the classroom. Another informant seems to be relatively conservative about computer use for ESL teaching. She states that she and her colleagues prefer face-to-face dialogue in class. One instructor is overall

positive toward the discussed issues, states that she shares with her colleagues about technology use in teaching regardless of the degrees of their use of technology. The findings suggest her confidence of using technology comes from the peers. Another instructor has no such an opportunity as to exchange ideas of using technology since she is the only instructor to teach ESL. It is obvious that there is peer influence on most of these instructors' decisions what to use and it probably influences their perceptions of technology use. The findings suggest that peer influence associated with administrative support and acknowledgement of instructors' integration of computers could increase instructors' self-motivation in computer implementation; otherwise, even in technology rich environments the instructor does not see the necessity to incorporate technology in instruction thereby delay wide-spread use of technologies in teaching.

Teaching styles

According to Zisow (2000), teaching style is the greatest factor affecting whether or not a teacher uses technology in the classroom. The analysis and interpretation based on the responses about the instructors' teaching styles and also their philosophy of teaching state that these five instructors have various teaching styles that range from student centered and communicative, to "eclectic" style and "structured style with freedom for flexibility." The instructors express the way they usually teach but do not connect their teaching with technology. In other words, none of them relate their teaching to technology use in the classroom. Depending on what they are teaching, their teaching styles may just as effective as that without using computers. However, compare the description of their teaching styles and the results in relation to their experiences and perceptions of technology, in my opinion, resistance to change exists. Only the accepted tools are different. I think that technology will not change teachers; rather, teachers adapt to new things in regard to their teaching styles because technology just provides tools to accomplish the task. As technologies change, instructors envision new ways of teaching with these technologies. Actually, "the simple effects of teaching styles on technology use may not be very robust," as Grasha and Yangarber-Hicks (2000) state, "any instructional process that tries to shape how we learn or teach will either encourage and reinforce our preferred styles, or create pressures for us to modify them." The findings in this issue imply that the process of implementing computer technology into instruction involves more than learning how to use it effectively, it is also related

to whether one teaching style is more suitable to adaptation of technology than another. In other words, if an instructor's teaching style is centered around innovative and highly motivating teaching techniques, technology will be embraced by and can enhance the teaching of that educator (Zisow, 2000).

Time

Time seems to affect instructors' technology decision positively in this study. Interestingly, the data collected in this project appear that the instructors oppose the idea of using technology is time-consuming. The phenomenon of time seems not a big obstacle to these instructors reflects in one respect that it is because all of them use computer technology mainly for the purposes of preparation and communication. Even if they occasionally use it in the classroom, the majority use is word processing and the internet search. The instructors see time as beneficial in terms of using the computer as a supplement in their teaching. The findings on the time factor from this study suggest that when instructors use less aspects of technology, say, a computer, they may have less negative comment concerning time especially when they view the aspects of their use as beneficial and practical. Then clearly they view time and technology use optimistically. As one instructor points out, "whatever you do, it's going to take time." I interpret it as positive. The results suggest that whether time is seen as an advantage or a bemoaned time loss depends on what aspect of a technology is used and how an individual instructor thinks of it.

The findings also show that only one instructor states a perspective that adequate administrative released time is needed to learn how to use computer technology and incorporate it into teaching. The fact that few mention this issue suggests that the needed release time for professional development especially in the area of technology integration has not been realized by most of these instructors. Nevertheless, the findings of the study indicate that most instructors seem to see time as a positive influence on their technology use due to the fact that they use computers minimally in their teaching.

Summary

This present study was designed to answer the following research questions: 1) what are the perceptions and experiences of university ESL instructors about technology integration? And 2) why do some university ESL instructors use computer technology for their instruction while others do not? The study examines five university ESL instructors' experiences and perceptions of using technologies, identifies eight influential factors that affect their decisions of using computer technology in teaching. Qualitative data collected through interviews, surveys, and documents generate numerous findings that are reported previously in Chapter Four. The analysis and interpretation of the results discussed in this chapter contribute to the understanding of these ESL instructors' personal views related to their technology use in teaching. The interpretation also stimulates much discussion regarding the factors that influence their technology decisions. The conclusion offers a series of issues researchers and ESL practitioners may wish to take up as they consider how to better align computer integration efforts with actual practices of language classroom teachers. Seven major conclusions emerge from this study.

