

Does Practice Match Perception? An Examination of Instructors' Espousal and
Enactment of CALL in the Second Language Classroom

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Stephanie L. Korslund

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This dissertation titled
Does Practice Match Perception? An Examination of Instructors' Espousal and
Enactment of CALL in the Second Language Classroom

by

STEPHANIE L. KORSLUND

has been approved for
the Department of Educational Studies
and The Patton College of Education by

David R. Moore

Professor of Educational Studies

Renée A. Middleton

Dean, The Patton College of Education

Abstract

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The purpose of this research was to better understand instructors' espousal and enactment of technology for teaching English as a second language and how their espousal aligned with their enactment. Six instructors from one intensive English program participated in interviews and observations. Key personnel and students provided additional information on instructors' integration of technology through interviews and a questionnaire, respectively.

Results of the study show that instructors' definitions of technology influenced the way they integrated technology into their language courses. Instructors' perceived technology as being beneficial to their teaching practices with all of the instructors having been observed integrating technology into their courses in some way.

Findings indicated instructors' espousal and enactment of technology integration in general were in alignment with their definitions of technology and their integration of technology. However, one key difference was noted. While instructors espoused student-centered teaching philosophies, discussing how technology integration could facilitate such philosophies, most instructors' integration of technology was more aligned with teacher-centered practices.

Future studies should consider examining further instructors' espousal and enactment of technology integration with regard to their teaching philosophies. The current study examined instructors in only one intensive English program. In order to better understand instructor espousal and enactment of technology integration in the English as a second language classroom, future research should explore this research in other English as a second/ foreign language contexts.

Dedication

For Theodore

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Chapter One: Introduction

Background of Study

The use of technology in education is not a new phenomenon. Ever since the introduction of the Apple II in the 1970's, technology, specifically that of computer technology and technologies related to computers, has been integrated into our everyday lives (Haddon, 1988). It is understandable that a certain level of skepticism from educators be present as past technologies have come and gone, along with revolutionary changes that were supposed to accompany them (Salaberry, 2001). When it comes to computer technologies; however, their integration into many aspects of everyday life makes it difficult to ignore the topic in relation to education. Even before the Apple II hit the mainstream market, research on computer technologies in the classroom had been conducted (Zinn, 1967). This is especially true regarding the second language classroom (Adams, Morrison, & Reddy, 1968; Curtin, Clayton, Finch, Moor, & Woodruff, 1972; Warschauer & Healey, 1998).

For almost five decades now, researchers within second language learning have investigated how technology is integrated into the language-learning environment. What has emerged from this body of research is the field of computer-assisted language learning (CALL). While CALL is relatively young in comparison to similar fields such as linguistics or second language acquisition, the number of studies that have researched CALL has shown a marked increase over time (Debski, 2003; Zhao, 2003). Despite this increase in CALL research, the themes within the field have barely changed. One area

that has yet to receive much attention is how instructors are integrating technology into their language classrooms.

According to a meta-analysis of CALL research conducted by Levy (2000), the majority of studies in the field of CALL have focused on themes such as Computer Mediated Communication (CMC), the effectiveness of specific technological tools, or a combination of these two themes. In another review of the literature, Zhao (2003) found that most of the research conducted in the field of CALL is limited to that of adult learners and college students but does not provide the context for which these populations have been examined. Hubbard (2003) surveyed CALL professionals in an effort to find out what questions they wanted answered in terms of CALL research. Of the 64 questions posed by CALL professionals, the majority of the questions focused on either the effectiveness of CALL in the classrooms or learner-specific issues in relation to CALL. Only one question focused on the instructor's role in the CALL environment (Hubbard, 2005b).

A broad look at technology use in the classroom shows that the majority of studies conducted have examined student use of technology with little concern for how the instructor is using technology in the classroom. Even when the instructor is the subject of the study, the focus is more on the technology being used than how the instructor is using it. Most studies that do specifically investigate instructors' use focus on their beliefs towards using technology (Bebell, Russell, & O'Dwyer, 2004; Fang, 1996; Iding, Crosby & Speitel, 2002; Vannatta & Fordham, 2004). This is especially so in the context of the second language research (Egbert, Paulus, & Nakamichi, 2002; Kim,

2008; Lam, 2000). Even fewer studies have examined actual instructor use of technology (Adair-Hauck, Willingham-McLain, & Youngs, 1999; Chen & Cheng, 2008; Timucin, 2006). Little research in the field of education has explored the relationship between perceptions of use and actual use of technology in the classroom (except, see: Drenoyianni & Selwood, 1998; James, 2009) with almost no research in the field of CALL investigating the relationship of perceptions of use and actual use in the same study.

Need for Research

Since its inception, extensive research has been conducted in the field of computer assisted language learning in terms of examining different types of computer technologies and their effectiveness in the language-learning environment. Researchers in the field of CALL have spent a good portion of their time close to their roots in linguistics with research in computer-mediated communication and the discourse analysis that lies within this research. In addition, much of the research that has been conducted has focused on how students use technology in both English as a Second Language and English as a Foreign Language contexts, as well as their perceptions and attitudes of said use. While the amount of research in the field continues to expand, there are certain areas within CALL that have yet to be explored. In particular, little research to date has explored the instructor's role in terms of technology integration in the CALL environment. While there has been some research that examines teacher training and professional development in CALL, other areas of research when it comes to the instructor's role in integrating technology are rather scarce. Few studies have explored

the instructor's perspective of technology use in the classroom with most studies focusing on the instructor's perceptions of a specific type of technology or student use of technology instead of examining the broader picture of how technology is being integrated throughout the curriculum. While the studies that have researched both instructors' and students' perceptions certainly have their place in the research, this does not tell us much about how technology is actually being used in the classroom or about the relationship between perceptions of use and actual use of technology in the language classroom by the instructor.

Purpose of the Study

The purpose of this study was to gain a better understanding of instructors' perceptions when it comes to the integration of technology in the language classroom. Further, this study sought to better understand how instructors actually integrate technology in the language classroom. Through this, a better understanding of the relationship between instructors' perceptions and actual use was gained.

Research Questions

This study aimed to investigate instructors in one intensive English program at one public Midwest university and their espousal and enactment of technology in the English as second language classroom. The following questions were the focus of this study:

1. How do instructors define technology?
2. What perceptions do instructors have towards the integration of technology in the English as second language learning environment?

3. How do instructors integrate technology into the English as a second language learning environment?
4. What is the association between instructors' espousal of technology integration and their enactment of technology in the English as a second language learning environment?

Significance of the Study

Having insight into an instructor's thought process is a rare thing. How instructors define technology influences their technology use. Gaining insight into instructors' perceptions towards their own integration of technology helps to provide a better understanding of the choices they make when integrating technology into the language-learning environment. Further, by exploring how technology is actually being integrated into the language-learning environment, we are provided with a glimpse of how an instructor's thought process is realized in the classroom. Having access to both the instructor's thought process, as well as their actual use of technology, helps us understand the relationship between how we perceive what we are doing in terms of technology integration and what we are actually doing in the classroom. By understanding the relationship between perspectives and actual use, the information gained can then be used to better inform our practices as instructors. In addition, the information gathered could be used to reevaluate how we train teachers and better inform future teachers before they enter the workforce.

Delimitations

The study was designed as an exploratory case study of one intensive English program at a large public Midwestern university. It focused on the perceptions and use of technology by instructors, full-time and teaching assistants, in the intensive English program. Since the study was designed as an exploratory study of the one intensive English program and not the entire English as a second language program at the university, only the courses taught within the intensive English program by the participating instructors were observed. The findings of the study are relevant to the specific intensive English program that was studied and are not intended to be generalized to other intensive English programs or the English as a second/ foreign language field as a whole.

Limitations

Due to the exploratory nature of the study, the focus was limited to that of one intensive English program. The findings of the study, therefore, represent only the program studied and may not be representative of other instructors at other intensive English programs or in the English as a second or foreign language community as a whole.

Scope of the Study

This study examined instructors' espousal and enactment of technology in the English as a second language classroom. The study took place over the course of three semesters with different instructors being observed each semester. Participants in the study included full-time instructors and teaching assistants employed within one intensive

English program at one public university in the Midwest. Students in the courses of the participating instructors were asked to provide feedback in the form of perceptions, as well as provide more information about how the participating instructors used technology during the observed semester. In addition, administrators and staff including, but not limited to, the program director, technology liaison, as well as technology support were asked to provide insight regarding integration of technology. The program director provided information on the policies in place in regards to integrating technology into the classroom as well as information about support provided to instructors who integrate technology. The technology liaison provided information on technology available for use by instructors as well as information on support available to instructors. Additional documentation was collected, when possible, to help provide further insight into the integration of technology as well.

Definition of Terms

Asynchronous Communication: Any type of computer-mediated communication not in real-time, allowing for participants to respond at their own leisure. One example of this type of communication is a discussion board.

Computer Assisted Language Learning (CALL): “Learners learning language in any context with, through, and around computer technologies” (Egbert, 2005, p. 4).

Computer-Mediated Communication (CMC): Any “human-to-human communication mediated by a computer” (Fotos, 2004, p. 109).

Concordancer: “A piece of software that arrays the occurrences of a given lexical item or expression from a corpus of language data in context so as to allow for comparison of the usage of the item or expression” (Levy & Stockwell, 2006, pp. 185-186).

Constructivism: An epistemological view where

We construct new knowledge rather than simply acquire it via memorization or through transmission from those who know to those who did not know. We construct meaning by assimilating information, relating it to our existing knowledge, and cognitively processing it (that is, thinking about it). (Bates & Poole, 2003, p. 28)

English as a Second Language (ESL): Learning English in a country where English is considered to be the native language.

English as a Foreign Language (EFL): Learning English in a country where English is not the native language of the country.

English for Academic Purposes (EAP): “English taught to foreign learners who intend to follow courses of higher education in English” (English for Academic Purposes, 1992, p. 331).

English for Specific Purposes (ESP): “English taught for professional, vocational, and other specified purposes” (English for Specific Purposes, 1992, p. 379).

Espoused Theory: How someone believes they would act in a given situation. “The theory of action to which [one] gives allegiance and which, upon request, [one] communicates to others” (Argyris & Schon, 1974, p. 7).

Instructor: “A person who teaches a subject or skill: someone who instructs people; a teacher in a college or university who is not a professor” (“Instructor”, n.d.).

Intensive English Program (IEP): An “English language program that usually includes 20 to 30 hours of classroom work per week” (“Intensive English Program”, n.d.).

Learning Management System (LMS): A “web-based software application that provides the instructor with an integrated system for distributing course materials, communicating with students, instigating student-student discussions...and managing a range of administrative tasks” (Levy & Stockwell, 2006, p. 3). Blackboard and Moodle would both be examples of an LMS.

Student-Centered Pedagogy: “Emphasizes student responsibility for learning and is focused on knowledge construction and how students are induced to work and learn together” (Liu, 2011, pp. 1012-1013)

Synchronous Communication: Any type of computer-mediated communication in real-time, requiring for participants to respond instantaneously to each other. One example of this type of communication is text-based chat such as instant messenger.

Teachers of English to Speakers of Other Languages (TESOL): Professional organization for English teachers around the globe.

Teacher-Centered Pedagogy: “Based on an assumption of knowledge delivery that resembles traditional teaching methods, and underscores the importance of knowledge reproduction” (Liu, 2011, p. 1012).

Teaching Philosophy: a set of beliefs with regard to teaching and learning held by an instructor.

Technology: According to Healey et al. (2011) it is,

Systems that rely on computer chips, digital applications, and networks in all their forms. This includes not only desktop and laptop computers but also a wide range of electronic devices such as DVD players, data projectors, and interactive whiteboards ... [it] also includes computer-driven mobile devices such as cell phones, smart phones, personal digital assistants (PDAs), and MP3 players. (p. 4)

TESOL Technology Standards: Standards developed to provide guidelines for instructors, students, and administrators in terms of technology integration and language teaching and learning (Healey et al., 2008).

Theory-in-use: “The theory that actually governs [ones] actions” (Argyris & Schon, 1974, p. 7).

Organization of the Study

The first chapter is the introduction, which provides background information relevant to the current study, as well as the research questions the current study aims to answer. The second chapter is a review of the relevant literature to the current study including computer-assisted language learning (CALL), perceptions of CALL in the language classroom, the use of technology in intensive English programs (IEPs) and the theoretical basis for the study. The third chapter focuses on the methodology. It includes an outline of the study including information on the participants, the research design, instruments, the data collection procedure, the procedure for data analysis, and measures taken to increase the trustworthiness of the study. The fourth chapter presents the results of the study. The fifth chapter discusses the findings of the study and the practical

implications of the research. Recommendations for future research are included in the chapter as well.

Chapter Two: Literature Review

Defining CALL in Language Learning

Technology has come to play an important role in education, especially that of language education. In order to understand the role that it has played, it is important to understand what technology is. Technology can mean many different things to many different people, depending on factors such as time, period, or context. In the broadest sense, “technology, in all its forms, is a means for accomplishing work” (Moore, 2006, p. 401). As James (2009) found in her research, how instructors’ defined technology integration affected how they integrated technology into their classes. Hansen and Froelich (1994) in their review of technology define it as a process where we use “tools, procedures [or] knowledge” (p. 202) as a way to interact with the world around us. For many, technology refers to a physical object or series of objects, often further restricted to only those objects that are computer-based (Bebell et al., 2004; Kern, 2006; Lam, 2000). This would include things such as mp3 players, cell phones, video cameras, programs on the computer, and the Internet. It would not include things such as an overhead projector, a chalkboard, or a pen unless, of course, it was a smart pen. When looking at technology integration in teaching, James (2009) defined such integration as a

means to be more involved and meaningful, within a learning environment that is enriched. It promotes critical thinking and collaboration. Technology integration entails that teachers adopt (Rogers, 1995, p. 21)⁷ technology incorporating it readily and flexibly into their teaching practices and doing this on a regular basis to benefit students in achieving the teachers’ curricular goals. (p. 64)

In the area of language learning, there are several different ways in which researchers have come to refer to the use of technology for language learning. The use of technology in language learning is often referred to as computer-assisted language learning, or simply put, CALL. Additional terms used to refer to technology in language instruction include computer-enhanced language learning (CELL) and computer-assisted language instruction (CALI). Others believe that the focus alone should not just be on computers and prefer terms such as technology-assisted language learning (TALL), technology-enhanced language learning (TELL) or digital age language instruction (DALI) (Schcolnik, 2009). Some have narrowed down to specific types of technology such as mobile-assisted language learning (MALL) (Chinnery, 2006) to refer to the use of mobile technologies such as cellphones, mp3 players, and PDAs for language learning or web-enhanced language learning (WELL) (Taylor & Gitsaki, 2004) referring to language learning completed online or through the use of online resources. The avoidance by some of using the term ‘computer’ comes from the belief that because there was never a pen-assisted language learning or a book-assisted language learning, there is no need to single out the use of computers in language learning (Bax, 2003; Warschauer, 1999). Though this debate exists within the field of language learning and technology, the most widely accepted concept of using technology in language education is CALL (Levy & Hubbard, 2005; Levy & Stockwell, 2006).

While CALL in its purest form might refer to only the use of computers for language learning (Beatty, 2003), it has evolved to include more than just computer technologies (Kern, 2006). Egbert (2005) sees it as an equation where CALL equals

“learner + language + context + one or more tools [computer technologies] + task/activities +/- peers and teachers” (p. 5). That is to say, when you have the learner and everything the learner brings combined with the language being studied, the context in which the language is being learned, the technological tool or tools being used, and the task that is to be completed with the potential influence from others, what results from the combination of all these things together is CALL. Technology alone is not CALL, nor is the target language plus technology, or even the learner plus the target language plus technology. CALL is a combination of ideas that when added together equal “learning language in any context with, through, and around computer technologies” (Egbert, 2005, p. 4).

Technology within CALL is typically viewed as a tool used to enhance the language learning process. In their evaluation of different types of technology and their effectiveness in language learning, Golonka, Bowles, Frank, Richard, and Freynik (2014) divided technologies used in language teaching and learning into four different categories. The categories included (a) classroom-based technologies such as content management systems and e-portfolios; (b) tools for individual study including corpora and electronic dictionaries; (c) network-based tools including asynchronous, synchronous, and Web 2.0 tools such as computer mediated communication (CMC), blogs, wikis, and serious games; and (d) mobile tools such as tablets, smart phones, and iPods. One technology the study did not categorize was desktop and laptop computers because of the ubiquitous nature of their use not only in language learning but in education in general.

History of CALL in Language Learning

CALL has a long integrated history with that of language learning. While some argue that CALL's influence on language learning dates back to the phonograph (Salaberry, 2001), many researchers within the field date the origins of CALL back to the late 1950s-early 1960s with the introduction of PLATO (Programmed Logic for Automated Teaching Operations), a centralized computer system that allowed for computer-based instruction (Warschauer & Healey, 1998). As language learning evolved over time, so too did CALL.

Behavioristic CALL. The history of CALL is usually divided into three main periods. The first of these periods began with the introduction of activities for language learning available through PLATO in the late 1950s and continued on until the 1970s (Warschauer & Healey, 1998). During this time the main methods for language teaching involved grammar translation, the learning of languages through rote translation of the native language into the target language, and audio-lingualism, a method for learning languages where students repeat modified forms of sentences provided to them without ever seeing the language itself (Warschauer, 2004). This era is referred to as Behavioristic CALL, later renamed Structural CALL (Warschauer, 2004) because of the influences behaviorism had on the way much of the materials were designed to reflect the language methods of the time. Many of the activities during this time were designed around the idea of stimulus-response-reinforcement, a principle of behaviorism developed by B.F. Skinner, where a learner would answer a question and based on that action would receive some sort of consequence, either positive or negative, based on the

response given (Burton, Moore, & Magliaro, 2004). These drill exercises would allow students to practice their language skills and obtain instantaneous feedback from the computer system. The advantage of these early systems is that they provided a plethora of questions that students could work through at their own pace without fear of social humiliation for getting an answer wrong (Fotos & Browne, 2004; Hanson-Smith, 1999). The system however was not without its faults. Salaberry (2001) points out that while advantages like instantaneous feedback existed with these systems, often the time taken to set-up such a system was expensive. Even when such systems were available to instructors, they were uncertain of their usefulness in the language classroom, with some going so far as to refer to the exercises as drill and kill, due to the repetitive nature of the task (Jung, 2005; Salaberry, 2001; Warschauer & Healey, 1998). Drill-and-practice materials still exist today, specifically for building language skills such as grammar and vocabulary, which are seen as better suited for this type of practice than other language skills.

Communicative CALL. Not long after the linguistic revolution led by Noam Chomsky in the 1960s, CALL as well experienced a shift in how it was being integrated into the language classroom. Many methods within language learning moved towards a more communicative approach, the main method being communicative language teaching (Warschauer, 2004). Thus, the era of Communicative CALL came into prominence (Warschauer & Healey, 1998). This era of CALL lasted from the late 1970s up until the mid 1990s. During this time, programs were developed that allowed for students to interact more with technology, moving beyond solely practicing forms in isolation.