1. All of the instructors found the experience generally positive and they possess the positive sentiments about technology use in teaching. They perceive technology as a tool in their teaching and they do use it this way. They mentioned how technology brings convenience to them, how much benefit they perceive from using computer technology, or how it helps students learn. However, the use of computers for most instructors is at very minimal level and not uniformly applied in their teaching. This can also be observed in some of their syllabi. The possible explanation for this might be that the use of email, word processing, and the internet in relation to teaching is considered by the instructors as using computer technology in teaching. Therefore, their views impacted by their experience of using computers are not as unusual in that sense. Furthermore, the key in adapting computer technology lies in teachers themselves, not in technology. Nevertheless, they seem neither technophobic nor technology leaders.

2. The instructors are aware of the technological circumstances in the every day world that influence their technology decisions. In addition, all of the five instructors are satisfied with their work situation where they think the availability of resources and technical support is sufficient, and the administrators support whatever they decide to do in the classroom. Nevertheless, four

out of the five instructors use computer technology very minimally. One of them does not use computers in the classroom; instead, she uses an alternative she thinks is reasonable for her class. What is missing here? They may see computers as inevitable in their teaching in the future, and feel the pressure and are forced by the atmosphere of the technology-based society to learn and to use computer technology in their teaching. Meanwhile, peer influence actually plays a crucial role in influencing their decisions. It is evident from the case of one instructor who expresses her desire to teach sometimes in a traditional classroom because she and her colleagues prefer interaction in the classroom despite her administrators' overwhelmingly support of technology integration.

3. An issue is raised by the instructors in regard to technology use and the subject area: "which technology you use depends on the class" or "the choice of technology follows the curriculum." The connection between the language teaching and the use of particular technology is probably the instructors' consideration in their technology decisions. ESL teaching is a complicated process and trying to use some technology without considering whether or not it is suitable for a specific subject area would be a hassle in the instruction. What seems to come out is that the reasons for limited use of computer technology is probably they have found the benefit or value to use computers for internet search, communications and preparation but have not experienced enough other applications in teaching. As for other technologies used in the classroom because they are proven useful for a certain class. A case in point is the instructor who uses only video equipment for her specific subject area because "it fits the situation." The results of the present study imply that understanding technology use in language teaching may be vital to the successful implementation and integration of technology into the ESL curriculum.

4. Personal style may influence one's technology decision to some extent. As I have interpreted in the section of factors, the mention of not a "computer science person" regarding the use of computers suggests that there are psychological issues involved in some instructors' reluctant use of computers. I think that this is an important aspect in judging their attitudes toward computers and what their experiences have been. They would like to teach using computers but are concerned about their lack of knowledge regarding computer skills. The instructors' perceptions are interwoven with their psychological frame of mind. Their perceptions in turn influence their attitudes toward computers and potentially affect their progress of using computer technology for instructional purposes. This may be explaining why

the value or benefit of using computer technology is realized but the degree of their utilization is limited. Additionally, the consistence of the study results implies that they may be actually fear of change and innovation that allow them the freedom to try new tools and techniques in the classroom.

5. Eight factors that influence the instructors' technology decisions are identified from the eleven themes emerged in the dada of this investigation. It is rarely possible that the individual instructors' decisions concerning the use of computer technology are influenced by a single factor; rather, both internal and external factors overlap to influence their decisions at different degrees. In other words, one factor that is more influential for one instructor may not necessarily influence another instructor. The decision to use computers is influenced by the combination of factors. The eight factors listed below are found to be associated with their experiences and perceptions of using technology:

- Perceived benefit or value;
- Anxiety;
- Personal style;
- Machines and language teaching;
- Environment;
- Peer influence;
- Teaching styles; and
- Time.

6. Instructors' demographic information has no influence on their perceptions and use of technology despite whether or not they use computers in instruction and how they use them.

7. These instructors tend to use the term of "technology" to imply "computers." Also, few instructors exhibit the knowledge concerning computers use in ESL teaching regardless of their perceptions or the actual utilization of computer technology.

Implications and Recommendations for Future Research

The study results have implications for ESL professionals in university settings and, specifically, for ESL practitioners in higher education. The recommendations for future research discussed here are not meant to be exhaustive; rather, they are intended to stimulate further inquiry.

The results of the current study imply that the influence from the technology-based society and the availability of resources and support are not enough; rather, it may be critical that administrators create technological atmosphere in the work situation and provide moral support to the instructors who are interested in teaching with computers. The case of one instructor indicates that she has realized the external pressure coming from the digital society; she has full access to equipment within her own department, yet "my program doesn't really encourage or push me to go in that direction and so, you know, it's easy for me not to [use computers in teaching]."

The experience with computers is an influential factor in instructors' personal views of computer integration. If the efforts of incorporating computer technology are to be promoted and expanded, it is necessary that the instructors are provided with opportunity to expose to other aspects of computer technology in ESL teaching and engage in the implementation process. Several instructors express a desire to learn more about computer use in teaching while some are concerned about the sensitivity of ESL curriculum and instruction while considering technology implementation. Understanding what factors influence instructors' technology decisions and what motivation is behind the various factors is a significant step in technology integration.

Recommendations for Future Research

The findings from this present study suggest several areas for future research to address. Future researchers should:

1. conduct a similar study with more instructors in wide range of institutions, and compare the factors or correlate them;
2. conduct a similar study with department administrators;

3. conduct a study investigating the correlation between ESL instructors' behavior and psychological factors regarding computer technology;
4. test the correlation between the use of computer technology and ESL teaching at the university setting in order to shed some light on issues unique to ESL curriculum and instruction;
5. conduct a study focusing on the relationship between different technology use and different subject areas related to ESL teaching;
6. conduct a study to examine how ESL instructors' views of language acquisition is related to technology and at what level they use it in their instruction;
7. conduct experimental research to test which particular technology is more suitable for a specific subject area like listening at a certain level, such as computers versus video;
8. conduct an experimental study to compare the affect of human presence and computers dominated instruction on students' learning;
9. conduct a comparative study between institutions to determine the variables that may account for differences between institutions; and
10. conduct a study to predict ESL instructors' readiness for the implementation of computer technology in ESL teaching.

Closing

Within the last five years, computer related technology has become available for students and teachers in most schools and higher learning institutions. While videos, tape recorders, overhead projectors, and televisions have been adapted as supplementary to teaching, are computer-based technologies being accepted and used by ESL teachers any faster than videos and televisions were 25 years ago? The results of this present study suggest that resistance to change is constant.

This study examined ESL instructors' responses to the use of technologies and their views of technology integration. Five university ESL instructors formed the data base for this study. Qualitative data was collected using interviews and surveys including demographic information and syllabi. Analyses consisted of coding and systematic matrix under each category. Eleven themes were drawn from this data. They include: technology is a tool; technology in language

teaching and learning; teacher as a learner with technology; benefits of using technology; comfort levels in using computers; personal styles with technology use; reality factor; time; environment; teaching style; and students' levels.

The instructors use technologies to varying degrees and expressed the overall positive perceptions of technology use based on their specific technological experiences. In particular, these instructors appear to use some technologies within their comfort zone; but the reasons for each individual to use specific technology are different and their use of technologies is affected by eight factors identified as influential in their technology decisions. The factors emerged from the themes include: perceived value or benefits; anxiety; personal style; machines and language teaching; environment; peer influence; teaching styles; and time. The instructors could not be influenced simply by a separated factor. Some factors probably are specific to the particular individuals. Specifically, the themes suggest that there are technology and language connections in language teaching with technology. The discussion and interpretation indicate the factors such as personal style and the correlation between ESL teaching and technology use have not been recognized as major problems in technology use literature.

Although this study is limited in scope with only five informants, the triangulation of data collection and analysis as well as the contextual framework of the multiple sites contribute to the validity and trustworthiness of the findings. The data indicate that there are different types of ESL programs in different higher learning institutions; therefore, the study results should be useful to all ESL programs in higher education institutions in the understanding of computer technology implementation with regard to ESL teaching at the college level.

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APPENDIXES

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UNIVERSITY OF
NEW ORLEANS

DEPARTMENT OF
CURRICULUM AND INSTRUCTION

CONSENT FORM

1. **Title of Research Study**
   University ESL instructors' perceptions and use of computer technology in teaching

2. **Researcher**
   Investigator: Lili Bruess, doctoral student, Department of Curriculum and Instruction, University of New Orleans, New Orleans, LA 70148. Telephone: (504)280-6605. Email address: lbrues1@uno.edu.

   Faculty Supervisor: Richard Speaker, Graduate Studies Director and Associate Professor, Department of Curriculum and Instruction, University of New Orleans, New Orleans, LA 70148. Telephone: (504)280-6534. Email: rspeaker@uno.edu.

3. **Purpose of the Research**
   The purpose of this study is to examine university ESL instructors' perceptions toward teaching English as a second language with technology in the university classroom and their actual integration of technology. Findings will provide information for the use of technology in the instruction of teaching ESL at the college level. The research, furthermore, will explore the possible factors that have influenced the instructors' decisions of using or not using technologies for the purpose of instruction.

4. **Procedures for this Research**
   The participants in the study will be 5 to 7 university ESL instructors. You will be asked to volunteer in one or two individual interviews lasting from 30-60 minutes each. All interviews will be conducted in person by the researcher and will be audio-taped for the purposes of transcription and analysis. Tapes will be destroyed upon completion of the study.