Activities during this time focused on a wider range of language skills than before and allowed for students to input their own responses instead of choosing from provided responses, as was the norm with the drill and practice activities (Fotos & Browne, 2004; Warschauer & Healey, 1998). The move towards Communicative CALL saw a change in how the instructor interacted with technology. With the advent of programs such as Hypercard, those instructors skilled enough were able to create their own activities, which they could customize for their language classes (Fotos & Browne, 2004). One example of such a program is NewReader (McVicker, 1995), which allowed students to put in their own set of text and then complete a variety of activities, such as cloze exercises, to help develop reading skills in the target language (Warschauer & Healey, 1998; Warschauer & Meskill, 2000). With all the advantages that Communicative CALL brought in terms of allowing for more student input, it still was not seen as a major improvement upon drill and practice, with many still viewing the systems being used as computer-based regurgitations of textbook and workbook activities.

Integrative CALL. As language learning moved from a ‘cognitive approach’ towards language learning to a more ‘social cognitive approach’ (Warschauer & Healey, 1998), so too did CALL. The current era of CALL, referred to as Integrative CALL, covers everything from the mid 1990s to present times. The main difference between Communicative CALL and Integrative CALL is that of the constructivist epistemology. Language learning at this time moved towards more content-based instruction, where the language students learned was more authentic to their situation (Warschauer, 2004). CALL has moved in the same direction, creating a more authentic learning environment

for students to learn language, where students are seen as more autonomous in their language learning, having more control in the process (Fotos & Browne, 2004; Warschauer & Healey, 1998). Integrative CALL encourages more collaboration among students as they work in tandem to improve their language skills. During this era, more integration has been seen among language skills with the blending of skills such as reading, writing and grammar integrated all together into one activity. This integration of skills is best seen in that of both synchronous and asynchronous computer mediated communication (CMC), which has become a widely utilized tool in the language classroom (Hubbard, 2005a; Levy, 2000). As this era has continued on, there has been a greater integration of digital technologies into language teaching and learning (Kern, 2006), including the move of language teaching being in a physical classroom to that of the virtual classroom.

Bax (2003) argues that technology has yet to be fully integrated into language learning and that true integration of technology requires normalization, essentially the end of the field of CALL, since there will be no need to separate the computer as a tool for learning just as society does not separate the book as a tool for learning. Hubbard (2008), in response to Bax, does not feel that this extreme needs to be met in order for true integration to occur. He feels that eliminating the field of CALL eliminates everything that many in this field have worked so hard to achieve in terms of understanding the best ways to meld technology with language learning. He concludes that while it might be a goal for the practitioner to achieve seamless integration of technology in the language-learning environment that does not mean CALL as a field of

study has to end. It will always be important for those in language learning to understand technology's role and where it is taking us. Fotos and Browne (2004) note that it is impossible to know where technology will lead next. Just like there was no way of knowing the impact of the television, or the radio before it, or even the telephone before that, there is no way of knowing where computer technologies will lead education next. They believe that the future of CALL lies in the shift from "a teacher-centered classroom towards a learner-centered system" (Fotos & Browne, 2004, p. 7) and that instructors need to be prepared to adapt to this shift. Warschauer and Healey (1998) reinforce this idea stating that instructors are no longer the sole authority when it comes to language learning. With the introduction of the Internet in the language classroom, the instructor's job has shifted to that of the facilitator to help students sort through and make sense of everything that is now available to them.

Technology in Teacher Education

It is widely agreed upon that pre-service teachers need training on how to integrate technology into their teaching (Council for the Accreditation of Educator Preparation [CAEP], 2013; Friedman & Kajder, 2006; Martinovic & Zhang, 2012; Ottenbreit-Leftwich, Ertmer, & Tondeur, 2015; Pope, Hare, & Howard, 2002; Stobaugh & Tassell, 2011; Tondeur et al., 2012). In a report from the NCATE task force on technology and teacher education, they maintained "teacher education institutions must prepare their students to teach in tomorrow's classrooms" (NCATE, 1997, p.1). The US Government as a way to help programs prepare teachers to teach with technology offered grants under Preparing Tomorrow's Teachers to Teach with Technology initiative (Polly,

Mims, Shepherd, & Inan, 2010). This initiative provided grants to help prepare both pre-service teachers and instructors already teaching in schools.

In an effort to understand how teacher education programs ready pre-service teachers for integrating technology, Tondeur et al. (2012) conducted a meta-ethnography of the literature on technology in pre-service education. From their meta-ethnography they developed a model on what is needed to prepare future educators in the use of technology for teaching and learning. Their model focuses on both what programs need to do to assist teachers directly, such as providing feedback on technology use and providing good role models of how to use technology. In addition, it covers what they need to do at the program level to help pre-service teachers, like making sure they have access to technology and making sure faculty in the programs have the necessary training to instruct pre-service teacher on how to use technology for teaching and learning.

Though it may seem as if courses on integrating technology into teaching are relatively new, this is actually a misconception. Betrus and Molenda (2002) in their review of the history of technology courses in teacher education programs assert that such courses have existed since the early 20th century. The focus of these first courses was on the integration of visual media such as films. Since that time the focus of these courses has shifted to include other technologies including, but not limited to, computer technologies. Even though teacher education courses on technology integration have been around for almost a century, their availability in higher education programs was limited until the integration of computer technologies in education. Betrus and Molenda note that as computers became more pervasive in everyday life, there was a push to train

teachers on integrating such technologies in their classes. In a follow-up study, however, Betrus (2012) noticed a decrease in introductory courses on technology in teacher education programs where 64% of programs surveyed reported offering such courses, down from 90% in 2000.

One possible reason for this decrease is the move from stand-alone courses to total integration throughout teacher education programs. Originally courses on technology integration were their own course in the curriculum (Betrus & Molenda, 2002). In the past twenty years, however, with the introduction of the International Society of Technology in Education (ISTE) Standards and the push from the Council for the Accreditation of Educator Preparation (CAEP) to train pre-service teachers in the integration of technology into teaching, technology has permeated throughout the entire teacher education program, moving beyond just a single focused course, but into “methods courses, field experiences, and within content courses” (Stobaugh & Tassell, 2011, p. 145).

Even though there has been a push to integrate technology into teacher education programs, the extent of the integration in many cases is not where the standards would like them to be. An ISTE survey of education programs conducted by Moursund and Bielefeldt (1999) found that teacher education programs were not adequately preparing pre-service teachers to use technology for teaching and learning. Stobaugh and Tassell (2011) discuss in their research how even though the numbers show integration is happening in many programs, the amount of in-depth training pre-service teachers are actually getting in regards to technology integration in many cases is minimal. Chesley

and Jordan (2012) found in their study of recent graduates that the graduates felt ill prepared to integrate technology into their lessons, having received no instruction on how to implement the ISTE Standards into their curriculum.

One concern is that students are much more proficient in new technologies than their classroom instructors, teacher candidates, and the university faculty preparing the teacher candidates (Blackwell & Yost, 2013). These students, often referred to as digital natives, have grown up in an environment where technologies such as computers have always existed. As Blackwell and Yost note in their review, many faculty members in teacher education programs come from a time before computers and computer technologies were ever-present in daily life. Not having courses on technology integration in their own training, often times these faculty are under prepared to train current pre-service teachers on how to integrate technology into their teaching. Even when pre-service teachers feel confident in their own use of technology, they still feel ill prepared in how to translate their knowledge from their own life into the classroom (Stobough & Tassell, 2011).

Another concern is that even when technology is being integrated into teacher education courses often times what students are learning is how to use technology in general with little focus on how to actually translate their knowledge of technology into their teaching (Polly et al., 2010; Strudler, McKinney, & Jones, 1999; Tondeur, et al., 2012). In a survey of pre-service teachers, Strudler et al. (1999) found that pre-service teachers felt their teacher education program did not prepare them to use the technology skills they had gained in their coursework to their teaching practices. In addition, pre-

service teachers surveyed felt that their student teaching experience did not prepare them to integrate technology into their teaching. Pope et al. (2002) acknowledged a difference in what pre-service teachers were learning in their methods courses with regards to technology integration and the expectations placed upon them when it came to actually integrating technology in their teaching practices. They found that when methods courses had technology instruction integrated into the course and had faculty members modeling how technology could be integrated into teaching and learning, pre-service teachers left the course with a better understanding of the technology and how to integrate it, as well as more confidence in integrating technology into their teaching.

To help teachers, both pre-service and those already in the classroom, ISTE developed standards for both students and teachers on how technology should be integrated into teaching and learning (ISTE, 2007, 2008). The standards for teachers represent a baseline expectation of how teachers should integrate technology into their classroom as well as use technology as a means for professional development. Teachers are expected to have an understanding of the standards for students in order to facilitate students learning through the use of technology. Stobaugh and Tassell (2011) recommended in their study that teacher education programs use the ISTE standards as a way to evaluate pre-service teachers preparedness for integrating technology into teaching and learning. By using the standards as a way of assessing technology skills they felt programs could better gauge where pre-service teachers were in their abilities to integrate technology into their future classrooms.

Professional Development in CALL

Until recently, research on professional development and CALL was sparse. Kessler (2010) notes however that this trend of not examining professional development is changing as more researchers are directing their research towards teacher training and development in CALL. While more researchers have begun to investigate CALL professional development, it is still an understudied area within the overall field. The question is no longer about whether or not CALL should be integrated into the language classroom but what is the best way for practitioners to actually go about integrating CALL (Beatty, 2003). The integration of CALL is not as simple as was the integration of previous technologies like the phonograph, radio, or television. Computers and other digital technologies are more complex necessitating more training than basic set-up (Choate & Arome, 2006). Hubbard (2007) maintains that with instructors lacking in technology training, both formally and informally, along with the lack of technical support available to them, combined with computer technology's tendency to rapidly evolve, professional development in CALL is essential. Some considerations that go into professional development Hubbard asks the field to keep in mind are determining how much will the field of CALL support professional development, as well as how will instructors determine what should be known about CALL, and how will they go about gaining that knowledge.

One major problem with these considerations is that only just recently was support made available from the field as a whole with that support coming in the form of technology standards. While technology standards for K-12 educators have been

available to instructors since 2000 (ISTE, 2010), these standards only apply to language classrooms at the elementary and secondary level, and even then only in the broadest of senses. This recently changed with the development of the “TESOL Technology Standards Framework” (Healey et al., 2008), which was created in part to guide instructors in professional development in CALL. The standards were created with the purpose of showing “how English language teachers, teacher educators, and administrators can and should use technology in and out of the classroom” (Healey et al., 2008, p. 2) working with all age levels in a variety of settings. The standards create a structure for how technology should be integrated into language learning and how instructors should continue to expand and build upon their repertoire of knowledge and experience when it comes to CALL. The authors of the standards feel it is important to help lay groundwork followed by continuous support for both expert and novice instructors’ CALL professional development throughout their career and have written the standards to do just that.

The idea of technology is not a foreign concept to many professionals in language learning (Choate & Arome, 2006). Many instructors already have basic computing skills such as turning a computer on and off, using a word processor and/or spreadsheet, and even are familiar with online tasks such as email or chat. One of the main problems for second language professionals, even ones who are tech-savvy, is that while they know how to implement technology in their daily lives, translating that to the language learning environment is difficult (Kessler, 2010). Instructors often need to be retrained in how to use technology for the purpose of using it for teaching in the language class.

Formal and informal CALL training. Professional development in CALL can be broken down into two types- formal training and informal training. The majority of formal training occurs inside an organized class environment, sometimes integrated holistically throughout a program (Luke & Britten, 2007), while other times offered only as a single course (Rilling, Dahlman, Dodson, Boyles, & Pazvant, 2005). Informal training is found to be more self-directed, with instructors obtaining new knowledge about CALL through attending conferences, reading journals, and talking with peers (Kessler, 2006). In Kessler (2007), a survey of instructors' attitudes towards CALL training found that while the majority of participants had an overall positive attitude towards informal training, their attitudes towards formal training leaned more negatively. He concludes that while informal training has its place and value, it may potentially hold instructors back in the long run. He feels that if instructors want to stay current, obtaining some formal training should be considered. Similarly, Moore, Morales and Carel (1998) in their own survey of foreign language instructors found that there was a large gap between available technology and instructor use of said technology. The authors believed that the lack of formal technology training instructors had impacted their integration of technology into the language classroom.

Further examination of the research on formal CALL training shows a lack of training available to instructors during their initial teacher education (Butler-Pascoe, 1995; Egbert, 2006; Kessler 2006, 2007, 2008; Oxford & Jung, 2007; Stockwell, 2009). Butler-Pascoe (1995) in a survey of TESOL MA programs found that while just over half of the programs offered a class on technology, less than one-fifth of the programs

surveyed offered a course on CALL integration. Kessler (2006) found in a survey of 240 graduates of TESOL MA programs, only 14% surveyed were required to take a class and only 26% took a class that showed instructors how to integrate technology into teaching. In fact, when Kessler asked in the survey about how well their program did at teaching them to teach with technology effectively, more than three-fourths of the respondents responded negatively to the question. What can be drawn from these studies is that not only are MA programs lacking in CALL preparation courses, but that even when instructors do take a course, most still do not feel as if they are prepared to effectively integrate technology into their language teaching (Ebsworth, Kim, & Klein, 2010).

Programs can do everything possible to prepare an instructor to use technology, but that does not mean that the instructor will use the technology, or if they do use the technology, that it will be used effectively (Choate & Arome, 2006; Kessler, 2010; Lafford, 2009; Park & Son, 2009). Even when technological skills are shown to increase over time in a formal course, integration of technology is not guaranteed (Egbert et al., 2002; Hegelheimer et al., 2004). The existence of barriers such as lack of time, resources, and administrative support affect teacher integration (Egbert et al., 2002). Kessler (2010) reported that even after taking a course in CALL, pre-service teachers were still hesitant to integrate technology based on the perception that they might lose control over the learning environment. This perception is especially prevalent among instructors who may be less familiar with newer technologies or believe that they are less knowledgeable of the technologies being used than their students (Lafford, 2009).

Several researchers have provided suggestions for preparing instructors to use CALL to help move instructors past any hesitations and assuage any fears they may have towards CALL integration when they get into the language classroom. Similar to the research findings in teacher education, Kessler (2007) recommends in his study not only offering one course in CALL in second language teaching programs, but integrating CALL throughout the entire teacher education program so as to provide a model for instructors in how technology can be used for teaching and learning. Other suggestions include providing instructors with the chance to experience CALL from both a student and instructor perspective (Hubbard, 2004; Kiliçkaya, 2009; Luke & Britten, 2007), exploring how to use familiar technologies in new ways (Blake, 2009; Moore et al., 1998), creating a form of support for instructors to have for technology integration (Kiliçkaya, 2009; Lafford, 2009; Stockwell, 2009) and realizing that CALL is not meant to replace the instructor but help to the instructor be more effective in the language classroom (Hegelheimer et al., 2004).

These suggestions apply to those taking a more self-directed (informal) approach, just as much as those who obtain formal training. Informal professional development is often seen as an uphill battle the instructor must fight while receiving little support from others (Stockwell, 2009). However the battle does not have to be fought alone. Robb (2006) provides several suggestions to instructors taking a self-directed approach to obtaining CALL training, including becoming involved in a professional organization focused in CALL, joining a community of practice, or reading up on related literature that would provide instructors with guidance to adopt new technologies or new ways of using

familiar technologies. He goes on to say that formal training can only provide trainees with so much information. The real world is not like the formal training classroom though. For example, the technology used in the formal training course may not be available to the instructor once in the classroom, or the instructor may find himself/herself in a different context other than those presented in the class (Robb, 2006). Instructors need to have the skills and confidence to be able to adapt to whatever situation they are presented with (Hong, 2010; Kessler & Plakans, 2008).

TESOL technology standards. To help instructors identify the skills needed to integrate technology in language pedagogy, TESOL developed a task force to develop standards on technology and language learning and teaching (Healey et al., 2011). The TESOL Technology Standards include a structure for instructors at both basic and expert levels of what instructors should be capable of doing when it comes to integrating technology into their language courses. Goals are provided for both language learners as well as language teachers. Developed by a task force of language educators with professional interests in CALL, the Standards were shaped with considerations to second language theories and research in technology and language pedagogy.

In Healey et al. (2011), the authors assert that the Standards are not informed on any single theory but by the field as a whole. They note that since research in the field of CALL nor its sister field, Second Language Acquisition (SLA), is informed by one single theory but by a variety of sources nor should the Standards rely on one single theory or framework. Instead they recognize three themes that encapsulate why the Standards are necessary and what content should form the Standards. These three themes include (a)

how research on technology integration has shown to benefit language pedagogy, (b) how technology should be integrated to help students acquire digital literacy skills in addition to their second language, and (c) how, among other things, insufficient learner and teacher technology training has contributed to the lack of integrating technology to its highest potential.

In addition to research in CALL and SLA, the Standards are informed by existing technology standards in education, including ISTE NETS and the United Nations Education, Scientific and Cultural Organization's Information and Communication Technologies Competency Standards for Teachers (UNESCO ICT-CST) (Healey et al., 2011). While the TESOL Technology Standards share a focus of technology integration in teaching and learning with the ISTE and UNESCO standards, unlike these standards the TESOL Technology Standards are aimed at a wider audience, not just K-12, and are specific to language learning and teaching. In addition, the TESOL Technology Standards are more flexible to a variety of settings where as the ISTE and UNESCO standards focus on more structured educational environments.

The standards for language instructors include four goals with three to four standards listed under each goal. Each goal covers a different aspect of technology and language learning and teaching. The first goal focuses on instructor knowledge, the second goal on integration and pedagogy, the third goal on record keeping and assessment, and the final goal on collaboration and communication (Healey et al., 2011). The standards under each goal outline specifically what instructors should be able to do in regards to each goal. Included with each standard are performance indicators, which

are labeled for either all or expert instructors and help to provide further clarification as to what an instructor should be able to do in order to meet a standard.

One example of the goals and standards is as follows: Goal 1 states “Language teachers acquire and maintain foundational knowledge and skills in technology for professional purposes” (Healey et al., 2011, p. vii). The first standard under this goal is “Language teachers demonstrate knowledge and skills in basic technological concepts and operational competence, meeting or exceeding TESOL technology standards for students in whatever situation in which they teach” (Healey et al., 2011, p. vii). Goal 1 Standard 1 has three performance indicators each with one to five sub-indicators. One example of these indicators is as follows: the second performance indicator states “I can prepare instructional materials for students using basic technology tools” (Healey et al., 2011, p. 189) with the sub-indicator saying “I can use word-processing software, presentation software, and software that creates internet resources” (Healey et al., 2011, p. 189). For a complete list of the TESOL Technology Standards for Instructors, see Appendix H. As is evident in the example, the goals provide a general theme that is then connected to three or four specific standards. Each of the standards has a series of performance indicators written in the form of ‘can do’ statements that allow instructors to assess how well they are meeting each of the standards.