5. **Potential Risks or Discomforts**
   It is very unlikely that participants will experience any major discomfort as a result of this investigation. Time and effort are the main contributions that you will make. Participants will be reminded that this is voluntary and that you may drop out at anytime throughout the process of data collection and analysis. If you wish to discuss these or any other discomforts you may experience, you may call the researcher listed in #2 of this form.

342 Bicentennial Education Ctr. *Lakefront Campus*
2000 Lakeshore Drive
New Orleans, Louisiana 70148
504.280.6605 *fax* 504.280.1120

6. **Potential Benefits to Participants or Others**
   This study might have no particular benefit to individual participants, but the results of this investigation can help university ESL instructors and curriculum designers by providing information which can guide them in designing the curriculum for teaching English as a second language with technology at the college level. Implications will focus on how to assist college ESL instructors in using computer technologies in their instruction and how to help students learn English as a second language with technology at the college level.

7. **Alternative Procedures**
   Your participation is entirely voluntary and you may withdraw consent and terminate involvement at any time without consequences.

8. **Protection of Confidentiality**
   Participants' names, work sites, and any other identifying information will be kept confidential at all times. Likewise, names will not be identified on audiotapes. In addition, in no way will any identifiable characteristics be mentioned to reveal the identity of anyone involved in this study. Taped interviews will be transcribed by the investigator and kept confidential, and no one else will have access to participants' information for this research. This signed consent form, audiotapes, interview transcripts, and any other material pertaining to this investigation will be maintained in a secure and confidential manner by the researcher.

9. **Signatures and Consent of Participant**
   I have been informed of all procedures, possible benefits, and potential risks involved in this investigation. By signing this form, I have given my permission to participate in this study.

_____	_____	_____
Signature of Participant	Name of Participant (print)	Date

_____	_____	_____
Signature of Interviewer	Name of Interviewer (print)	Date

Appendix II. Result of the Pilot Study

Discussion

Through coding and analysis of the data, I have found some interesting and unexpected issues. From the results, nine major themes have emerged revealing valuable information concerning the following areas. They include 1) instructors' motivations and interests in technology use; 2) students' knowledge of using computers; 3) access to equipment; 4) technology is a tool; 5) teaching styles in accord with technology use; 6) instructors' perceptions on the impact of technology use on ESL students and their learning; 7) instructors' experiences of using computers; 8) age factor; and 9) time factor. I discuss them in the following based on the importance I have given to each issue.

First, motivation and interests play a very crucial role that affects the instructors' attitudes and their use of technology in teaching. In this study, the instructors' motivation is significantly correlated to their use of technology in teaching. Nina Brotsky says, "… using technology in the classroom not only for myself but for my students." The degree of the instructors' technology integration is largely based on their intrinsic motivation. Jill Owens wants to "reach the students" because "teachers have to engage." In addition, attitude and motivation are correlated with gains in the individuals' needs. Chloe Turner asserts that she is not yet "strongly motivated" to use technology inside her classroom because she must find "new uses of computers" for her instruction. Jill expresses her needs "to learn more software so that I can use other programs and integrate them into my teaching." The instructors' use of technology is motivated more by their personal interests and needs. When the instructors do have an interest in and feel comfortable with using computers, they feel confident enough to bring technology into their classroom. As long as there is no reluctance or even a mistrust of technology from the administration, the instructors' own motivation plays a very important part in their technology integration. Highly motivated instructors are usually more willing to adopt and incorporate technology into their teaching as opposed to the ones who are not.

Second, students' knowledge of using computers is an important external factor that influences the instructors' technology integration. The findings have shown that all of the three instructors demonstrate students' ability of using computers to a certain extent affects their effective use of technology in the classroom. All three of them reported that the level of the students' knowledge of using computers is crucial for their technology integration. According to the findings from Office of Technology Assessment (1995), teachers are motivated by students' enthusiasm for technology to use it. Nina says that "the majority of the students they come with at least as much knowledge of the technology that I have and sometimes more" and that did not bother her, instead, it encouraged her to seek for the use of the computer lab from another department for her teaching. Students' knowledge of using computers also gave courage to Jill. "Because the students are more savvy and willing to cooperate, I feel comfortable to learn [technology] with them," she says, "Whatever motivates my students, it helps." However, as Chloe states that if in a class the ability of some students' use of computers is low it could create a problem for the instructors to effectively use technology in their classrooms. She warns

that if the students "don't know the first thing about word processing or anything you are stuck." The findings suggest that these instructors are aware of the students' knowledge of using computers and wisely use the information to assist their own technology integration.

Third, access to equipment becomes accessible when the instructors are internally motivated to integrate computers in their teaching. Individual motivation and interest enable the instructors like Nina and Jill to see the opportunity of using existing computer lab or media classroom for their instruction. The opportunity encourages them to seek for access to equipment for the instructional purposes. Some early research (e.g., Davis, 1998; Hansen & Perry, 1993; Smith, 1998) shows that integrating technology is hindered by the lack of access to equipment. Chloe says in one of our informal conversations that she does not think access is a big problem for her, that she would use technology as long as she is "strongly motivated" and find "the useful applications" for her use inside the classroom. Data analysis in this study indicates that instructors' use of technology is motivated more by needs for the technology than access to computers (Ali & Elmahdi, 2002).

Fourth, the ESL instructors are positive about the use of technology and they all believe that technology is a good tool for language instruction. As early as1995, Leh found in her study that although technology was not used much by the university foreign language and ESL instructors, their attitudes toward using technology in language teaching especially in ESL teaching was very positive. Similarly, in this pilot study, Nina and Jill use technology often in the classroom and they think that using technology has helped enhance not only their own teaching but also the students learning. Jill says she gives her students "the best tool I can to help them keep going …" Nina believes that technology is being used more as a tool to help the students practice English and reinforce what they learn. Chloe also believes in it; however, she has her own unique perspective. She emphasizes that a computer is just "a gimmick or tool," a teacher should not use a computer in the classroom for the sake of using a computer. It is believed that computer technology is a tool and its use in the ESL classroom could be a valid instructional practice but it depends on how the instructor uses it.

Fifth, there is no apparent relationship between technology use and teaching styles. When introducing technology into the classroom, an instructor is facing a new challenge in the way she teaches. Chisholm and Wetzel (2001) suggest that the educators' high comfort level with technology use in the classroom is related to their constructivist approach to teaching. Robin and Harris (1998) also revealed in their survey that technology users were more social constructionist in their world views and preferred learner-centered teaching. The responses from all of the three instructors reflect the constructionist view. Jill feels that it is a "whole potential dimension" teaching with technology. However, I find through the classroom observations that the course contents limit their teaching styles. As Becker and Ravitz (1999) point out that "just because computers may potentially facilitate the ability of teachers to engage in constructivist teaching doesn't mean it necessarily will happen." The results of this pilot study seem to suggest that it is not necessary that these instructors' use of computers supports their

views of constructivist teaching. The findings also indicate that these instructors seem to develop an understanding of teaching styles and their relationship to constructivism although this does not guarantee they implement it in their classrooms.

Sixth, there is a positive perception on the impact of technology use on ESL students and their learning, especially at the lower levels. Both Nina and Jill express very positive attitudes about using technology in the ESL classroom and the positive effect it has on the students. Jill thinks that "technology empowers the students." Nina says that "… doing computer activities at the lower level, … they can make mistakes without feeling guilty." They believe that using technology intrinsically motivates the students and enhances their learning and also prepares them for their future studies and careers. Sianjina (2000) points out that using technology creatively and thoughtfully in the classroom can encourage development in students of diverse backgrounds. All three instructors demonstrate the importance of technology use for lower level ESL students and their learning. Chloe agrees that students at the lower levels can do "the kinds of exercises" made for them on line.

Seventh, the different experiences of using computers affect instructors' teaching with technology. All of the participants are familiar with computers and have used them in different degrees for various purposes for many years prior to their integration or utilization in their teaching. Beyond the positive attitude toward technology itself, frustrations play a part in technology use especially for Chloe. It is a result of the frustration she has experienced in using computers over the years that influences her technology integration. However, there is no report that Jill and Nina encounter the massive frustration that hindered their use of technology in the classroom. The findings seem to suggest that although they all hold positive attitudes toward technology itself, these instructors' positive or negative experiences of using computers affect their practice of technology in teaching. There is no tendency that long years of experience in using computers automatically motivate an instructor to infuse technology into his/her teaching.

Eighth, one of the interesting findings is the age factor that I believe influences an instructor's practice in technology integration. Attitudes toward computers are positive, but the younger instructors rate their computer expertise higher. They also express much higher motivation and are more enthusiastic about using technology in class. Although some research (i.e. Robin & Harris, 1998) found that technology use has no correlations with age and experience, the in-depth interviews with my informants suggest that the age factor does affect their motivation for using technology in class. Jill is "so very excited about what is happening." And Nina feels that she won't be able to have class without her computers. As for Chloe, she complains that she is "too old to keep changing all the time." She is the most reluctant to integrate technology regardless of her positive attitude toward technology itself. However, the frequency of utilization of the computer for tool, communication, and resource location tasks seems no different for these instructors at the different ages.