The task force, in an effort to help instructors even more in their understanding of the Standards, developed a series of vignettes that provide instructors with what the task force feels are good examples of technology integration by instructors to go along with each of the standards. The vignettes, written by task force members and exemplary

technology-integrating instructors, provide (a) a description of the teacher, setting, and skills covered in the vignette; (b) background information; and (c) examples of how technology can be used in a range of settings from low-high access (Healey et al., 2011). The authors hope that the vignettes will provide context to the standards for instructors.

Student-Centered Integration of Technology

The role of the teacher is an important consideration not just in the language classroom but in teaching in general with early research in this area reporting the instructor's role to be the most important in the classroom (Schmuck & Schmuck, 1976). As James (2009) noted in her study, instructors enter teaching with preconceived ideas of what their role is in teaching and learning. She stated that the belief system instructors bring with them is often a product of their own learning and generally not easily replaced. Liu (2011) discussed how every instructor holds beliefs regarding knowledge of teaching and how students learn. He discussed how research typically has divided such beliefs into two ideologies, student-centered pedagogical beliefs and teacher-centered pedagogical beliefs.

In a teacher-centered classroom, instructors are seen as the holder of knowledge and students are perceived as the recipients of the instructors' knowledge. As Liu (2011) noted, these beliefs align with what is considered traditional teaching methods. Sandholtz, Ringstaff, and Dwyer (1997) discussed how this is especially true at the university level where instructors are found to heavily rely on lecture-based lessons, allowing instructors to cover a lot of material in a short period of time, often which is necessary in a higher education environment. They noted that teacher-centered practices

tend to dominate for three reasons; (a) many see it as the best way to conduct a class, (b) instructors are often assumed to teach in the manner in which they were taught, and (c) teacher-centered lessons are often considered less time consuming to plan and deliver than those that are considered student-centered.

Student-centered pedagogical beliefs, however, put the student at the center of the learning environment. At its core, student-centered learning environments are rooted in what can be described as constructivist theory (Hmelo-Silver & Barrows, 2006). Such theories promote students as knowledge builders, collaborating with peers and the instructor in order to build their knowledge base (Liu, 2011). In student-centered learning environments there is a shift of focus from the instructor, the traditional provider of knowledge, to the student, the person acquiring new knowledge (“Student-Centered Classrooms,” 2013).

With relation to technology, Ertmer (2005) found that instructors’ beliefs played an important role in instructors’ integration of technology. Liu (2011) discussed in his study how instructors’ integration of technology not only includes their use of technology, but perceptions of technology use as well. He concluded, “teachers using technology during instruction rely on their pedagogical beliefs to practice” (Liu, 2011, p. 1013). Cuban (2001) noted that those invested in student-centered integration of technology see technology as a motivating factor in learning. In addition to motivating students, he discussed how those with student-centered beliefs feel as through technology can help students grasp more difficult ideas through individual research and collaborative work.

Hermans, Tondeur, and van Braak (2008) in their research of the impact of instructors' beliefs on technology use found that student-centered beliefs positively affected technology integration while teacher-centered beliefs were found to negatively affect integration of technology. Sandholtz et al. (1997) recognize, however, that sometimes teacher-centered approaches to teaching are needed, such as when introducing a new topic or when a deep understanding of the material being covered is not necessary in comparison to the amount of material being covered. They do agree with the results of Hermans et al. (2008), however, that technology is better suited to student-centered practices, indicating that the potential technology offers often is wasted when integrated into teacher-centered practices.

Computer assisted language learning (CALL) is often seen as a good fit to student-centered practices. In the age of communicative language teaching, student-centered practices have taken priority over the teacher-centered learning environment (Van Deusen-Scholl, Frei, & Dixon, 2005). Kessler and Bikowski (2011) discussed how previous research with regard to CALL environments noted that such environments had the potential to “construct learner centered, flexible and individualized learning spaces” (p. 525). Fotos and Browne (2004) mentioned how there has been a trend in the educational field in general, and more specifically with regard to technology integration, from a teacher-centered learning environment to that of student-centered classroom where the student takes control of their learning. When developing the TESOL Technology Standards, the TESOL task force developed the standards with regard to research on such practices (Healey et al., 2011). While the authors note that no one

theory or area of research determined the standards, the standards tend to reflect a more student-centered approach to integrating technology into language learning, with many of the scenarios provided in the vignettes promoting such practices.

Blake (2008) discussed how some instructors are skeptical of the student-centered classroom. He mentions how much of an instructor's training focuses on how the instructor is at the center of the classroom, the main provider of knowledge, and in the case of language learning, comprehensible input. However, in a student-centered classroom, the roles of the instructor and student blur and for many instructors this shift in roles is frightening. Recent research in the area of student-centered and teacher-centered technology integration has indicated that culture may be a determining factor in the way technology is integrated (Gobel & Kano, 2014). Those cultures that believe in the more traditional classroom paradigm of the instructor being the center and the student the recipient may adopt technology integration to a lesser degree than those with more flexible learning environments.

Levy and Stockwell (2006) provide an example of what student-centered CALL could look like. In their example they discuss how concordancers can be used to help students realize grammar rules without direct instruction from the instructor. They note that the process of using such technology in this way is considered to be a "data-driven approach" and that in such approach "the responsibility is placed on the language learner to make their own comparisons of the way in which target expressions are used, and thus to formulate rules on their own" (p. 186).

Many studies have explored student-centered technology integration (Brandl, 2002; Cuban, 2001; Hmelo-Silver & Barrows, 2006; Lee & McLoughlin, 2008; Lu, Hou, & Huang, 2010; Miyao, 2000; Van Deusen-Scholl et al., 2005; Zarei & Hashemipour, 2015). Lee and McLoughlin (2008) in their presentation explore the use of social networking tools as a way to promote student-centered learning. The authors discuss that while student-centered learning environments have been at the forefront in recent times, student-centered pedagogies have yet to be fully realized. They discuss how Web 2.0 tools, specifically social networking tools, can help support student-centered pedagogies. They conclude that while gaps exist between instructors' espousal and enactment of student-centered pedagogies, social media tools provide instructors' with the tools necessary to close such gaps.

Cuban (2001) reviewed a study he conducted that explored whether technology led to a shift in instructors' teacher-centered practices. What he found was that instructors' tended to adapt technology to their already existing teacher-centered practices. He stated that through observations of instructors and interviews with students, he found technology integration did not impact the instructors' manner of instruction. He continued on, "most teachers had adapted an innovation to fit their customary practices, not to revolutionize them" (p. 97). That is to say that instead of technology transforming instructors practices from teacher-centered to student-centered, instructors adapted technology to their teacher-centered pedagogies. While there were exceptions to this, with some instructors integration of technology facilitating more student-centered practices, he was uncertain as to whether it was the technology itself that led to the shift

from teacher-centered to student-centered practices, or if these instructors were already shifting their philosophies to student-centered practices and the technology just made this shift easier.

With regard to CALL-specific research with regard to student-centered pedagogies, Van Deusen-Scholl et al. (2005) explored the use of computer-mediated communication (CMC) as a means to provide language students with more authentic opportunities to practice their language skills. In their study of two German classes, the researchers found that CMC created an environment where students were more central to the learning process, having more responsibility over their own acquisition of knowledge. They reported that while instructors saw the benefits of CMC in providing students with more control over their learning, in turn they felt a sense of loss with regards to their own interactions with the students.

Zarei and Hashemipour (2015) examined in their study the use of CALL methods on promoting student autonomy in language learning. The researchers conducted an experiment where one group of students, the experimental group, were taught using CALL-based activities while a control group of students covered the same material through what the authors describe as traditional, teacher-centered methods. Results of the study showed that students assigned to the CALL group showed significant gains in both student autonomy and motivation. The authors concluded that CALL learning environments help improve students autonomy in language learning and that such methods appear to lend themselves better to a student-centered classroom, more so than traditional teaching methods.

Brandl (2002) explores the use of Internet-based readings to improve students language skills. In his research, the author explores the teacher-centered, student-centered continuum, detailing three reading activities, each more student-centered in nature than the previous. The purpose of the author's research is to examine the strengths and weaknesses of both sides of the pedagogical continuum. He concludes by describing how the Internet offers a plethora of resources that can be used for helping students improve their language learning skills. However, it is the responsibility of the instructor, no matter the approach, whether teacher-centered or student-centered, to have a clear justification for using such materials in the language classroom. In order for such lessons to benefit the students, instructors need to make sure their reasoning for integrating the technology is supported by their classroom pedagogy.

Teacher Perceptions of CALL

While several studies in the field of education have looked at instructors' perceptions of technology for learning (Albion, 2001; Berg, Ridenour-Benz, Lasley II, & Raisch, 1998; Bothma & Cant, 2011; Gardner, Dukes & Discenza, 1993; Yildirim, 2000), few studies have investigated instructors' perceptions of technology for language learning. Studies that have examined instructors' perceptions of CALL do so in two ways: perceptions of the use of a single type of technology for teaching and learning (Gallardo & Gamboa, 2009; Zoetewey, 2009) or general perceptions towards technology in language learning and teaching (Kim, 2008; Lam, 2000).

Studies in CALL show that instructor perceptions overall are positive towards the use of technology (Albirini, 2006; Park & Son, 2009; Wiebe & Kabata, 2010).

Technology use in the language classroom is perceived as having benefits for both students and instructors. Many instructors perceive it as providing authentic learning contexts that are not typically available in the language classroom (Kim, 2008; Lam, 2000; Park & Son, 2009). Technology is seen as providing more learning opportunities, especially as the Internet becomes more prevalent in the language classroom. Instructors see technology as a great motivator for students in the language classroom (Albirini, 2006; Kim, 2008; Lam, 2000).

One focus of instructor perceptions is on technological skills. Studies have shown that instructors believe that basic technology skills are necessary (Albirini, 2006). These skills include things such as turning a computer off and on, word processing, emailing, using the Internet as well as basic troubleshooting. Some instructors feel like they do not have these skills with even more instructors feeling not confident enough with their skills to integrate technology into the classroom. Lack of confidence can come from several different places. For some instructors, lack of confidence in integrating technology is related to lack of training (Park & Son, 2009). For others, their perceived lack of confidence comes from not having these tools when they were going through school (Jones, 2001). Lam (2000) notes that instructors even in their daily lives are cautious in learning about and using technology unless they feel like it will improve their lives in some way.

Experience with computers, both personally and professionally, often plays a role in instructors' perceptions of technology integration (Lam, 2000; Park & Son, 2009). Instructors often feel more confident using the technology that they themselves used

when they were first learning a language. Meskill, Mossop, DiAngelo, and Pasquale (2002) examine the difference between expert and novice instructors in terms of technology integration in the classroom. What they found is that expert instructors saw technology as part of the learning process whereas novice instructors only looked to the end product. To the expert instructors, technology was seen as something that could enhance the language learning experience whereas novice instructors saw technology more in terms of punishment and reward.

Many instructors perceive CALL environments as student-centered (Kim, 2008; Meskill et al., 2002; Park & Son, 2009). Technology in the language classroom is seen as something that empowers students, promoting both learner autonomy and collaboration among students. Activities promoting learner autonomy and collaboration are perceived by some instructors as some of the most valuable learning activities that can be facilitated with technology (Gallardo & Gamboa, 2009). However, Kim (2008) points out that limited views of what a student-centered environment is affects the way instructors perceive the benefits of technology integration. In her article she found that instructors only viewed student-centered activities as those that were more enjoyable and motivating for students than traditional textbook activities. Nowhere in their discussions did instructors mention ideas such as learner-autonomy or collaboration, both terms usually associated with student-centered environments. Park & Son (2009) note that even when instructors view technology as something that builds learner autonomy and promotes collaboration, they are still hesitant to hand over control to the students. In Meskill et al. (2002), the authors note that this struggle of who should have control, that is whether the

classroom should be teacher-centered or student-centered, often relates to classroom experience. They found that instructors who had been in the field longer were more likely to use technology in ways that promoted student-centered learning than those who are just entering the teaching profession.

Barriers to CALL. While instructors often value the benefits of CALL, they do perceive it has having a down side, usually in the form of barriers. Ertmer (1999) divides barriers to technology use into what she refers to as first-order and second-order barriers. First-order barriers are those that are external to the instructor such as lack of time, resources, or support whereas second-order barriers are those internal to the instructor including instructor knowledge of and confidence with technology. Barriers that language instructors perceive include lack of access (Albirini, 2006; Lam, 2000) lack of time (Albirini, 2006; Gallardo & Gamboa, 2009; Gillespie & Barr, 2002; Jones, 2001; Lam, 2000; Park & Son, 2009), limited resources (Gallardo & Gamboa, 2009; Gillespie & Barr, 2002; Lam, 2000; Park & Son, 2009), limited flexibility in the curriculum (Albirini, 2006; Park & Son, 2009), student background and knowledge (Lam, 2000), lack of support (Lam, 2000; Park & Son, 2009), and lack of training (Jones, 2001; Lam, 2000). This last barrier, lack of training, is often associated with other barriers including limited knowledge of technology (Albirini, 2006; Gallardo & Gamboa, 2009; Lam, 2000; Park & Son, 2009), and/or limited knowledge of teaching with technology (Lam, 2000).

When discussing what could be done to decrease these barriers, it is only the first-order barriers that instructors mention need to be changed. They feel that if they had more support in terms of both technical and administrative support, they would be more

likely to integrate technology into the language classroom (Gallardo & Gamboa, 2009; Lam, 2000; Park & Son, 2009). They feel that with better support as well as more flexibility in terms of time, curriculum, and access to resources, they would be able to better implement technology into their teaching practices. Some instructors believe that the current resources they have are outdated and do not fit with current trends in CALL in terms of materials that promote a more student-centered learning environment (Park & Son, 2009).

Even when instructors have support and access, some are still reluctant to use technology. Lam (2000) found that instructors believed that computers would not meet the needs of the students. In Gallardo and Gamboa (2009), they found that instructors believed that there were just some things that could not be done with technology, especially tasks which promoted collaboration among students. Similarly, Kim (2008) found that instructors believed that technology did not build all of the language skills equally and, therefore, were reluctant to use it with certain skills areas. Instructors in her study worried that overuse of technology would affect students' ability to complete traditional pen and paper activities in the classroom. Albirini (2006) noted that culture played a role in instructors' perceptions of use. Instructors in the study, while they valued technology and its potential benefits for language learning, were reluctant to use technology, as they did not feel that the technology available to them suited their culture.

The success (or failure) of CALL is ultimately in the hands of the instructors and how they perceive the technology (Gallardo & Gamboa, 2009; Park & Son, 2009). Lam (2000) states that in the end it comes down to whether or not instructors are convinced

that technology is the best option. Lawrence (2001) sums it up best when he says instructors' attitudes and belief systems play an important role in CALL integration. He believes the instructor belief system is made of several factors including "past experience, perceived effectiveness, attitudes, perceived expectations, and perceived control" (Lawrence, 2001, p. 46), all of which affect what they intend to do in the classroom and what they actually end up doing in the classroom.

Student Perceptions of CALL

Students play in an important role in the CALL environment. Hubbard (2005a) notes that many of the studies that have explored CALL in the second language classroom focus on the role of the student and often times his or her beliefs towards CALL. Similar to what was seen with instructor perceptions about CALL, research on student perceptions of CALL can be broken down into two categories. The first category, which represents the majority of the studies on students' perceptions, focuses on perceptions of a single instance of CALL. The second category represents students' perceptions towards CALL in general.

Students in general view CALL in a positive light (Barrette, 2001; Conole, 2008; Gillespie & McKee, 1999; Kung & Chuo, 2002; Son, 2007; Stepp-Greany, 2002). Students believe CALL adds value to the language learning experience. This is especially so when it comes to improving their basic language skills such as reading, writing, speaking and listening (Ayeres, 2002; Barrette, 2001; Conole, 2008; Gillespie & McKee, 1999; Murray, 1999; Son, 2007; Stepp-Greany, 2002; Yang, 2001). Students find that one of the greatest benefits afforded by CALL is authenticity. Students find that

CALL provides them with more authentic language opportunities than that of the traditional classroom (Barrette, 2001; Murray, 1999; Yang, 2001). Stepp-Greany (2002) discovered that students believed CALL helped them to learn more about the target culture than they would have in the traditional classroom environment.

While CALL is believed to have its benefits, much like instructors, students perceive barriers to CALL. Such barriers to CALL include technical issues (Barrette, 2001; Kung & Chuo, 2002; Murday, Ushida & Chenoweth, 2008; Yang, 2001), availability issues (Kung & Chuo, 2002; Son, 2007), issues of access (Conole, 2008; Kung & Chuo, 2002; Son, 2007), and issues with time (Kung & Chuo, 2002). These barriers often led to negative perceptions towards CALL with students feeling like the benefits did not outweigh the difficulties they had (Kung & Chuo, 2002). For many students, the biggest barrier in terms of CALL is the trustworthiness of the information found through CALL resources. Students are often hesitant in terms of the reliability with the information they receive from CALL resources such as the Internet (Conole, 2008; Gillespie & McKee, 1999; Yang, 2001). In addition, there are some students who do not feel they have the basic computer skills to complete CALL tasks (Ayeres, 2002; Gillespie & McKee, 1999). Students feel they need better support with CALL to help them with issues that arise (Barrette, 2001).

Though these barriers exist, students still take value in what they gain from CALL. Students overall find CALL activities enjoyable and useful (Ayeres, 2002; Barrette, 2001; Son, 2007) and find that they help increase their technical skills (Barrette, 2001; Stepp-Greany, 2002). In fact, Hong & Samimy (2010) found that those students

who were more confident in their technical skills found CALL to be more beneficial to their learning. Barrette (2001) found that students perceived the skills gained from CALL were not only beneficial to language learning, but could be used outside the classroom as well. Students in Son's (2007) study found CALL activities decreased their anxiety in some instances, compared to that of the traditional classroom, while allowing them to take control of their own learning. Ayeres (2001) found that students like the flexibility that CALL affords in the language classroom.

One of the resources students value most is the instructor. Murday et al. (2008) found that students found the instructor to be an invaluable resource in online language courses, enjoying CMC activities most when they were able to interact one-on-one with the instructor. In Stepp-Greany (2002), students perceived the instructor as playing an important role in the CALL environment. They saw their instructor as a facilitator to their success with CALL activities, as well as someone who could help them with technical difficulties that arose from using CALL. Students surveyed in Kung and Chuo's (2002) study showed positive attitudes towards the ways in which instructors integrated CALL into language learning.

Despite the fact that students value learning in a class integrated with CALL, students are still cautious about CALL environments, especially those that are blended or taught completely online (Winke & Goertler, 2008). Students find face-to-face interaction is essential to improve their language skills (Ayeres, 2002; Conole, 2008; Winke & Goertler, 2008). For some students, the community aspect that is built in the traditional classroom setting was missing from the online environment (Conole, 2008).