Finally, time has a different affect on the different instructors. Time usually is a very important external factor in a teacher's integration of technology (Ertmer, 1999).

Becker's (1994) study suggests that female technology-using teachers usually have higher demands on time compared to male technology users. Surprisingly, Nina and Jill did not report time constraint in their use of technology. To Chloe, however, time always appears to be more demanding and obviously influences her use of technology and infusing it into teaching. She says that because she uses Blackboard she has spent much more time for putting things on Blackboard. This might suggest that insufficient time to put lesson contents up in the computers results in resistance of integrating technology into the classroom. In contrast, if an instructor is internally motivated, s/he manages time to fit her/his technology integration.

This study concludes that for these ESL instructors, educational applications of technology in ESL classrooms seem to be relegated solely to the individual teacher's interest, initiative, and good intentions, and that if the instructor has motivation and a need to use and integrate technology, she can foster positive attitudes toward the use of computers in teaching and learning and eventually will integrate it into her teaching.

Appendix III. Pilot Interview Questions

Interview Questions

1. Can you tell me about your background or experience with computers?
2. What kind of computer technology are you using?
3. What do you think about technology use in ESL classroom?
4. What impact do you think the use of technology has on ESL students and their learning?
5. What influence has technology use had on your teaching?
6. What do you think of technology, do you use it as a tool or you integrate it into your instruction?
7. Do you feel comfortable using technology in your classroom?
8. With the use of technology, what has been your best success? And your worst failure?
9. Do you get support from your administrators?
10. What's your concern about your use of technology in the ESL classrooms?
11. What is your need of technology integration in teaching?
12. Do you have your own website created for the instructional purpose? Are you planning to have one in the near future?
13. What is your plan with technology integration in your instruction?
14. What is your teaching style?
15. Do you have anything else to add on?
16. If you think of something else, would you please let me know?

Appendix IV. Format of Dissertation Interview Questions

Format of Interview Questions

I. Experiences of using computer technology (including personal and professional use):

1. Tell me about your experiences of using computer technologies and other technologies personally and professionally.
2. How comfortable do you feel with technology?
3. (If using it for teaching) What kind of technologies do you use for your teaching?
4. How do you use technologies to teach your ESL students?
5. (If using it outside of the classroom) What kind of technologies do you use outside of the classroom?
6. How do you use them?
7. You mentioned in the survey that you use technology as integration (utilization) for your instruction. Can you tell me more about it? Give me an example?
8. Is there any support for you in your teaching with technologies? What type of support?
9. What do you think of access to computer technologies that you need for instruction?
10. Is there any other teacher using technology you can turn to for help?

II. Perceptions of technology and technology use for teaching:

A. View of technology use

11. What do you think of technology use in ESL teaching and learning at the college level? **OR:**
12. Would you tell me about your thought of technology use in classroom?
    a. What do you think about computer technology?
    b. What do you feel about using technology in ESL teaching?

B. Impact

13. What do you think of the use of technology-based instruction in your teaching?
14. What do you think technology help students or get in the way of their learning?

III. The influence on the decision of using or not using technology in teaching (the following questions are for direction purpose):

15. Is there any reason for you to use the specific technologies in your teaching?
    <u>If not use:</u> If circumstances are different, would you use/consider to use technology for your teaching?
    <u>If use:</u> What is your motivation to use technology for teaching?
16. Have you experienced any difficulties using technology in teaching? Has that affected your use of technology in any way? Examples?

17. What do you think of the student's knowledge of using computers affect your use of technology for your teaching?
18. Do you think time plays a part in your use of technology for teaching? An example?
19. (if using technology) Has using technology affected the way you teach? How?

IV. General

20. What is your concern about your using technologies in your teaching?
21. (If using technology) What is your current need associated with technology use in your teaching?
22. Do you have any plan to use technology for your teaching? What is it?
23. How do you organize your classroom?
24. Is there anything else you would like to add on? If you think of something, would you please let me know?

Appendix V. Self-Report Survey

Demographics and Self-Report Information

Please indicate your preferred pseudonym: _____

1. Your gender: female _____ Male _____

2. Your age is 25-34 ____ 35-44 ____ 45-55 ____ 56 or over ____

3. How many years have you been teaching? _____
   How many years have you taught ESL? _____
   How many years have you taught ESL in the higher education institution? _____

4. Please state the degree(s) that you earned.
   Associate ___ Bachelor ___ Masters ___ Plus 30 ___ Specialist ___ Doctorate ___
   In the field of _____

5. What is your rank?
   ___adjunct faculty member (full time, part time)
   ___instructor
   ___assistant professor
   ___associate professor
   ___professor
   ___other (explain_____)

6. Do you have access to computers? At home _____ At work _____ No ____

7. How many year(s) have you been using computers? _____

8. Please estimate the number of hours per week you use the computer. _____

9. Have you received any computer training? Informal___ Formal___ None___

10. Have you been involved in using computers in your teaching? ____ How long? ____

11. Your primary use of a computer is for:
    ___ instruction/preparation
    ___ communications
    ___ research
    ___ administrative tasks
    ___ other (explain _____)

12. Please specify where you use technology:
    ____ inside the classroom
    ____ in the computer lab/multimedia reproductions classroom
    ____ outside the classroom
    ____ other
    ____ do not use technologies for teaching

13. What technologies do you usually use in teaching? Please indicate:
    _____

14. How often do you utilize a computer in the classroom:
    ___ frequently (on a daily basis)
    ___ occasionally (when needed)
    ___never

15. Most of the current technical assistance you receive comes from:
    ___ colleagues using technology
    ___ computer services
    ___ professional colleagues
    ___ a lab worker
    ___ other (explain _____)

16. Please rate your use of technology in teaching practice as:
    ___ nonuse –I do not use computer technologies for my instruction.
    ___ utilization –The use of technologies is supplemental for my instruction.
    ___ integration –The use of technologies is essential for my instruction.

17. Please rate yourself as a computer user:
    ___ exemplary
    ___ above average
    ___ average
    ___ below average

18. Your program is: ESL_____ IEP _____

19. Please indicate the student structure in your program: credit____ noncredit ____

20. Your student education level is: graduate ____ undergrad____ both___ various ____

THANK YOU FOR PARTICIPATION !

Appendix VI: Sample of transcript and matrices.

WITHIN-CASE DISPLAY CONCEPTUAL MATRIX (Susan)

Themes	Quotes & Line numbers in the transcript
Perceptions	I think **it's an excellent idea**. I mean **I don't have to be good at it or use it a lot personally to be able to understand how important it is. I realize on the intellectual level how important it is and how much it helps students** because I know I've been exposed to some really good programs that exist, software programs and simulation kinds of games and **they really make learning fun and assist students**. 88 But it's like practicing and preaching. I know the value of it but I haven't gotten myself over the hump to actually learn it well and implement it. So I know that there's something I need to work on it personally and professionally. But **I definitely see the value of it**. I don't know, **I really don't believe it could replace the teacher**, and that sounds like a, you know, standard trends. And **I don't think it will be something in the future that would outdo physical presence of the teacher and students**, you know, **that dynamic that happens in the classroom**. 92 **I don't think I ever consider computers as "the answer" to the language problems or to the learning questions** but my opinion about my use of computers in the classroom is fair, it's not good, it's just…. (pause) 247 On the philosophical level I'm concerned in general that technology is going to dominate to a point where students become a little bit alienated from the learning experience. 292 I think **the technology doesn't drive the lesson, topic, or activity I want to have happen in the class; rather the choice of technology follows the curriculum**. For example if we're talking about or studying Crime and Punishment, and I see a report on TV that I think would work well with the unit, I'll record it and show it in class after I've created a worksheet for it. Or if there's a really cool web site on the same topic that I find out about, I'll use that instead, or in addition. The same with a song that has lyrics dealing with the topic, I'll use that. (follow-up)
Benefits	I think **it's going to make me look at what I do in a different light and force me to be creative**. 129 I think **it's really helping me look at language and the content of my teaching in a different way**. So I think it's impacting me because **I'm being challenged to keep up with new ideas and different ways of thinking**. And without that I think I would be kind of stagnating and getting stuck. So **it's challenging me**. 133 So I think **that really benefits the students in terms of their language learning**. 117