For the students in Stepp-Greany's (2002) study, they just did not feel like their language skills improved using the CALL materials as much as they would have if they had just been in the traditional classroom environment.

The previous research shows that most students appreciate the learning experience that CALL offers them. Students are however naturally skeptical when it comes to technology integration (Gillespie & McKee, 1999), especially when it comes to using newer technologies in the language classroom (Winke & Goertler, 2008). As Ayeres (2002) points out, students need to see the connection between what they are learning and the technology being used in the language class. Without understanding the benefits of CALL, students are apt to perceive it as not useful to their learning (Gillespie & McKee, 1999).

Teachers' CALL Skills

Part of understanding how instructors use technology in the classroom is understanding the skills they have for using technology for language teaching and learning. Researchers have long recognized the need for language instructors to be computer literate (Hoch, 1985), as well as have the ability to adapt to newer technologies and environments (Clark & Bennett, 2008; Fotos, 2004; Fotos & Browne, 2004). This means gaining the skills to teach hybrid or completely online courses in addition to learning how to use basic technological tools. Compton (2009) makes the case that no matter the skill level, from novice to expert, all language instructors should have the ability to teach online.

Many studies have discussed the need for instructors to have basic computing skills such as being able to turn a computer on and off, using computer hardware such as a mouse and keyboard, and completing simple functions with the computer (Compton, 2009; Fotos & Browne, 2004; Healey et al., 2008). In addition, it is thought that instructors should use a variety of applications including using tools such as Word, PowerPoint and Excel, or their equivalents, plus other applications that facilitate teaching and researching such as concordancers and SPSS (Chapelle & Hegelheimer, 2004; Compton, 2009; Healey et al., 2008). Instructors are encouraged to have the skills to not only use the Internet as a resource, but to create online materials.

One specific area that has seen much attention in language education is that of computer-mediated communication. CMC has become widely popular in language education. Instructors need to have the knowledge to integrate and implement both synchronous and asynchronous technologies into the classroom including discussion boards, chat, and e-mail (Chapelle & Hegelheimer, 2004; Compton, 2009). Healey et al. (2008) point out though that instructors need to be cautious when using web resources to communicate, especially those not fully in the control of the instructor such as Second Life.

Zhao, Pugh, Sheldon and Byers (2002) maintain that it is important for instructors to have the practical skills to implement these technologies as well as the technical skills required to integrate the technologies into the classroom. It is one thing for instructors to know how to use the Internet for language teaching but a completely other thing for them to understand how networking works so that using the Internet is even possible. Chapelle

and Hegelheimer (2004) take a similar stance noting that instructors should have the knowledge of how to set up and maintain classroom technologies as well as knowledge on how to troubleshoot problems with those same technologies when problems arise.

Besides having the skills to use these programs, many researchers have pointed out that instructors need to have the skills to evaluate these tools (Compton, 2009; Fotos & Browne, 2004; Healey et al., 2008). Compton (2009) looks at it from the point of view of different skill levels where novice instructors need to at least have the ability to compare different applications whereas expert instructors are expected to be able to find new applications in addition to being able to compare different applications. Beyond hands-on skills, instructors need theory, both in language pedagogy and in instructional technology, in order to back up the practical skills they gain (Compton, 2009; Fotos & Browne, 2004).

While it is important for instructors to have these skills, it is just as important for instructors to be able to impart these skills, at least the practical ones, onto their students (Hubbard, 2004). While many students are very technologically savvy, many times they do not have the knowledge of how to take those skills that they use in their personal life and apply them to their language learning. Hubbard (2004) argues that it is in part the responsibility of the instructor to help provide students with the knowledge of how to apply technology to their own language learning.

Teacher Integration of CALL

Research on technology integration into the language classroom from the instructor's perspective is sparse. Technology integration here does not solely mean just

the instructor's use of technology but how technology is implemented as a whole in the language classroom. The majority of the research collected regarding instructor CALL integration was self-reported integration through either survey or interview (Chen & Cheng, 2008; Timucin, 2006). Few studies observed first-hand instructor integration and those that did examine CALL integration were typically experimental settings (Adair-Hauck et al., 1999).

One large-scale survey implemented by Craven and Sinyor (1998) examined how technology integration had changed in the past decade. Comparing results from a survey the authors had implemented in 1987, they found that computer integration more than doubled. Integration moved away from the use programs focused on drill exercises toward using the Internet to promote more communicative activities with CMC. In a statewide survey conducted by Moore et al. (1998), researchers found that when it came to technology integration in K-12 language classrooms, instructors predominately integrated video into their classes, with the Internet and CD-ROMS being integrated to a much lesser extent.

Jarvis (2004) examined technology integration in EAP courses in the United Kingdom. A survey of programs showed that on average less than 10% of total class time was used towards technology integration. When instructors did integrate technology, it usually involved the use of the Internet or word processing software. Concordancers or prepackaged software were rarely being integrated into courses. In a similar study, Yunus (2007) surveyed ESL instructors in Malaysia. While the researcher in this study found that many of the instructors did not integrate technology, those who did used either

the Internet or other programs available on the computer to help improve specific language skills. Contrasting Jarvis (2004) and Yunus (2007), Arnold (2007) in a survey of language instructors found that almost every single instructor integrated technology at least once during their course. She found that the Internet was by and far the number one way that instructors were integrating technology into their language classes.

In a series of case studies by Kim and Rissel (2008), the researchers examined three different instructors' ways of integrating CALL into the classroom. What they discovered is that the instructor that was most comfortable with CALL integrated it the least, but in ways that were more in line with their course objectives than the other instructors. While the other instructors integrated technology into their language classes, the way in which the technology was integrated deviated from how they ran their class traditionally. Lee and Chang (2007) conducted interviews and observations to better understand how CALL was integrated into a Chinese language program in the United States. They found that instructors were integrating technology in a variety of ways from using software or the Internet on computers to using digital cameras to help students improve their language skills.

McCarthy (1996) in his research discussed the creation and integration of a series of HyperCard grammar exercises. The materials were developed with the intention that instructors would integrate the technology in such a way that the exercises would be completed outside of class. This allowed instructors to better focus their time in class, and students were able to take more control over their own learning as they were able to determine what exercises they would complete and when they would do them.

Teacher Integration of CALL in Intensive English Programs

Of particular importance to the current study is understanding technology integration by instructors in Intensive English Programs (IEPs). Stoller conducted a series of studies (Stoller, 1994, 1995) that examined, among other things, the integration of technology into IEPs. These studies showed that there is certainly some desire for integration of technological innovations within intensive English programs, but that desire alone is not enough for integration to occur. The author reported that integration of technology would only fully occur when all relevant parties identified technology as being a viable option. If an instructor is not convinced, then there is little likelihood that integration will be successful. Instructors need to see that the new integration of technology will be better than what they are currently doing, even if they are dissatisfied with what they are currently doing, because they will not accept the change otherwise.

A large-scale study by Boswell and Shiina (2003) surveyed several IEPs to find out how technology was being integrated into their language courses. The study showed that while the majority of the programs had language laboratories or multimedia centers, almost half of the programs did not require use of these facilities, instead seeing the facilities as a place for students to use in their free time. Results showed that only half of the programs surveyed had a required CALL component in their curriculum. They found that when technology was being integrated into the courses, it mostly consisted of using computers for word processing or for conducting presentations using software such as PowerPoint.

When IEPs integrate technology into the language classroom, their use covers a variety of language skills (Cyrus, 2004; Jones et al., 2008; Reppen and Vasquez, 2006; Tanner and Landon, 2009; Torrie 2009). The majority of research, however, specifically focuses on how computer-mediated communication (CMC) is being integrated in the IEP classroom (Biesenbach-Lucas & Weasenforth, 2001; Fitze, 2006; Hillyard, Reppen, & Vasquez, 2007; Lai & Zhao, 2006; Weasenforth, Biesenbach-Lucas, & Meloni, 2002).

Reppen and Vasquez (2006) discussed how they created modules to be accessed on a computer for language learners to use. The modules were integrated into writing classes to help prepare language learners for their academic classes. The authors found that while developing the modules was a tedious task, the benefits of their integration into the writing class for both instructors and students outweighed any cost of time and effort to design them. Another study that examined how technology could be integrated into the ESL writing class is Biesenbach-Lucas and Weasenforth (2001). In their study they compared two different writing mediums- email and word processing- in order to find which one would be more beneficial to helping language students improve their writing. The authors concluded that while no major differences were seen grammatically between the two mediums, greater contextualization as well as a greater word count was present in the essays written using a word processor. They concluded that while both mediums can help students improve their writing, the use of a word processor may be more beneficial in preparing students for the regular (non-IEP) academic setting.

In a study conducted by Tanner and Landon (2009), the authors explored whether integrating technology into the language classroom would help students improve their

English pronunciation. As part of their course work, students were asked to listen to recordings and then record their own version. Results of the study showed that the integration of technology in this manner helped students with their understanding of pausing and word stress and their ability to apply word stress correctly when speaking. Bikowski and Kessler (2002) discuss how discussion boards can be integrated into the ESL classroom, providing examples from their own writing and speaking courses. The authors mention how discussion boards in addition to helping develop and improve upon students' language skills, foster collaboration among students and promote individual self-reflection as well.

Taking a broader approach to technology integration, Torrie (2009) examines different ways in which instructors can integrate Web 2.0 tools into the IEP class. The author discusses how some tools are better integrated with certain language skills than others. She found in her own class that integration of Web 2.0 technologies had her students more engaged in the learning process than traditional methods. In addition, these technologies were found to help students improve both their language skills and their critical thinking skills.

Another approach to integrating technology into IEPs is using technology as the content of the language course. Egbert (2000) discusses how her ESL students met with elementary school students where they worked together in small groups talking about technology and culture. Over the course of the quarter the groups produced slides, which they put together into presentations and were shared at the end of the semester. The author found that having technology as the subject of the course and not just a tool helped

to facilitate students' use of the English language. The ESL students reported enjoying the class as it gave them a chance to really practice and communicate in English without worrying about having to pass some test.

Espousal versus Enactment

One area that has not received much attention in the literature is the relationship between perception and practice, otherwise defined as espousal versus enactment. Schön and Argyris (1978) developed these ideas into a set of theories. The theory of espousal can be summed up as what someone says they do. It is what they think they do when they complete an action. Related to this is the theory of enactment, which can be defined as what they actually do. Enactment is the reality of the situation. The authors continue on to say that often times a discrepancy exists between the two theories, what we say we do and what we actually do, often times with this discrepancy going unnoticed.

In their essay on instructors' thought processes, Clark and Peterson (1984) take these ideas about what people perceive and what people do, and in order to better understand the literature on thought and action, develop a model to further examine the relationship in an educational context. They see thought and action as two separate areas. Thought covers everything that instructors think, believe, and know, including decision-making, pre-planning, reflection or post-planning- basically anything that happens within an instructor's mind, that which is unobservable. Action covers the instructors' actions as well as the actions of the students that are thought to affect the actions of the instructor, everything that can be measured or observed. While each area is distinct in its own right, the authors go on to say that there is interaction between the two and that each

area can have an effect on the other area. Beyond this, there are external factors, which the authors refer to as constraints and opportunities, which are believed to have an effect on each individual area.

Determining what exactly enactment of technology is in teaching and learning is a difficult task. The majority of the time researchers examine technology integration they are focused specifically just on the use of computers (Judson, 2006). In an effort to define enactment of technology, the US Department of Education (2002) came up with a working definition for how they define technology integration. They see it as

the incorporation of technology resources and technology-based practices into the daily routines, work, and management of schools. Technology resources are computers and specialized software, network-based communication systems, and other equipment and infrastructure. Practices include collaborative work and communication, Internet-based research, remote access to instrumentation, network-based transmission and retrieval of data, and other methods. (U.S.

Department of Education, 2002, p. 75)

Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) found that instructor enactment of technology manifested in one of three ways: (a) as a supplement to teaching, (b) as a way to enhance teaching, and (c) as a way to transform teaching.

Wozney, Venkatesh, and Abrami (2006) separated enactment of technology into 10 different categories. The categories all represented different ways they saw technology could be integrated and included themes such as “instructional [purposes] (e.g., drill practice, tutorials, remediation” (Wozney et al., 2006, pp. 184-185), “expressive

[purposes] (e.g., word processing, online journal)” (Wozney et al., 2006, p. 184), and “expansive purposes (e.g., simulations, experiments, exploratory environments, brainstorming)” (Wozney et al., 2006, p. 185).

When exploring what enactment of technology looks like in language learning in general, one way to determine enactment is through the TESOL Technology Standards. The TESOL Technology Standards provide guidelines for what instructors should aim to be able to do when it comes to integrating technology into the classroom. Healey et al. (2011) in their guide on the TESOL Technology Standards provide instructors with a rubric for each of the standards that instructors can use to determine how well they are meeting the standards. The rubric includes ‘can do’ statements that allow instructors to evaluate themselves in relation to the standards. This is demonstrated for example with Goal 1, Standard 4 “Language teachers use technology in socially and culturally appropriate, legal, and ethical ways” (Healey et al., 2011, p. 191) where instructors are asked in one instance to reflect on whether they “respect student ownership of their own work” (Healey et al., 2011, p. 191). This expands further into statements on appropriateness and understanding in regards to student work such as “I do not share work inappropriately or require students to post their work publicly if they would prefer not to do so” and “I show awareness and understanding when approaching culturally sensitive topics and offer student alternatives” (Healey et al., 2011, p. 191). Instructors can then evaluate themselves on a scale of how well they believe they align to the standards from very well to not at all. The rubric can further be used by administrators to

assess instructors or teacher educators to assess pre-service instructors on their integration of technology into language teaching and learning.

Over the past four decades there has been an increased focus on examining the relationship between instructors' beliefs and practices in teaching and learning (Ertmer, 2005; Fang, 1996; Zheng, 2009). However, within the field of educational technology few studies have examined the relationship between espousal and enactment (Chen, 2008; Drenoyianni & Selwood, 1998; Ertmer, 2005; Ertmer et al., 2012; Iding et al., 2002; James, 2009; Judson, 2006; Kim, Kim, Lee, Spector, & DeMeester, 2013; Liu, 2011), with even fewer focused in the area of language teaching and technology (Boulter, 2007; Thomas & Yang, 2008). Ertmer (2005) notes in her research that without a good understanding of the connection between instructors' enactment of technology and their espoused beliefs "practitioners and researchers may continue to advocate for specific uses of technology that they are unable to facilitate or support, because of these underlying fundamental beliefs" (p. 35).

In Chen (2008), the researcher explored inconsistencies between instructor beliefs and practices in integrating technology. Her study involved surveying and interviewing 12 secondary school instructors in Taiwan on their beliefs regarding their instructional practices with technology as well as observing the instructors teaching. Chen found in her study that inconsistencies did exist between instructors' pedagogical beliefs and their integration of technology. She noted in her study that while instructors espouse learner-centered beliefs when it comes to technology integration, teacher-centered practices dominated the classes she observed. She reasoned that these inconsistencies existed in

part because of instructors misunderstanding of constructivist pedagogy along with pressure from outside forces limiting how technology could be integrated into the classroom. Lee and McLoughlin (2008) in their review of how Web 2.0 can facilitate learner autonomy noted similar findings. They acknowledge that there are large differences between instructors' beliefs in how they should be teaching and how they actually are teaching. While many instructors are believed to have a learner-centered view on teaching, this view is still lacking in how they are actually instructing their students. The authors noted that the integration of Web 2.0 could help instructors close the gap between their learner-centered pedagogical beliefs and their teacher-centered lessons.

Ertmer et al. (2012) examined how instructor's beliefs aligned with their enactment of technology. They were specifically looking at student-centered versus teacher-centered technology beliefs and practices. In a teacher-centered classroom, they viewed technology use by the instructor limited to that of direct instruction and drill and practice work, whereas in a student-centered classroom, technology integration it was seen as more constructivist and communicative. In student-centered classrooms they saw technology integration as a way to explore and construct knowledge as well as collaborate and share information through communication. In their study, they conducted document analyses on the websites of 12 instructors known for their exemplary integration of technology to gauge their integration of technology followed by interviews on their beliefs. They found that, in general, instructors' beliefs matched their enactment

of technology with the majority of the instructors integrating technology in student-centered ways.

Because they used instructors' websites as their method for determining integration along with descriptions of integration provided in interviews, Ertmer et al. (2012) recommended that future studies should consider using in class observations in order to better gauge enactment of technology in the classroom. Similar recommendations were made in Wozney et al. (2006). Their study, which surveyed 764 K-12 instructors to gain a better understanding of instructors' perceptions and use of technology in teaching and learning, recommended that future studies should consider obtaining observational data as well as student survey data in order to minimize any possible bias due to self-reporting.

James (2009) examines the integration of technology in middle school classrooms. The author explored how instructors' definitions of technology integration were reflected in their actual use of technology. Using Rogers' diffusion theory, it was determined that those instructors that were considered to be at the highest levels of integration saw how technology integration benefited the learning environment. This was reflected both in how they defined integration and how technology was actually integrated into their classes. In a similar study, Drenoyianni and Selwood (1998) examined technology integration through survey, observation and interview. In their study they explored UK primary school instructors' beliefs and use of technology in the classroom. They found that instructors were split into two groups, which they labeled computer awareness and pedagogical. Those who fell into the group labeled computer

awareness were instructors who saw technology as something to be learned not something to learn with. On the other hand, those who fell into the pedagogical group were those instructors who saw the educational benefits from both a teaching standpoint as well as a learning standpoint. When comparing beliefs to practices, the authors found that most of the time, instructors' beliefs were indeed reflected in the way in which they implemented technology in their classrooms.

One study that specifically examines instructor perceptions versus practice in the language classroom is Thomas and Yang (2008). In their study, they examine how instructors are affected by policies put in place by the government and university and how that affects instructor practices. What they discovered, however, was that in reality technology integration was more affected by personal beliefs than by administrative policies. Gilakjani (2012) conducted a review of the research on instructors' beliefs and their relation to technology integration in the language classroom. He noted that, in general, a close relationship exists between instructor espousal and enactment and therefore "teachers' technology usage is naturally affected by their pedagogical beliefs" (Gilakjani, 2012, p. 15). He concluded from his research that if it is expected of instructors to integrate technology for teaching and learning then it is important for all involved to understand how instructors' perceptions influence their integration of technology.

In Boulter (2007), the author examines the relationship between instructors' values and their technology integration in the language classroom. The study spanned five different universities in three different countries and included 179 participants. Each

participant was asked to fill out a questionnaire regarding their technology use, as well as their beliefs towards technology. Data gathered from the questionnaires showed that instructors who come from a constructivist viewpoint tend to integrate technology more so than their counterparts who are considerably more teacher-centered. The author concluded that while the study provided some insight into technology integration, more research is needed to further investigate instructors' perceptions of technology in the language classroom, suggesting that student and administrator perceptions should be gathered in addition to instructor perceptions in order to provide a greater understanding of what is happening in the language classroom.

Summary

CALL has come to play a significant role within the area of language education. While there is disagreement on how to refer to the concept, the integration of technology into the language classroom does not appear to be just a passing fad. Throughout its history spanning the past five decades, CALL has shown that technology should be an integral part of the classroom. Understanding the history of CALL helps researchers to better understand where instructors are in terms of how they integrate technology.

Teacher training and professional development is a slowly growing area within the field of CALL. As the trend continues, teachers will need to have the skills to be able to implement CALL into their classes. Hubbard (2007) notes that because of the rapid pace in which technology evolves, pre-service CALL preparation is not enough. Not only does it not serve those currently in the field, but it does not truly prepare students for the environment they will face once they graduate. Ongoing training, both formal and

informal, must be made available to meet the needs of this ever-growing, ever-changing field. To help instructors determine the skills they need, TESOL developed a set of standards with regards to technology integration in the language classroom. The standards serve as a guideline for what instructors should be able to do when it comes to integrating technology in the classroom.

Perceptions of CALL by both instructors and students overall are positive with benefits seen for both instructors and students. CALL is perceived as beneficial to building language skills, providing a more authentic learning experience for students, and, in the case of IEP students, better preparing students for their academic classes. CALL is often perceived as promoting a more student-centered learning environment promoting learner autonomy as well as collaboration among students and with the instructor.

While both instructors and students see the benefits of CALL, they believe there are barriers as well. Both students and instructors perceived issues in terms of lack of access, lack of time, and lack of skills needed to use CALL. In addition, instructors viewed a limited understanding of how to integrate technology as a barrier, while students had issues in terms of trusting the information provided by some CALL resources. Both groups agreed that better support is needed in order to assuage some of the fears that develop when using CALL.

Even when support exists for both students and instructors, there are some who are still hesitant to use CALL. For some, there is the belief that technology just cannot replicate certain types of activities. As Kessler (2010) pointed out, some instructors fear

losing control of the classroom. Students often times fear losing that face-to-face interaction with the instructor which they find to be essential to their learning experience. Despite the hesitancy that exists, the benefits of CALL are often seen to outweigh the drawbacks. It is critical that instructors and students are able to see these benefits because if they do not, they are unlikely to see the usefulness in technology. Furthermore, without proper support, teachers are unlikely to integrate CALL, especially CALL tools they do not have much experience with, into the language classroom (Stoller, 1994).

Research on integration of CALL shows technology being integrated for a variety of purposes in the language classroom. Further study of IEP instructors may help to identify how technology is really being used in the classroom. While there are certainly more studies out there that look at CALL use in the IEP classroom, most are experimental settings, with the researcher implementing tests upon just a few select students within a class. While this research may provide valuable data to the field, it does not provide insight into the overall picture of how technology is integrated into IEPs. In addition to understanding how technology is being used, it is important to understand the relationship between instructors' perceptions of technology integration and their actual integration of technology into the classroom as well. Understanding this relationship will better inform the current practices of teachers as well as better prepare future teachers for the language classroom.

Chapter Three: Methodology

Introduction

The focus of this chapter is on the methodology to be used in the study, including study design, collection, and analysis procedures. The purpose of this study is to better understand the relationship between instructors' perceptions towards the use of technology for language teaching and how they actually use technology in the language classroom. The following research questions are the focus of this study:

1. How do instructors define technology?
2. What perceptions do instructors have towards the integration of technology in the English as second language learning environment?
3. How do instructors integrate technology into the English as a second language learning environment?
4. What is the association between instructors' espousal of technology integration and their enactment of technology in the English as a second language learning environment?

Qualitative Inquiry

The current study follows a qualitative line of inquiry. Traditionally speaking, quantitative research explores those things that can be measured with statistical tests whereas qualitative inquiry often aims to look beyond the numbers, to explore a topic more deeply within a given context. Mayan (2009) states that it is the job of qualitative researchers "to interpret or make sense of the meaning people attach to their experiences or underlying a particular phenomenon" (p. 11). Glesne (2006) is quick to point out the

social nature of qualitative research noting qualitative research tends to view reality as a socially constructed phenomenon and aims to further understand this phenomenon. She sees it as the job of the researcher to understand participants in their contexts through interactions with them, whether interviewing or observation, in order to better understand how those participants view their world, to see the world through another's eyes.

Instead of using various measurements to collect data as is typically done in quantitative research, qualitative research traditionally relies on fieldwork in the form of interviews, observations, and document collection to gather information from participants (Patton, 2002). Qualitative inquiry is often viewed as being naturalistic with a focus on researching people and phenomena in their natural setting as opposed to experiments, which are implemented in a highly controlled environment (Bogdan & Biklen, 1982; Glesne, 2006; Stake, 1995; Yin, 2009). While quantitative analysis traditionally relies on deduction from the results from statistical testing, when it comes to qualitative data analysis researchers rely on induction, often through comparison, searching for patterns, which lead to themes that could be described as the findings of the study (Glesne, 2006; Merriam, 2009). The current study had an emergent design. An emergent design is when the design of the study is not constricted but flexible with the idea that once the researcher enters the field to collect data, what was planned may change during the course of carrying out the study (Creswell, 2013). Thus changes to research questions, participants, methods of study may have altered once the study began.

Case study approach. Case studies are one way in which to approach qualitative inquiry. The term case study can refer to different things - in the broadest sense referring

to the entire course of action one goes through when conducting an investigation, and in the more specific sense, it refers to that which is the focus of the study (Merriam, 2009). Whether approaching it from a broad or narrow sense, it is commonly agreed that case studies occur within a bounded context and the fact that the study occurs in such a context is really what makes a study a case study (Merriam, 2009; Miles & Huberman, 1994). A case can be defined as “the unit of analysis, not the topic of investigation” (Merriam, 2009, p. 41). Stake (2006) notes that a case is a specific thing and not an occurrence, not an action to be more specific. While actions might be observed during the course of the investigation, it is not the action that is the subject of the study but the thing committing the action. Focusing on the current study, the study is a collective case study that is exploratory in nature. While the topic of research will examine the relationship between perceptions and practice, the unit of analysis, the case, is an intensive English program at a public university in the Midwest with sub-cases focusing on the individual participants in the study - the instructors in the program.

Yin (2009) remarks that “case studies are the preferred method when a) ‘how’ or ‘why’ questions are being posed, b) the investigator has little control over the events and c) the focus is on a contemporary phenomenon within a real-life context” (p. 2). This approach is seen as a good fit for the current study because first, the research questions focus on how instructors are perceiving and using technology in the language classroom; second, I, as the investigator, have no control over the instructors participating in the study; and finally, the focus of the research is on how technology is actually being integrated in intensive English classrooms.

Pilot Study

A pilot study was conducted during winter quarter 2008 at Ohio University. This study helped guide the formation of the research questions for the current study. The pilot study had three main research questions:

1. How do ESL teachers perceive their use of CALL in the second language classroom?
2. Does this perception line up with their actual use?
3. How do second language learners perceive their instructors use of CALL on their (the students) language learning?

For the current study, the second research question of the pilot study was reformulated into two separate research questions. In the pilot study, the focus of the second research question involved examining how much instructors' perceptions aligned with actual use of technology. Because of this, actual technology integration was not examined on its own. In order to gain a more thorough understanding of the relationship between perception and actual use of technology, the current study will examine actual technology integration by the instructor on its own as well as in the context of its relationship with instructors' perceptions towards technology integration. In the pilot study, the focus of the third research question examined students' perceptions of their instructors' use of technology on their (the students) language learning. The third research question from the pilot study was eliminated from the current study since the focus of the current study is specifically on instructors and the third question from the pilot study was more student-centered.

As part of the data collection process in the pilot study, students were given a questionnaire. The questionnaire was split into two parts, the first section containing fifteen closed-ended items using a Likert scale based on agreement and the second section containing ten open-ended questions. The fifteen items on the questionnaire were specifically directed towards the courses that were observed and gauged student perceptions on their instructors' use of technology on their language learning. Because the current study is examining a wider variety of courses and not examining student perceptions of the use of technology integration on their own learning, the fifteen closed-ended items were dropped. Instead, a different set of items which are based on the TESOL technology standards are being used in order to gain a general understanding from students of how technology is being integrated into their language courses by their instructors. Items from the second section of the pilot study questionnaire that examined technology integration in the language classroom have been adapted for the questionnaire for the current research.

In addition, the pilot study helped in the reformulation of interview questions. The original set of interview questions in the pilot study contained fifteen questions. Some of the questions were found to be redundant. These questions were eliminated from the interview set as well as questions that related to student perceptions on the instructor's use of technology. The remaining nine questions were refined and tested in a second pilot study. The interview questions for the current study were adapted from the list in the second pilot study.

The Role of the Researcher

For this study, the researcher served as the primary investigator. As the investigator, I conducted all of the interviews and observations during the course of the data collection process. I was in charge of distributing and collecting questionnaires and collecting documents from participants. Because the study investigated technology integration in the language classroom, it is important to understand my background and why I was fit to conduct this research study.

I received a Bachelor of Arts in Spanish and Linguistics and a Bachelor of Science in Foreign Language Education from Miami University in 2006. In 2008, I received a Master of Arts in Applied Linguistics. I received certificates for Teaching English as a Foreign Language (TEFL) and Computer Assisted Language Learning (CALL) after completion of my Masters.

As part of my Masters degree, I participated in a 10-week practicum where I taught English as a second language to elementary-aged international students. In addition to this, I worked with the Ohio Program of Intensive English on multiple occasions serving as a guide and liaison for the program. I spent four years as a pronunciation tutor with both the Ohio Program of Intensive English and the English Language Improvement Program. During my time with the English Language Improvement Program, I developed a website that would help students work on their English pronunciation by allowing students to listen to examples, record themselves, and compare their samples to the examples provided. I helped implement an online tutoring

system, Native Accent, which helps students improve their oral communication skills in the English language.

While studying for both my Masters and Doctorate degrees I became involved with Teachers of English to Speakers of Other Languages (TESOL) and the Computer Assisted Language Consortium (CALICO). I have spent the past three years as the webmaster for the CALL Interest Section of TESOL and am currently serving a three-year term on the CALL-IS steering committee. My experience with CALL-IS has introduced me to different ways in which technology can be integrated into the language classroom.

For three years during my doctoral studies I served as a teaching assistant at the Language Resource Center (LRC) at Ohio University. During my time as at the LRC I handled several tasks including helping instructors integrate technology into their language classes, running the open lab for resource center, developing instructional videos that showed users how to use different types of technology for teaching and learning, teaching a section of CALL 552 which teaches instructors about how to create a Moodle course from scratch, and co-coordinating an annual conference focused on CALL practice and research. In addition to this, I developed materials for online language instruction. One project involved developing a Moodle course for English language instructors in the Dominican Republic that taught them how to use Moodle for teaching English. I currently work full-time at Iowa State University as the director of the Language Studies Resource Center (LSRC) for the Department of World Languages and Cultures. My main job at Iowa State is to help instructors find ways to integrate

technology into their classes. I collaborate with instructors in writing grants to conduct research on the integration of technology in language teaching.

My experience working at the LRC and the LSRC has opened my eyes to the different ways in which instructors see technology and use technology in their classes. It is through my work and my coursework that I have become curious about the relationship between instructors perceptions towards technology and their actual use of technology for language teaching and learning.

The Case

This study focuses on one intensive English program within a department of English at a university in the Midwest. The department of English is housed within a college of arts and sciences and beyond it's English as a second language services, offers bachelors, masters, and doctorate degrees in the English language and related fields such as speech communications, rhetoric, and linguistics. The department of English is unique in that it is host to one of a handful of applied linguistics and technology programs in the United States. The intensive English program is one part of the English as a second language services that the department of English offers to international students. In addition, the intensive English program is part of a consortium of intensive English programs, the University and College Intensive English Programs (UCIEP), whose goal is to provide the best English instruction possible to international students. The purpose of the intensive English program is to help international students improve their English language skills while helping them to adapt to American culture in the United States, more specifically the academic culture.

International students who want to attend the university must meet minimum English proficiency requirements by providing scores from one of the accepted proficiency exams including the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). English proficiency requirements at the undergraduate level are set at the university level and at the graduate level by individual departments. International students enter the intensive English program when they have not met the minimum admission requirements set by the university or, in the case of graduate students, the department to which they are applying.

The main facilities of the program include a main office, instructor offices, a seminar space, and a language-learning center, which consists of a computer lab as well as a library. The majority of the instructors who teach in the intensive English program have an office in the main program facilities. The remaining instructors have offices in the building where the department of English is located. While some classes are held within the main program facilities, the majority of classes are conducted in other buildings on the university campus. The same applies to the use of computer labs. While some instructors are assigned to the computer lab in the main facility, the majority of the instructors who request computer lab space teach in a lab outside the main program facilities. Descriptions of the traditional classrooms and computer lab classrooms are provided in chapter four.

The program is split into six levels, with students in level one being either true beginners or near beginners of English and students in level six having advanced English language skills. Courses in the program are 8-16 weeks long depending on the semester

and are offered during fall, spring and summer semesters. The majority of the students participating in the program take a course load of 20 hours each semester. Students taking a full course load within the program take courses in writing, reading, oral communications (listening and speaking), and grammar. In addition, they have the option of taking additional courses including test preparation courses for TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System), academic preparedness courses, or, in the case of some advanced students, regular university courses.

Students take a placement exam when they first enter the program. Once their exam has been scored, they are placed in courses based on the scores of their exam. Students may be placed in different levels for different skills. For example, a student may place into level four for reading, grammar, and writing, but level five for oral communications. After they have been placed in their courses, students take a diagnostic exam within their courses to make sure they are placed correctly. The program's enrollment tends to follow a bell curve with the majority of students placing in levels three and four and fewer students placing in the lower and higher levels. Because of this, there tends to be only one or two classes offered for each skill at the lower and higher levels, with more sections of each skill offered at the middle levels. In some cases when numbers are really low at the lower or higher levels, course levels are combined so that an instructor may end up teaching level one and two of a specific skill in one course.

The program has begun offering an exit level program as well for students in the upper level courses. The exit level program is an exclusive program students must

petition to participate in. Currently in piloting stages, the program offers undergraduate students at advanced skill levels an alternative means to entering the university without having to take the TOEFL test. Students in this program take three courses, a content-based course covering two general education topics, an orientation course, and a technology course. Students at the end of the program submit a portfolio, including a research paper, a video presentation, and a study plan and reflection, that is then evaluated by a group of instructors within the intensive English program. In order to successfully complete the program students are required to pass each of the three courses with a minimum 80% plus pass the portfolio assignment.

Participants

When this study began in 2012, the intensive English program had 17 instructors and 3 teaching assistants. This number included instructors that taught not only regular intensive English courses but special programs courses as well. The number of instructors that taught regular intensive English courses fluctuated over the course of the study, averaging 13 full time instructors and 4 teaching assistants. The instructors in the intensive English program range in teaching experience from just a few years of teaching to having over 40 years of English teaching experience. All of the full-time instructors in the program have masters degrees in teaching English to speakers of other languages (TESOL), applied linguistics, or other closely related fields. The teaching assistants in the program are working towards either a masters degree or a doctorate in applied linguistics or a closely related field at the university.

Six instructors agreed to participate in the study. Each instructor was assigned a pseudonym to protect their identity. Two instructors participated in the spring of 2013, one in the fall of 2013, and three in the spring of 2014. There were three males and three females. Descriptions of the participants are included below.

Bill had been with the intensive English program for three years at the time of the initial interview. He received his masters in TESOL. During his graduate studies, he took some coursework related to computer assisted language learning, receiving a certificate in CALL. He stated that he has been integrating technology into his teaching since he began teaching at the university.

David had been teaching ESL for thirteen years, two of those years with the intensive English program at the time of the initial interview. He received his masters in teaching English as a second/foreign language. While his masters coursework did not have specific courses on computer assisted language learning, technology instruction and discussion was integrated into other aspects of his coursework. He stated that he has been using technology to teach English for about seven years.

Jim had been working in ESL for twelve years, teaching ESL with the intensive English program for five of those years at the time of the initial interview. Teaching English as a second language is a second career for Jim. He has a masters in teaching English as a second language. While his masters coursework did not have any specific courses on computer assisted language learning, he focused his own research in this area. He stated that he has been integrating technology into his teaching since he began

teaching ESL, however the integration has been inconsistent and dependent on available resources.

Kathryn has been teaching ESL for nine years, with the last three of those years with the intensive English program at the time of the initial interview. She has a masters in teaching English as a second language as well as a K-12 endorsement to teach ESL at the primary and secondary level. While her masters coursework did not have specific courses on computer assisted language learning, technology instruction and discussion was integrated into other aspects of her coursework. She stated that she has been integrating technology into her teaching since she began teaching ESL.

Lisa has been teaching ESL for eleven years, teaching full time with the intensive English program for two years at the time of the initial interview. She started out with the program as a teaching assistant during graduate studies and transitioned to full time work for the program. She has a masters in applied linguistics and a doctorate in applied linguistics and technology. Both her masters level and doctorate level coursework had courses dedicated to computer assisted language learning. She had five courses specifically on computer assisted language learning at the masters level and another three at the doctoral level. In addition, she has a minor in curriculum and instruction, which involved additional courses in integrating technology into teaching. She stated that she has been integrating technology into teaching for about eight years.

Shelly is a teaching assistant with the intensive English program. She has been with the program for one year. She is currently pursuing a masters in applied linguistics with specializations in literacy and computer assisted language learning. She has been

integrating technology into her language teaching since she began as a teaching assistant with the program.

Students in participating instructors courses were invited to participate in the study as well. The intensive English program's overall enrollment fluctuated over the course of the three semesters instructors participated in the study, averaging 92 students per semester. Nine courses were observed over the course of the three semesters with the enrollment for these classes totaling 91 students. The 91 students in the courses may not be unique student numbers since there is the possibility that a student was in multiple courses where their instructors participated, either within a semester or across semesters. Students were surveyed about their perceptions towards their instructors integration of technology in their language courses.

In addition to instructors and students, administrators and technical personnel were invited to participate in the study. Administrators and technical personnel were interviewed in order to understand any technology policies in place within the department and gain additional perspective to how instructors were integrating technology into the program.

Data Collection

At the onset of the study, the primary forms of data collection the researcher planned to use were one-on-one interviews with instructors and observations of the classes they taught as well as one-on-one interviews with other key personnel including the program chair and tech coordinator and a questionnaire provided to students in the participating instructors' courses. Document collection was planned as well, including

the collection of materials such as syllabi, lesson plans, and the department handbook in order to provide additional insight into how instructors were integrating technology into their courses.