Themes	Quotes & Line numbers in the transcript
Learner	So it's challenging me. And that's good because **I become a learner** as well. I can emphasize a lot more with what students are going through because **I also have to deal with frustrations of new things**. 136 I think it's better than before because I'm using it more than before. I think it's good but I think I really need to do more. I consider myself at the beginning stages of using technology in the classroom. So what do I think about that? I think it's a beginning but it's a far cry from what other people are doing, so I really want to get to that point. 244
Environments	There are always notices for a little workshops happening in the library or the communications department will put something on. It's something that I have to go out and take advantage of it. It rarely comes directly to my department or, you know, they're for me. I have to go out and do it. We have technical support number that I become familiar with in my office. When I have problems I call them and they help me through it. And I actually use that a lot. Whenever I have problem I ask them, pick the telephone, you know. 69 **It's up to the instructors**. They don't. they don't encourage me, (when you use it, they support you) yeah, but they **don't give me the message** that it's a really good idea that we do something with technology in the classroom. 78 You know, to tell you the truth, nobody that, on the rare occasion, you know, yes, but not regularly. And maybe that's part of my dispense to them. No, not in my department, unfortunately. 84 …also what I said before **my program doesn't really encourage or push me to go in that direction** and so, you know, it's easy for me not to. 206 I would have to be really self-motivated because my program doesn't say, you know, we really want you to be in the computer room or the lab three times this month or two times this week. They don't , so it's easy for me to just go the way that I've been going and I'm happy with the materials that we have had already so I am busy, and so why would I create more work? 208 I mean I have a computer at my desk to do whatever I want. We have a computer lab that our ESL students can use. It's for us. There are about 10 laptops in there, including the instructor. So I have access in that sense. 216 **We don't have the environment. It's not the physical environment**, but, **it's not the priority in our department**. Unfortunately nobody tries. I think if I ran the program where my colleagues were doing that, you know, "doing this in the classroom with computers and doing that," then I would be really motivated because I would have the feeling of staying up on the certain level. But nobody is like that so we are all at the basic level.231

Themes	Quotes & Line numbers in the transcript
Comfort level	I think that **my knowledge is really limited**, I use it for specific purposes and to venture into something new is often a **frustrating experience** for me. To me, the internet and computer has just, I don't see the parameters and even when I am searching for something I go off tangents and got lost easily. And it upsets my perception. And yeah, it's kind of my experience. Although I accomplish things, I feel that it's usually frustrating. 17 I rarely let myself get into **the situations** where I'm "talking about" the technology with the students. And I am always crossing my fingers that nothing goes wrong in the class that they have to ask me, you know, we get into **this situation** (laughing) with. They know how ignorant I am. 29 I've gotten **some philosophical objections to it**. I have some **fear**. Maybe there's a distancing between students and the teacher and actual experiences. In my mind I've gotten that concern but I think it's a little bit ignorance. Maybe not knowing exactly how to use it. 97 You know, as a general rule people tend to like things that they are good at and that they are comfortable with? And I'm not at that point yet where I really feel comfortable or knowledgeable to handle myself in **the situations** with other people about computers. So I think that's probably the overwriting reason. 203
Tool	I think it was a **simple**, (pause) maybe not a coincidence but there were things that I've found on the computer, for example, on the internet, that coincided what we were studying and I consider it as **a supplemental**. It was never before the core of my teaching or the lesson of the information I wanted to get. It was always to supplement. So for example, if we were doing a reading on life in island and I found a really cool website, then I would try to use that as a supplement to the materials I already had in place. 148 **It was something that was added to the existing materials**. 154 when I use technology it's just been to supplement a topic that we already focused on 276

Note: This is part of the matrix for the case of Susan (pseudonym).

VITA

Lili Bruess was born and grew up in Hangzhou, China. She received her B.A. degree from Hangzhou Teachers College with a major in English Education. She worked for several years as a teacher of English as a Foreign Language in a secondary school. During her teaching career, she has taught the span of seventh graders to twelfth graders, as well as counseling students. After she came to the United States and studied at University of New Orleans, she taught Chinese to college students and adult learners in the critical language program in the university. She also taught ESL at the intensive English program in the university during her internship. Since she was a graduate assistant for the federal funded technology project, NOCTIITE, her interest in technology integration has increased. Lili received her M.Ed. in December, 2000, and her Doctor of Philosophy in May, 2003, with major in Curriculum and Instruction. Her current research interests deal with the implementation of computer technology into ESL teaching and learning. She is also interested in working on a grant of education scholar exchange program between the American and Chinese universities.

DOCTORAL DISSERTATION REPORT

CANDIDATE: BRUESS, LILI

MAJOR FIELD: CURRICULUM AND INSTRUCTION

TITLE OF DISSERTATION: UNIVERSITY ESL INSTRUCTORS' PERCEPTIONS AND USE OF COMPUTER TECHNOLOGY IN TEACHING

APPROVED:

Major Professor & Chair DR. RICHARD SPEAKER

Robert C. Casberg

Dean of the Graduate School

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DATE OF EXAMINATION:

MAY 9, 2003