Recruitment. Gaining access to the site and participants was the first step in recruiting participants for the study. As Creswell (2013) notes “convincing individuals to participate in the study, build trust and credibility at the field site, and getting people from a site to respond are all important access challenges” (p. 171). In order for the researcher to gain access to participants, the program director at the time was contacted by email with information about the study with a request to meet with the director to further explain the purpose and goals of the research. The researcher and program director met and the researcher was able to explain the research and answer any questions the director might have had. The researcher was told that before the director would agree, the researcher needed to fill out a research request form that the program director asked all researchers who wanted to conduct research in the program to complete. The reason the program had a request form was because the program got several requests from researchers to conduct studies within the program and the director wanted to make sure that the studies being conducted would not place undue burden upon the instructors or students. The researcher completed the form and submitted it to the director and the director approved the researcher to conduct the study in the program.

Once the researcher was allowed to begin recruiting, a call for participants was written up and sent to the director before Spring 2013. The director sent the call out to all of the instructors who were teaching courses within the program, including full time

instructors, part time instructors, and teaching assistants. According to the assistant director, there were 15 full or part instructors teaching that semester, 13 of who were teaching regular IEP classes, and 5 teaching assistants. From this call for participants, two instructors showed interest in the study and both of these instructors enrolled in the study. A second call for participants was sent out in September of 2014 for the Fall semester. According to the assistant director, there were 17 full or part instructors teaching that semester, 13 of who were teaching regular IEP classes, and 4 teaching assistants. The call for participants went out late because of a change in directorship over the previous summer. Two instructors responded to this call, however only one of the instructors maintained contact and enrolled in the study. A final call for participants went out in Spring 2014. According to the assistant director, there were 16 full or part instructors teaching that semester, 15 of who were teaching regular IEP classes, and 4 teaching assistants. No instructors responded to the general call. The researcher directly contacted two instructors that were suggested by the former technology liaison as potential participants for the study. Both instructors agreed to participate in the study. In addition, the researcher reached out to the instructor who had not followed up the previous semester about participating in the study. The researcher was able to connect with the instructor and the instructor agreed to participate in the study.

In addition to recruiting instructors for the study, the researcher began recruiting key personnel to provide additional insight about instructor use of technology during the Fall 2014 and Spring 2014 semesters. Two program directors including the former and interim directors, the assistant director, two technology support personnel including the

former and current technology support, two educational support personnel including the former and current educational support, as well as a representative from the English department all agreed to participate in the study.

The researcher first contacted the former director about participating, which is how it was learned that the program had an interim director. Through the former director the researcher was able to get in touch with the interim director. During the interview with the interim director it was learned that the assistant director might be able to provide valuable information as well, so the assistant director was contacted about participating as well. The researcher contacted the current technology support specialist, which led to contacting the former technology specialist since he served in the role during the first semester that data was collected. The former technology liaison was contacted about participating and during the interview it came to light that he no longer served in the role and that his position had been split into two. Both instructors who took on parts of the former technology liaison's job were contacted and only one remained in contact with the researcher and agreed to an interview. The representative from the English department was contacted last in order to better understand the connection between the intensive English program and other programs in English, including that of the applied linguistics and technology program.

Students in participating instructors' courses were invited to participate in the study by filling out a survey on their perceptions of their instructors' integration of technology. The researcher was given time at the end of each semester observed to reintroduce the study to the students and invite them to participate in the research.

Students were originally introduced to the study at the beginning of the semester when the researcher began observing the class. Class totals for the participating instructors' classes equaled ninety-one students. Of these ninety-one students, forty-seven accessed the questionnaire and thirty-five completed the questionnaire.

In total six instructors agreed to be interviewed and observed for the study with regards to their technology integration. In addition, eight key personnel agreed to be interviewed about technology in the intensive English program. Thirty-five students were found to have completed the questionnaire provided by the researcher.

Sampling strategies. In qualitative research there are multiple approaches a researcher may use when determining who to sample for their study. In a study a researcher must determine who they want to study, how many people they are to study, and how they are going to choose their sample from all potential participants (Creswell, 2013). In the current study, the researcher used purposeful, snowball, and convenience sampling strategies when determining who would participate in the study.

Purposeful sampling is where the researcher "selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study" (Creswell, 2013, p. 156). The site of the study was chosen because the program was situated in the same department as an applied linguistics and technology program. The researcher was provided access to the instructors in the intensive English program who taught regular intensive English courses. Instructors who were teaching regular courses within the intensive English program were invited to participate in the study. Four instructors joined the study via this method of sampling.

Snowball sampling was a second strategy used to recruit participants. Snowball sampling, sometimes referred to as chain sampling, is when a researcher is able to identify additional participants through a current participant (Creswell, 2013). During interviews with the technology liaison for the program, the researcher asked the liaison if they could identify instructors at either end of the integration spectrum, those instructors who were known to use technology in their class and those who did not. From the list of names provided, the researcher was able to connect with two additional instructor participants beyond the four who initially volunteered.

Convenience sampling is when the sample population is chosen because it is convenient to the researcher to choose them (Creswell, 2013). For the purposes of this study, only students in the participating instructors classes were invited to participate in a questionnaire about instructors' integration of technology.

Interviews. Instructors were interviewed before the beginning of the semester in order to gain an understanding of how they define technology and their perceptions towards the integration of technology in the language classroom and again at the end of the semester in order to revisit their perceptions on technology and to reflect on their use of technology during the semester. According to Patton (2002), interviews help provide insight into things that may not necessarily be observable. Because the current study is interested in both instructors' espoused theory in addition to their theory-in-use, interviews were used in order to better understand the thoughts of the instructors.

All of the interviews conducted with the instructors were semi-structured in nature. The semi-structured interview allows for flexibility in the interview where the

interviewer follows a list of topics to be covered along with possible questions and can move through the list as they see fit (Kvale & Brinkmann, 2009). Semi-structured interviews leave open the possibility for the interviewer to probe further and ask follow-up questions gaining further insight into the topics being discussed. Interview questions for this study were revised from questions used in the pilot study (see Appendix A for the list of questions and the standards they align with). The researcher followed the interview guide; however, the order in which the questions on the guide were asked changed depending on the flow of the interview. When the researcher saw fit, instructors were probed for further details through additional questioning.

During follow-up interviews the researcher used an interview guide with two sets of questions with each participant. One set of questions was standard across all participants while the second set of questions was unique to each participant (see Appendix B for the list of follow-up questions). The first set of questions were used to guide the follow-up interview and as such, some of the questions may have been modified or omitted during the course of the follow-up interview. With regard to the second set of questions, a different second set of questions for each of the participating instructors were created in order to specifically focus on each individual instructors' previous interview and observations. Using stimulated recall, the researcher asked questions that required the participating instructors to remember certain course events and discuss their thought processes during those events. Because the researcher was unable to record observations, details of events in question were described to the participants to help in their recall of the situation.

Time and meeting place for each interview were scheduled in advance with the instructors by email. Instructors were given the option to meet in their personal office, an office space provided to the researcher, or a neutral location, wherever the instructor felt most comfortable meeting and talking. Each pre-interview averaged an hour in length, while post-interviews averaged a little more than an hour. Interviews were recorded using an audio-recorder when possible. The use of an audio-recorder allows for almost complete documentation of the interview (Glesne, 2006). In addition, by using an audio recorder, the interviewer paid attention to the setting and non-verbal cues during the interview process. Field notes were taken during interviews to ensure there was a record of the information from the interview, as audio recordings are not one hundred percent foolproof.

At the end of each interview with the researcher, the researcher asked the interviewees if they had anything additional to add that had yet to be discussed. Rubin and Rubin (2012) recommend closing out the interview by asking the interviewee if they would like to add anything to the conversation. This allows for the interviewee a chance to speak freely on topic and touch upon areas the researcher may not have covered. All interviews were concluded with the researcher thanking the participants for taking the time to meet with the researcher and sharing their perceptions.

In addition to the instructors, key personnel, including program administrators and technical support, from the intensive English program were interviewed. Different interview guides were developed for each of the different personnel interviewed. These included interview protocols for administrators including the former director, interim

director and assistant director (See Appendix C), for technology personnel including the technical support specialists and the program's technology liaisons (See Appendix D), and for the representative from the English department (See Appendix E). Through interviewing the program administration, further insight into areas such as departmental procedures and requirements in regards to technology implementation was gained. Technology support personnel for the program were interviewed in order to better understand what types of technology were available to instructors as well as what support for technology was available.

Observations. The researcher conducted observations in order to gain insight as to how technology was being integrated into the language classroom by the instructors. Observations are performed when a researcher enters a social context and examines the context over a period of time. The researcher as an observer must be skilled in watching events as they occur and describing those events through thick descriptions (Patton, 2002). When conducting an observation it is important that the observer be mindful of several things including the setting, time, and participants as well as any events or interactions that occur (Glesne, 2006). In the case of the current study, technology integration was the main focus of the observations.

Observations were conducted over the course of three semesters; Spring 2013, Fall 2013, and Spring 2014. Instructors in the study were only observed during the semester in which they volunteered to participate. For every class that an instructor taught during the semester they participated, the researcher conducted four observations of the instructor over the course of that sixteen-week semester. There was one exception

to this. One of the participants was teaching two courses in the exit level program and because of the high stakes nature of the program though the instructor was teaching multiple courses, the researcher only observed each of the courses the instructor invited the researcher into twice.

The researcher observed the instructors teaching in both traditional classroom spaces and in computer labs. All but one of the instructors was observed teaching in a computer lab. When possible, the instructor recorded the observations for later review. Each observation lasted the length of a class period, which varied from one hour to two hours depending on the course being taught. The researcher arrived early to each observation to set up and take notes from before the class started to after the class finished. The researcher took on the role of an observer as participant. An observer as participant is an outsider to the situation being researched, often taking notes from a distance (Creswell, 2013). The observer as a participant has little to no involvement with those being observed. In the current study, the researcher remained mostly as a nonparticipant. The only time the researcher interacted with those being observed was when the instructor or students engaged the researcher in discussion.

It was important that the researcher took as detailed notes as possible. When conducting an observation, data can come from several sources. The reason for having information-rich notes is that when the researcher returns to the notes it is possible for them to recall what they observed. The more time that lapses between observation and analysis, the more prompting the researcher will need (Berg, 2002). It is important for the observer to have a plan in place of what they are to observe, but be prepared in case

something unexpected occurs. An observation guide was developed to provide some structure to the observations the researcher conducted (See Appendix F). Though a guide was used, the researcher was open to the unexpected, taking detailed notes on the entire class and not just the topics listed on the guide. During the observations, the researcher mainly focused on how technology was being integrated into the course. This included observing for example how the instructor was using technology, how the students were using technology, and how the instructor facilitated student use of technology.

Observations can provide more insight into what is really happening in a context than from interviews alone. Because the current study is particularly interested not only in instructors' perceptions of technology, but how they integrate technology as well, observations were key to helping better understand how technology is actually being integrated.

Questionnaire. At the end of the semester, students enrolled in the participating instructors' classes were given a questionnaire to complete. The questionnaire is designed to gain insight into technology integration in the language classroom. Originally the researcher intended to hand out paper-based surveys, but the survey was moved to an online format for easier collection of data. The questionnaire contained 32 items split into three sections. The first section contained 22 closed-ended questions using a Likert scale based on frequency including the options 'almost always', 'often' 'sometimes', 'rarely', 'never', and 'don't know'. Though 'don't know' was available as an option, no student ever chose this option. The second section contained 5 open-ended questions asking students to further discuss technology integration in their language

course. The last section contained five questions, three demographic in nature and the last two including questions asking students if they would be willing to be interviewed further about technology integration in their language course. Though some students did respond positively to being interviewed, time constraints kept the researcher from being able to interview these students. The full questionnaire is available in Appendix G.

The 22 closed-ended items were statements taken from the Technology Standards for Language Teachers from TESOL Technology Standards: Description, Implementation, Integration (2011) written by Deborah Healey, Elizabeth Hanson-Smith, Philip Hubbard, Sophie Ioannou-Georgiou, Greg Kessler, and Paige Ware. The first six items covered the first goal of the teacher standards, the next five covered the second goal of the teacher standards, the following five covered the third goal of the teacher standards, while the last six covered the fourth goal of the teacher standards. The reason the TESOL technology standards were chosen for the questionnaire is that these standards are an established framework for how instructors should integrate technology in the language classroom. Further discussion of the TESOL technology standards is found in chapter two. The open-ended questions were adapted from the pilot study questionnaire previously discussed in this chapter. Student data was used to provide additional information on instructors' integration of technology in language teaching.

Documents. Documents are items that can provide more insight into the topic being researched. They can take several forms including but not limited to newspaper articles, letters, family records, and school records (Patton, 2002). Documents are not just limited to print resources. Items such as films, commercials, and music can be

included in document analysis (Glesne, 2006). Documents can provide further in-depth information that may not be available through other sources such as interviews and observations. The researcher collected a few different type of documents. Through the researcher's own search, data was gathered from websites about the program. This included collecting data for the intensive English program's website, the English department's website, the university website including the job portal, and the UCIEP website. Documents collected from the instructors when possible included course syllabi, lesson plans, as well as other supporting classroom material, such as handouts, tests, and the program's course management system. Additional documents including the department handbooks and the program's learner outcomes were obtained from the interim program director. The documents were used to provide further insight on technology integration in the language classroom.

Data Analysis

Once the data was collected, the next step was to move on to analysis. Merriam (2009) notes that the process of analysis is continual, beginning once the first set of data has been collected and continue on through the end of the collection phase. Qualitative data analysis is the process of taking all of the information gathered from interviews, observations and other resources and reviewing the information through a series of techniques as to make sense of everything that has been collected (Glesne, 2006; Merriam, 2009).

Coding. Data from interviews were first transcribed from audio recordings. Transcribing is the process of writing out in detail what was recorded from the interview

(Rubin & Rubin, 2012). The transcribed interview data along with data collected from observations, questionnaires, and field notes were then analyzed using a process referred to as coding. Coding is a process whereby the researcher designates “a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (Saldaña, 2009, p. 3). Patton (2002) notes that deciding on a system for coding data is the first step to analysis. He warns that without such a system in place, researchers leave themselves open to difficulty in their analysis. A system for coding allows for order within the data analysis. With regards to the current study, both a priori and exploratory coding schemes were used to analyze the qualitative data.

The TESOL Technology Standards for Language Teachers (Appendix H) were chosen as the a priori coding system for data analysis. A team of expert language instructors with several years experience in the field of CALL developed the TESOL technology standards. The purpose of using the technology standards as a system for coding was that it allowed the researcher to analyze technology in a more meaningful way because the standards organize technology integration into a series of manageable chunks. Unlike other sets of technology standards such as the ISTE NETS, which are geared towards a K-12 audience, the TESOL technology standards were created to cover a wide variety of teaching contexts, but focused specifically on the subject area of teaching English as a second/foreign language. The standards were based on a body of research that led to three conclusions (Healey et al., 2011); (a) technology integration has been shown to be beneficial in language learning and teaching, (b) technology integration

should not only help students acquire a second language but help them develop digital literacy skills as well and (c) technology is not being integrated to the capacity in which it could in language teaching and learning due to insufficient training for both teachers and students. Based on these conclusions, the goal of the standards is to help language learners and teachers successfully use technology for language teaching and learning. A more in depth description and review of the standards can be found in the literature review in chapter two.

Because the TESOL Technology Standards for Language Teachers are an established set of guidelines on technology integration for English language teaching and learning, they were deemed to be a good fit as an a priori system of coding for the current study. In addition, since the nature of the study is exploratory, while the TESOL Standards represented one system of coding, it was not the sole source of coding. The researcher was open to other codes that emerged throughout the process of data analysis.

Quantitative analysis. Data from the first section of the questionnaire were analyzed using descriptive statistics. Descriptive statistics were chosen as the form of analysis for the first section of the questionnaire in order to gain frequency data, the mean, and the standard deviation response for each item in that section. The mean was used as a point of analysis because it signifies the average response to each statement. The standard deviation was used to find the amount of variation among student responses to each statement. Frequencies were used to find the distribution of results among participants in each class for each item. While the mean and standard deviation data were gathered for the purposes of analysis, only the frequency data has been reported in this

study. The researcher chose to report only the frequency data because the results of the frequencies best show the distribution of results among participants and allow for the studies outliers to be more readily present. Chronbach's Alpha was run on the combined course data in order to determine the internal consistency of the survey items. The Chronbach's Alpha for the combined course data was .940. Data from the second section of the survey were coded using the same systems of coding that were used for the interviews, observations, and field notes.

Interpreting the data. Once the initial process of coding was completed, data were sorted through again to refine the codes and search for patterns within the coded data. This search for patterns helps to group similar codes into themes (Merriam, 2009). These themes represented the findings and it is the goal of the researcher to show the connection between the themes that were developed and the findings that resulted from the data collected. Analysis continued until the point of saturation, which is when it appeared that there was nothing new to be derived from the data collected. Creswell (2013) sees the process of interpretation beginning with coding, moving to categorizing and developing themes, all in the name of "making sense of the data" (p. 187).

Interpreting the data helps to get at the bigger picture within the results. Chapter four explores the results of the study with chapter five delving into discussion of the results.

Credibility

Establishing credibility is important within qualitative research (Creswell, 2013; Lincoln & Guba, 1985; Rubin & Rubin, 1995). There are several ways in which credibility can be established including triangulation, member-checking, negative case

analysis, peer review and prolonged engagement, to name a few (Creswell, 2013; Lincoln & Guba, 1985). The current study used triangulation, reflexivity, and thick, rich descriptions in order to help establish credibility.

Triangulation. Triangulation is where researchers make use of various methods, sources, or theories in order to better understand the case studied and allowing for comparison across the various types of sources, methods, or theories. (Creswell, 2013; Lindlof, 1995; Patton, 2002). This study used two types of triangulation; source triangulation and methods triangulation.

This study used multiple and different sources in order to gain different perspectives with regard to integration of technology by ESL instructors. Lindlof (1995) discusses how multiple sources can help us compare views on the topic researched. In the current study, multiple and different sources were used to examine technology integration by instructors. The researcher gathered data from instructors, students, administrators, and technical personnel.

This study used methods sources in order to approach the topic of instructor integration of technology from multiple angles. The researcher used interviews, observations, surveys, and document analysis in order to better understand how technology was perceived and used by instructors in the study. Lindlof (1995) notes that multiple methods can be used in order to provide greater credibility. He states that one method can help to better understand the findings of a varying method. In the current study, observations were used in order to supplement the results of the interviews with instructors and student survey results.

Thick, rich description. Thick, rich description is used by researchers in order to help their readers make judgments with regards to transferability of the findings (Creswell, 2013; Lincoln & Guba, 1985). By providing detailed information about the case to the reader, the reader is then able to make their own decisions about transferability of results from the study to other situations and contexts. Rubin and Rubin (2012) discuss how interviews help get into the “depth, detail, and richness” (p. 6) of thick, rich descriptions. Gaining such descriptions helps the researcher better understand the context at hand.

Reflexivity. Reflexivity asks for researchers to position themselves within their own study and reflect upon their role. It is where “the writer is conscious of the biases, values, and experiences that he or she brings to a qualitative research study” (Creswell, 2013, p. 216). In order to keep the researcher in check during the research process, a reflexive journal was kept. A reflexive journal helps the researcher keep track of oneself within the study (Lincoln & Guba, 1985). The journal included the researcher’s thoughts and reactions to data being collected as the study progressed. In the beginning, the researcher assumed there would be several differences between instructor’s espoused beliefs and enactment of technology. Findings from the study indicated only one major difference between espoused beliefs and actual integration. In addition, it was assumed that because the intensive English program was housed within the same department as the applied linguistics and technology program, that the applied linguistics and technology program would have heavy influence on technology integration by instructors within the

intensive English program. The results of the study found that there was little interaction between the two programs, with very minimal influence.

Transferability

Transferability is the idea that the results of the study may be applicable to other contexts (Creswell, 2013; Lincoln & Guba, 1985; Patton, 2002). According to Lincoln and Guba (1985), the burden of proof is on the researcher and so if the researcher expects the reader to generalize the ideas of the research to other contexts, it is the researcher's responsibility to provide enough information in order for the reader to be able to make an informed decision. They go on to note that the researcher's responsibility ends at providing the necessary data for readers to make their own decisions. In order for the reader to have enough data to make such evaluations, the researcher in this current study provided thick, rich descriptions so as to inform the reader about the case and leave it to the reader to make judgments about the findings applicability to other contexts.

Summary

This chapter discusses the methodology of the research to be conducted. The research conducted was qualitative in nature and followed a case study approach with an emergent design. The focus of the case study was instructors from one intensive English program at a public university in the Midwest.

Participants for this study included six instructors teaching courses within the intensive English program. Additional data was gathered from key department personnel including administrators and technology support persons. Students provided additional information on instructor integration of technology as well.

Data was collected using a variety of methods. One-on-one interviews were conducted with instructors at the beginning and end of the semester in order to assess espousal of technology integration in the language classroom. Between the interviews, observations were completed over the course of the semester in order to understand how instructors were integrating technology into their language classes. In addition, throughout the study interviews were conducted with key personnel, including the program director and technology liaison, in order to understand the policies in place using technology in the classroom and what technology is available to instructors. Students in participating instructors' courses were surveyed in order to better understand how technology is being integrated by instructors. Documents were collected, when possible, in order to gain additional information on how technology was being integrated.

Data was analyzed using a system of coding. One system of coding for the current study was the TESOL Technology Standards for Language Teachers. Because of the exploratory nature of the study, the researcher was open to other codes as they emerged during the process of data analysis. Codes were analyzed further being sorted into themes. The resulting themes are discussed in the following chapters.

Chapter Four: Results

Instructor Interviews

Instructor participants. There were 6 instructors who participated in this study. Three of the instructors were female while the other three instructors were male. The instructors all taught for the same intensive English program housed at a university in the Midwest. Instructors teaching in the intensive English program were all required to have earned a master's degree or be in the process of obtaining a master's degree. Five of the instructors had received a master's degree in teaching English as a second language (TESL) or a related field, with one of the five having a doctoral degree in a related field. The sixth instructor was a teaching assistant currently completing a master's degree in TESL.

All of the skill areas taught in the intensive English program – grammar, reading, writing, and oral communications – were represented by this group. One of the instructors taught in the intensive English program's exit level program, which involves content-based combined skills courses. The average number of years of teaching experience among the six participants was 8. Two of the instructors had been teaching for 5 years or less, 1 had been teaching for 6-10 years, and 3 had been teaching for 11 or more years.

Definition of technology. Instructors in this study defined technology with regard to its function and use in context. Some instructors defined it broadly, seeing technology as a tool, typically a digital device, used to help them in some way. Other instructors limited their definition of technology to tools used within a learning context.

Bill saw technology not simply as a tool, but as a tool that could be used to help him in the classroom, defining technology through example. He said,

when I think of technology, I think of using it to improve teaching. So like for example in my grammar class that I'm teaching in this semester we have an online course in the Moodle site so we only have one computer lab day a week but we use, I have my students use the course website for that

Along the same lines to Bill, Jim and Shelly saw technology as a means for students to learn language. According to Jim, technology "is a tool to give my students as many language learning opportunities as I can."

For most of the instructors, their definitions of technology included a list of tools as a way to narrow what they saw was and was not technology. All of the instructors that defined technology in this way included computers in their definition. Other hardware tools instructors included in their definitions were cellphones, electronic dictionaries, tablets, audio recorders, and SmartBoards. Beyond hardware tools, instructors' definitions included things such as the Internet, learning management systems like Moodle, software applications, and websites. Instructors actively avoided some tools including things such as a chalkboard, books, and pens when discussing what they considered to be technology.

Lisa did not want to limit herself in the way she defined technology stating there were multiple parts to it. Like some of the other instructors, she personally saw technology as a range of digital tools from electronic dictionaries to smart phones.

However, she recognized that historically technology was defined differently from how it is defined today. She says,

It's difficult because if you go back in time with the history of education, I was looking at some of the different theories, and there is this theory called TPACK ... Technological, Pedagogical, and Content Knowledge and the very first definition of technology included things like books and pens, which most people would not consider part of technology, personally I don't. I think I'm more like with the computer and you know cellphones, and iPads, iPods and those kinds of things as well as the software and applications used for that ... it's weird isn't it, yeah, but for some reason I don't think books and pens register as technology maybe because I used books and pens for most of my life and they were never referred to as technologies.

Defining technology integration. Beyond technology itself, instructors were asked about how they define technology integration. The instructors all defined integration as a way to use technological tools in their classrooms. Almost all of the instructors defined technology integration within the context of language learning. They all saw the integration of technology as a way to help their students with the skills they were learning.

Most of the instructors saw the integration of technology into their courses as a way to enhance what they are already doing within their language classes. Jim noted that for him, "it's using new tools that can help me be more efficient, that can help me expose

students to more language use opportunities than I can in a traditional classroom”. Shelly expands on this idea stating,

Technology integration in the classroom for me would be finding ways to ethically and responsibly incorporate different technologies into a lesson plan and so that’s going to result in changing the way, sort of, how do I say this, the actual way that a lesson, sort of the steps that are followed, how it goes through it, but I don’t think that really begins to change sort of the core of what we’re trying to do as teachers ... when I think about integrating technology, I think about keeping true to those principles that I think are very important in a classroom but I think that it, it really comes to enhancing what students are doing and what they are able to do.

For Lisa, this meant that integrating technology had to make sense within the context of what was being taught to the students. During the semester she was observed, Lisa taught two content-based language courses, one orienting students to academic life and a second on using technology for academic success. She provided the example of her technology content-based course stating, “the class that you observed, we had to use technology otherwise it wouldn't work, you know it was a technology class.”

Some instructors saw technology integration as an extension to what they were already doing in class. David, in his definition of technology integration, referred to it as a “seamless part of my classes.” He goes on to say,

I think that technology integration would just mean that there's a seamless flow between the use of the technology and the class itself that there's not like 'okay, now we're going to stop and we're going to use this technology'.

Based on their definitions of technology integration, all of the instructors felt that they were integrating technology in some way in their courses. Lisa noted that for her, it really depended on the subject being taught. She saw technology integration as being more compatible with certain skill areas than others and as such, her integration of technology varied depending on what skill area she was teaching. For example, Lisa noted that for her technology for academic success content-based language course technology integration was key to the success of the course however in the grammar course she taught technology integration was not as important. She said, “it varies depending on the purpose of the class, the LO’s [learner outcomes], and the students.” She perceived that for the grammar class she could see where it could be useful and that there was some use, but that use was limited in comparison to the content-based language skills class where she found it necessary to the course.

While Kathryn agreed that she was integrating technology in her classes, she noted that she still had much to learn. Shelly had similar feelings to Kathryn. While she was not integrating technology as well as she wanted to, she felt this was normal. According to her, “I think that’s something that as a teacher we’re always looking for ways to improve our lessons, the way we communicate with students, the way we share content, and the way we integrate technology.” She continues on to say, “I think that will

continually be changing as we continue to progress forward with sort of the availability of technology.”

For Jim, participating in the study made him realize that he was not integrating technology as much as he previously thought, going so far as to say that he believed himself to be shying away from it. He noted that before participating in the study if he had thought about his technology use for teaching, he would have believed himself to be integrating technology much more than he actually does. He said,

having you know had this discussion with you and thought about what I was doing with technology while I was teaching, I realize I don't think I really do integrate it much. In fact I sort of shy away from the technology-based approach.

For him, he needed to see the benefit to integrating technology into his course. For example, he loved having access to the Internet and being able to find videos of native speakers that he could show in his class because he could see how the videos could help learners work on their fluency in the language. Without a visible benefit he did not see the purpose in integrating it. He concluded, “I don't trust the technology enough, maybe I don't care about the technology enough to be dependent on it. You take my technology away, it wouldn't change the way I teach, it wouldn't change the language so much.”

Teaching philosophy. All of the instructors in the study said that their teaching philosophy focused on student learning. For most of the instructors this meant having a student-centered classroom. To Bill, this meant fostering student autonomy and helping his students become independent learners. Similarly, Lisa liked to involve her students in the process and find the information on their own. She elaborated, “I believe in learning

by doing. So, student-centered classes ... I like to create a good class atmosphere with the students where they feel like they can say what they know and what they don't know.” One word that kept coming up in relation to having a student-centered classroom was the instructors seeing themselves as facilitators in the classroom as opposed to the “supposed expert” of the traditional classroom.

While all of the instructors mentioned in the discussion of their philosophies that a student-centered classroom was their goal, some recognized that this was not always possible. This was particularly true for David. His philosophy focused on three L's – listening, laughing, and learning. To him, “if you're listening, I say something funny, I know you're listening and then it makes it more fun, and they can learn more, better that way.” While he tried to take a facilitator role in his courses as often as possible, he noted that large class sizes and student attendance in recent semesters lead to a more teacher-centered style. For Shelly, she found that she moved back and forth between the two approaches. According to her, “I think it's sort of a back and forth, at moments it may be more teacher-centered and then at moments it's more student-centered, it sort of depends on the task and what the goals are.” Jim found that the amount his class was student-centered relied on how much preparation went into a lesson. Simply put, “the more prepared I am, the more student-centered it is, the less prepared I am, the more teacher talk.”

One idea mentioned in the instructors' philosophies was flexibility. These instructors wanted to provide a flexible learning environment that would adapt to the needs of the students. As Kathryn put it, “I want the students to learn, I want them to

start from where they are now and move forward and however I need to work to find that and move forward with them is what I'll do.” One way she tried to incorporate this idea into her teaching was through the idea of multiple intelligences. She recognized that not all students learn in the same manner, and she strived to provide the course content in a variety of ways in order to reach all of her students.

For other instructors, interaction was found to be a key component to their philosophies. This included not only interaction between the instructor and the student, but interaction among students and interaction between students and the material being learned as well. Jim stated,

my goal is to give the students a positive experience with the language, to engage the students as much as possible in all uses of the language so that they're being exposed to spoken English, that they're activating their knowledge in speaking and engaging in conversation, in interaction either with me or with other students ... I try to engage them as much as possible with the language in real world type activities.

Here, engaging students in actually using the language and interacting with the instructor and each other was the main goal.

A major factor that influenced Jim's philosophy was his own personal experience in learning foreign languages. One language he learned through classroom study, and the other by just interacting with native speakers through conversation. He noted that his ability to function in the language he acquired only through engaging in conversation with native speakers far outweighed the one he had studied formally for years. He

concluded, learning language through interaction “really changed my approach to teaching, to just engage the students in using the language in real world, practical situations for practical purposes.”

Technology integration's role in instructors' philosophies. The majority of the instructors agreed that technology integration fit within their teaching philosophy. Only one instructor was really unsure of its fit. Though the instructor espoused different ways in which he integrated technology into his teaching, he noted, “I don't know if it's really a part of my philosophy it's just a tool that I use like a textbook.” Jim had similar feelings, referring to technology as just a tool for teaching. While he never questioned technology's fit within his philosophy, noting that he found himself integrating technology every day, he stated that he had a strong distrust in technology. He observed,

if the technology helps me to accomplish my goal and helps to engage the students' interest and I feel like the technology allows me to have the entire world in my pocket at a moment ... but in the back of mind I don't trust the technology. If I base a class on the technology what happens if I go in and there's a power outage? What happens if I go in and for some reason the overhead projector doesn't connect with my computer?

Distrust in technology was a common theme for Jim. As discussed previously, Jim found himself skeptical of technology, shying away from it and stating that he only integrated it when he found there to be a benefit to its use.

Bill discussed how technology was becoming a part of the classroom culture whether instructors wanted it to or not, especially with students having access to

technology now more than ever before. He said that while he had yet to find ways to integrate students' smartphones into his lessons, he saw their value in helping students with their language study.

Some of the instructors spoke of how technology integration facilitated their teaching philosophy. As Kathryn put it, "I think technology allows me to use a lot more resources and a lot of activities that I wouldn't have access to without it." She then goes on to discuss how this applies not only to her and her teaching but to her students and their learning as well. Shelly noted how technology could facilitate interaction and motivation, both key components to her teaching philosophy, in her classroom.

According to her, students were already using technology to interact, whether by email or through social media, and so to her the leap from what students were already doing to what she wanted them to do within her course was not difficult. As for motivation she said, "I think a lot of the students really do feel comfortable working on the computer ... that's something they're very comfortable with most of the time and I think that can really encourage motivation."

Lisa, like Shelly, saw how it could be motivating to students, however she cautioned that the integration had to make sense.

I think it can help create an environment depending on the type of situation you have for teaching it can help facilitate some activities like I don't know, just make it them more doable or, you know, easier and sometimes I think it can just be motivating depending on the group of students but it has to make sense, the goals, and the students, and whatever it is that you are doing in class ... Second Life is,

to me, very good example of something that has a potential of being extremely motivating, but it does not in all situations make sense to use, like in a computer lab for example with the students sitting one next to the other makes absolutely no sense to ask them to give a presentation using the avatars. So, those kinds of things, like, consider all of those things, I think.

Cautions aside, she still felt that technology integration naturally fit with her teaching philosophy stating, “I think technology can help and I think in many ways technology can be used to make the teaching more effective or to make some language concepts clearer.”

Factors affecting technology integration. During their interviews, the instructors discussed several factors, positive and negative, that affected their integration of technology. Instructors gave reasons as to why they found themselves integrating technology as well as barriers and challenges that affected their integration.

Reasons for integrating technology. The instructors discussed several reasons for why they integrate technology. The most often mentioned reason for integrating technology was because the instructors found that it helps to enhance student learning. This connects back to what Shelly discussed previously when defining technology integration when she said, “I think that it [technology integration] really comes to enhancing what students are doing and what they are able to do.” For Kathryn and Jim, it allowed them to provide more authentic language content than they would be able to without technology. Kathryn continued, “I think that’s the biggest [promise of technology integration], is to give them a lot more experience with English inside a classroom than we could before.” Bill discussed how university classes are often

technology enhanced and that the students in the program will be expected to use technology in their courses when they enter the university full time, potentially even taking courses online. For him, the sooner the students are prepared for that reality, the better and so using technology to enhance his classes he felt helped him to prepare his students for that inevitability.

In addition to enhancing student learning, instructors mentioned how they integrated technology because it provided a different way of teaching than traditional means. Kathryn noted,

You can teach a content item, show it to them, have them hear it and then see it and think about it and having those different ways as input allows students to gain more connections inside their brain for it to stick.

Similarly, Bill talked about how he feels there is more than one way to teach his course goals saying, “using technology is just another way for them to learn or help retain the knowledge in a different setting than just like the traditional classroom.”

Interaction, whether with the instructor, peers, or the technology itself, was another key reason for integrating technology. As Bill said,

allowing students to use technology in order to communicate or interact I think also is one of our goals. We want our students to be able to communicate in English and using technology is one of the ways to do that.

For Shelly, it was important that students have knowledge of the “different modes of communication” and ways that students could interact with others not only inside the

class but outside as well. She noted, “I like that idea of sort of freedom and interaction that I think is fostered by using technology.”

Some instructors noted how technology integration not only encourages a student-centered classroom but fosters student autonomy within that paradigm as well.

Instructors often discussed how they liked how technology encouraged independent learning and could be consider as a “self-teaching tool” that would allow students to expand their learning beyond the four walls of the classroom. Lisa provided an example to explain her reasoning behind this.

I honestly think that if they’re using their cellphones or their iPods and iPads to look for the meaning of a word or examples of something or even if it’s just a picture of something that they want to express ... I think it’s helpful because then they can, kind of like, you can give them the power of their own learning instead of me all the time giving them the definitions.

Bill had a similar view noting that technology really allowed for students to take charge of their own learning. He stated,

in a traditional classroom it’s kind of a teacher-student, so a teacher provides the knowledge, students digest or learn that knowledge and using technology I’ve seen that students are more of the explorer. In their reflections you can see that they’re learning but they’re learning through their self-exploring a lot of times. So it’s not always just me in front of the classroom teaching a concept, it’s students using technology to learn as well. So, it’s kind of a tool and providing students more independence and autonomy in learning.

For Shelly, the technology, specifically the content management system she used, fostered student autonomy in that she could share all of her content online and then students would always have access to it. By maintaining the course site she felt her students had to rely on her less, not always relying on her when they needed something but being able to access the materials and find the information they needed on their own.

Other reasons mentioned by instructors included seeing technology integration as a supplement to their class and the convenience that technology provides for teaching language. With regards to the former, Shelly discussed how technology is a great extension to what is already happening in the classroom. She noted, technology was there “not to replace the teacher but to sort of add on to what we can do.” Many of the instructors spoke to the convenience of technology. As Jim put it, “the potential here, I mean, I can carry a whole library in my laptop, literally, I mean I’ve got a whole library there.” He loved the fact that the internet allowed him access to a wealth of knowledge and visual aids, and that no matter the question, he would almost always be able to instantaneously provide students with the information they had a question about.

For these instructors, instant access to technology allows for these instructors to expand upon the curriculum that is already in place. Jim provided an example stating one day during a class discussion a student asked what a crew cut was. By having access to the Internet and Google images, Jim was able to show students visually what a crew cut was without having to use a translator or language-to-language dictionary. Lisa noted similar feelings stating that it’s usually just a couple clicks and students have their answer and can go right back to their task as opposed to no access where she would have to

spend a lot of time trying to explain it or trying it to draw it for the students and the students still not being completely sure of the concept.

For Kathryn, the convenience technology provided in allowing her to organize her class material and store it online was not only helpful for her, but for her students as well. She discussed in the past how if she wanted to do an activity that would take students to several websites, she would have to print the list of links out on a sheet of paper and students would then end up spending most of their time trying to type the address in correctly instead of interacting with the material. Now she can post the links to her course management system, where students can not only easily access the materials, but respond to the activity within the system as well.

A common thread that came up was the idea of “why fight it.” Multiple instructors mentioned that the students were already used to technology and were always on their phones and computers. Kathryn mentioned how technology was relatable to their students. These instructors found that integrating technology in their courses motivated learners. Instead of trying to fight against that, they talked about how they could harness that interest and use it in a productive way. Shelly saw the potential technology integration provided for students to communicate with one another. She acknowledged the freedom that it provided to not just the instructor but to the students as well, circling back to the idea of student autonomy.

All instructors agreed there was promise to integrating technology in the language classroom. Technology integration provided them with a world of resources to incorporate into their courses. David noted, for example, that integrating technology

allowed for him to expand on the content in the textbook. If the students needed more examples, the Internet was able to provide a world of context. Jim expanded on this saying that it allowed him to be more spontaneous with his lessons. He said, “I have more information, more power, in smaller space.” Shelly furthered this idea talking about how access to the Internet allowed her to provide more authentic examples. Instead of having to describe a situation, she could pull up an example video and use that to explain a concept. She felt it made her classes more interesting and even more interactive than her just standing up and lecturing on a topic.

Barriers and challenges to integration. The most often noted barrier to the instructors’ integration of technology was the technology failing in some way. For some of the instructors, technology failure referred to outdated equipment or network. Shelly noted that in some of the computer labs she had been assigned to the network was so slow that it would take up to ten minutes sometimes for students to log in to the computers. She questioned whether or not integrating technology was worth the effort in such cases when it ate up so much of her class time. For others, technology failure focused on the reliability of the technology. Instructors’ reliability issues stemmed from technology that would work perfectly fine one class period and then time they went to use the technology it no longer worked.

For most instructors, however, technology failure referred to hardware or software issues that prevent students from being able to complete a task. David noted, “the biggest challenge is you never know whether it’s going to work or not.” He discussed how in his oral communications class students had difficulties with the audio on the computers in

the lab he was assigned. The students had assignments that required access to audio, however issues with the headsets where they would not be installed, or they would be but would not be the default option, caused problems for the instructor, and his unfamiliarity with the operating system made it difficult for him to help students correct the issue. Lisa had a similar issue with audio not working in a computer lab when her students were trying to create audio resources. Despite all her attempts at troubleshooting the problem, she was never able to get the audio to work in that lab. Jim showed similar concerns regarding the potential for technology failure.

You know we have created a system of diagnostic tests and achievement tests in our program and there's a lot riding on that and if you can't be sure that it's going to work. You know if you get 180 students logged into the computer and they're taking a, they're writing a timed essay and the system shuts down and you've lost their essays. Wouldn't we have been better to just say give them a pencil and a piece of paper and have them write for twenty minutes?

He discussed how he does not want to have to put a lot of effort into solving technical issues. He noted that he will spend a few minutes trying to solve an issue and if after that time it still didn't work, he would move on and go with a backup plan. As he put it, "it's like playing with fire, right? It's great when it keeps you warm but it's terrible if it burns your house down."

Access to technology was another major barrier for instructors. Issues with access came in many forms. Some instructors wished they had more time in the computer lab than they currently did. They acknowledged that space was at a premium

and hard to come by because of the way the schedule worked in the intensive English program. Shelly noted that it often was not worth the hassle to try and request the additional computer lab time as it seemed difficult enough to get space to begin with. She mentioned that she did not want to burden administrators with her request because she already felt they had so much on their plate and she did not want to be the one to add one more thing. Beyond limited access to labs, many discussed how there was limited access to technology in general. David shared his thoughts stating, “the other issue here is that we, you know, we have projectors and those types of things but we don’t have Smart Boards.” The lack of technology was frustrating for some instructors, wishing they had access to other types of technology, especially mobile technologies like tablets.

Some instructors mentioned how the knowledge of technology, or more specifically the lack there of, by students and even themselves was a barrier for them. One group of students Bill noted technology being difficult for was older students. He said that while the majority of the students in the program are younger, the program did have some older students and that sometimes for them using technology, such as using a keyboard to type, was a barrier. Shelly spoke of how surprised she was when discovering what tasks, ones she found to be quite simple, her students were not able to do. She provided an example from a previous class.

I remember one student last semester, I mean she didn’t really even know how to open ... Google Chrome or Internet Explorer or Firefox, and just simply like getting to her email and getting to Moodle was a huge challenge and that would

just take so much time that it, you know, really prevented her from being engaged with what was happening.

Shelly went on to talk about how it is an additional challenge that instructors must adapt to if they want to integrate technology into their language courses. While most instructors spoke of student knowledge being a barrier for them, Kathryn talked about herself as a barrier. She acknowledged that at times her lack of knowledge with regards to technology hindered her ability to integrate technology into her classes. For Jim, keeping up with the technology was a struggle. He felt frustrated with how quickly the technology changed in the program sometimes. He discussed how he would spend time learning a new system and before he's even had the chance to implement what he's learned another new system would be put in place.

With regards to the challenges instructors face, one issue instructors mentioned is deciding what to use. Some of the instructors discussed how even though it is really great that there is so much great hardware technology out there and that computers and the Internet allow access to even more, this plethora of access to materials could backfire. The way Bill saw this, it was all about "not using technology just because it's there but because it's useful to students." He elaborated,

with so much out there, like so many websites and tools on the internet it's hard to really spend the time and see what would be effective or useful to teach in the class and what is just kind of fluff activities that may not be really useful or helpful to students.

For Lisa it was all about having to limit herself. She stated, “in the past we didn’t find anything and now there’s a lot there so kind of like knowing which ones are really what you need and would probably do the job best than others.”

Another challenge instructors faced was controlling technology use within their classrooms. While instructors saw the benefit of allowing their students access to technology, controlling that access and determining when students should be able to access was a struggle. Lisa discussed how she could see how some instructors may be hesitant to integrate technology because of control. She spoke of how technology could be seen as a distraction that can pull focus from the instructor, and for a lot of instructors no longer being the center of attention is a scary thought. As Shelly put it, “students are very distracted when they’re on the computers and I have to be very vigilant in telling them to get off of Facebook, get off of email, you should really have one tab open.” She noted further that while she is willing to take some risk with integrating technology, she believes some control is necessary in the class. She stated that, for her personally, she cannot juggle the tasks required of a class and the pull of social media, and she does not too many people who could.

Bill discussed having similar problems to that of Shelly. He talked about how students would claim to be using their phone to check a dictionary but actually be on social media. David’s solution to this challenge was to ban the use of phones in class. He found that allowing students to have them in class was just too much of a distraction that took students’ concentration away from the class.

For some of the instructors, pressure to use technology was a challenge to their integration. Instructors in this group talked about two kinds of pressures; one, those pressures coming from within the program and two, pressures coming from the profession in general. Two of the instructors discussed how in some ways they felt pressured by the program to use technology, specifically in regards to the required uses of technology. Instructors in the intensive English program, at minimum, were required to use the course management system to keep a grade book with attendance and to deliver program wide formative testing. The second required use, delivering formative testing, was the most often cited reason for feeling pressure by the program to integrate technology. None of the instructors felt pressured to integrate technology within their class in general by the program administration. Jim noted feeling some pressure from the profession in the field, a sort of keeping up with the joneses mentality with regard to technology integration.

One other area instructors agreed at times was a challenge to their technology integration was inconsistency. Because the intensive English program goes by a varied schedule from the university schedule, the majority of the instructors in the program end up teaching in at least two different classrooms during a semester, not including their lab day, if they have one. The inconsistency in space for some instructors proposed a challenge for their technology integration. Instructors often cited how one class period they would be in a classroom with all the bells and whistles and the next day would be lucky to have an overhead projector. This sometimes created a problem for them because they would have to take extra considerations when planning their lessons to make sure

that they would not plan an activity that required something they may not have access to that day. As David put it, “there are things that I want to do but I can't because of the classroom restrictions and then I have to adjust my schedule to go, well, I can't do it in that class but I can in that class.”

Bill noted, “some classrooms seem to be more teacher-friendly than others.” He provided an example of how one semester in one of the classrooms he was able to connect his computer to the projector and mirror the image no problem and in the other classroom he was in he could not get the image to show at all. For these instructors, a room that was considered “teacher-friendly” not only had the necessary equipment for instructors for them to be able to teach but provided a classroom environment that was conducive to learning as well. Some of the classrooms the instructors were placed in not only lacked technology, but a good setup as well. Kathryn spoke to this point in her own interview when she discussed how one semester her class part of the week was located in a room only accessible by going through a tornado shelter. She said, “it was dark and sleepy and there was no energy” whereas the other days of the week her class was located in a space that had what she needed, both in technology and setup, and she found those days to be much more productive.

Other factors affecting instructor integration of technology. Beyond the reasons instructors provided for integrating technology and the barriers and challenges faced, there were three additional factors discussed that affected technology integration in the language classroom. These three factors were instructor education and professional development, considerations made when integrating technology, and support that the

instructors had, both technical and educational, for integrating technology into their courses.

Instructor education and professional development. Of the six instructors, three of the instructors had at least one formal class during their master's study in computer assisted language learning. Among the three instructors that had taken at least one course in CALL, one had a degree focused in CALL while the other two had both focused on CALL during their training. Although the other three instructors had no formal training in CALL, they did mention that their master's programs had some sort of technology component to them. Most of the instructors said that they had been integrating technology into their courses since they started teaching ESL/EFL, though for some the use was uneven depending on their teaching context.

The majority of these instructors took advantage of several different professional development opportunities through a variety of outlets including within the program, within the English department, within the university, and in the profession. The most often cited way for continued professional development was attending conferences. The program encouraged instructors to further their professional development and provided professional development funds that could be used to attend conferences. Instructors listed a variety of conferences as resources for their continued professional development in CALL including local conferences, regional conferences, and international conferences, both general, such as the TESOL convention, and CALL specific, such as the Computer Assisted Language Instruction Consortium (CALICO) Conference.

Other sources of professional development included taking CALL specific courses from the English department, attending program and department workshops, brown bags, and lectures, participating in webinars, reading articles, and speaking informally with colleagues on related topics. David mentioned that he tried to attend brown bags held by English whenever the topic was relevant to his work. Bill noted that if an instructor wanted to take a course or attend a conference, anything job related or that would help the instructors with their professional development, they could speak with the director. He noted that program administration was receptive to providing professional development opportunities, CALL related and otherwise, to instructors as long as it could be related back to their job.

Considerations made when integrating technology. Instructors noted a variety of considerations they take before integrating technology into their courses. The most frequent consideration discussed was appropriateness and fit with regards to technology integration. Bill wanted to make sure that what he was doing in class with technology would actually help students in reaching the course goals. He said, “I really want to make sure that it’s something that will be useful or helpful to students and that they will get something out of it. It’s not just something that’s busy time kind of thing.” Lisa shared this sentiment stating, “I think about if and which technologies can be used for that particular purpose, like accomplish that goal. I have to think about how I can use the technology to help with that goal.”

Many of the instructors discussed how it seems like some skill areas are better suited to technology integration than others. Shelly discussed how it’s not just about

whether or not technology will integrate well with a skill area or not, but making considerations for what technologies work best within each skill area. She wanted to make sure that whatever she chose would fit with the objectives of the courses that she was teaching. David mentioned how it's hard sometimes to fit the goals of a lesson to an activity that can be completed individually on a computer. For Kathryn, it was all about the integration making sense. She was very careful about selecting technologies that would work best for the level of learners she had.

Related to the discussion on appropriateness, some instructors mentioned that it's equally important to consider the content being delivered through electronic means. Jim discussed how he always reviews videos all the way through before posting them online. While he has never posted anything inappropriate to his course site, he has come across videos, which begin fine but halfway through the video are no longer appropriate for a classroom setting. He said he works hard to make sure that the online resources he does provide to students are accurate and come from a reputable source. For Kathryn, her main concern was about being culturally aware. She wanted to make sure not to post videos or other materials that would be culturally insensitive to her students.

Another consideration instructors keep in mind is student access to technology and having students use their own technology during class time. Some instructors mentioned that they are hesitant to ask students to bring in their own technology to class and use it in class because of potential inequalities. As Jim put it,

most of them have smartphones but I don't want to be discriminatory and if I say we're going to do this activity using your smartphone and they don't have a smartphone then am I going to rob them of the opportunity.

As for Lisa, once she realized that all of her students appeared to have their own devices, she felt more comfortable asking them if they would be willing to bring them to class. She noted that even though she is assigned one lab day, sometimes the days she wants to do activities with computers does not fall on the day she is in the lab.

One final consideration a couple instructors mentioned was learner training. Instructors discussed concern for how long it would take to train students to use the technology they wanted to use in their courses. One requirement for Jim was that the technology had to be simple enough for him that he would be able to train his students in how to use it. In addition, the instructors discussed not only the length of time it would take to train students but how often the technology would then be used in a class. If it was a type of technology that would be integrated every day, instructors were more willing to spend time training their students to use that technology than something that might be used once or twice during a semester. As Lisa put it, “making those kinds of decisions can be challenging too, depending on how comfortable and knowledgeable you are about doing that [integrating technology]”.

Educational and technical support. One final factor that affected instructor integration of technology was the support available to instructors, both technical support and educational/ pedagogical support. Most of the instructors knew whom they could go to if they had any technical support needs. The program was assigned a systems support

specialist who not only supported the program's computer lab, but supported all of the faculty members within the program as well. While some instructors never utilized the support of this staff member, they did know who to go to if they had any questions regarding their work computers.

Beyond technical support, the program had some educational support for faculty. When the study began the program relied on one person to manage the course management system and the language computer lab. By the end of the study, this position had been split into two separate positions, with one person handling the course management system and another handling the day-to-day operations of the language lab. All of the instructors knew whom they could go to if they needed educational support in their courses with regards to technology integration. Lisa talked about how the support person would not only set up courses for instructors within the course management system, but would provide guidance in how to use technology for language learning in the form of individual meetings and group workshops as well.

Some of the instructors discussed how they relied on this support to help them integrate new technologies into their language courses. These instructors had no issue with going to the educational support person and asking for assistance in how to do something. For other instructors however, they worried that they would be a nuisance to the educational support person and did not want to waste the support person's time. These instructors mentioned how they believed that the administrators and staff within the program were often overworked and they did not want to bother these people, the educational support person included, with their problems or queries.

In addition to the educational support person within the intensive English program, some of the instructors mentioned that if they ever had any questions or wanted to develop some project that involved integrating technology they knew they could go to students within the English department. One of the graduate majors in the English department is Applied Linguistics, with several students in the program focusing their studies on language learning and technology. Jim noted that while he did not take advantage of the resources as much as he could, he knew that if he ever wanted to design an experimental course that involved technology integration there would be people that he could go to and get advice and support from.

Instructors' perceptions of their technology integration. Beyond discussions regarding instructors' thoughts towards integrating technology, instructors discussed the ways in which they have integrated technology in the past and how they were currently integrating technology in their language classes.

Instructor integration of technology. Instructors spoke of a variety of ways in which they integrated technology into their teaching. The most often cited technology used by instructors was the program's course management system. Instructors used the program's course management system for a variety of purposes. Instructors discussed how they like using the course site as a way to organize resources for students. They could post all the resources they wanted to use in a semester at once and have them hidden making them available to students as the semester progressed. Many of the instructors noted that they would often post their class presentations on the course site for students to access it for review after the class.

Besides sharing links with students, many instructors used the course management system as a way to organize all the activities for their course. Jim liked having the course management system because it allowed him to store all the materials for his course in one place and then all he would have to do is take his computer to class and pull up the course site on his computer and everything would be organized there waiting for him. One of the most often mentioned uses of the course management system was to collect student work and provide feedback to students. Several instructors discussed how they would have students submit papers within the course site and then have students do peer review before having the students resubmit the paper for final grading.

Some instructors talked about using the course management system as a collaboration tool. This included using synchronous and asynchronous forms of communication, including but not limited to forums, chat, and wikis. Jim discussed how he has used the course management system to meet with students and hold a class online when he was not able to be physically present in class. One unique use of the course management system was by Lisa who had her students collaborate on a glossary within the course management system. She would provide the terms that needed defining and the students would provide the definitions and examples. In addition, she talked about holding office hours within the course management system where she would make herself available via text chat for any students who may have had questions about their course assignments. Shelly liked using forums in her classes. She liked not only the collaborative nature of the forum where students could post and respond to others, but the

permanency of the forum dialogue as well. She commented that it was nice to be able to go back later and see what was posted and have that collection of ideas in one place that students could review, whereas had that same discussion taken place in class the ideas would have probably been lost.

One technology almost all of the instructors integrated into their language classes was presentation software. Many of the instructors discussed how they used PowerPoint or Prezi presentation tools to help guide their lessons and present information to the students. Some of the instructors talked about how they even used these tools to create games and activities to help students review the materials. Lisa talked about how she has used PowerPoint to help her students learn how to cite sources correctly. She provides examples on slides and has students do research on the web to tell her whether a source is cited correctly or not. Beyond using it for their own teaching purposes, some instructors trained their students in how to create presentations with presentation software that are not just “cute”, as Lisa put it, but effective.

Web 2.0 tools were another resource instructors integrated into their language classes. One such tool that instructors mentioned using was polling software. They used these tools, such as Poll Everywhere and Socrative, as a way to create a more interactive class and evaluate how students were handling the material, determining what they knew and what they still needed to work on. Shelly discussed how integrating polling software into her courses gave a “productive purpose” to using smart phones in the classroom. She said, using Poll Everywhere “really sort of helps break that ice and you know we can

start to have a discussion because they've started to think about it but they've done it on their own and it's a safe way to communicate."

Other Web 2.0 tools instructors have integrated into their courses include blogs, wikis, text chatting, and social networking apps to name a few. The instructors used blogs for a few different purposes. Some instructors created class blogs where all the students were expected to contribute posts and read and comment on their classmates' posts. Other instructors had students create their own blogs. Lisa talked about how in the past she had students in a writing class use blogs as a way to keep a weekly journal. Kathryn was the only instructor who openly talked about using social networking tools with her students. She said,

they set me up with the What's App, put it on my phone and then we Snapchat, the students and I, and they, when I learned how to do that, the first day they snapchatted pictures of me teaching to show that, you know that we could communicate that way. So we text, we snap, we Facebook, we email, and not every student but every student emails with me and text with me.

For her social networking was all about finding better ways to communicate with her students.

A couple of the instructors discussed integrating video into their language classes. Much of the time instructors were integrating video into their courses they were using videos found on YouTube. YouTube was not their only source for videos, as they used videos from additional sources including TedTalks, National Geographic, and general ESL educational websites, however it typically was their main source for finding videos.

Both Jim and Kathryn discussed how they used videos just about every day in their classes. Kathryn liked YouTube for its authenticity. She often used YouTube as a supplement to her course and found videos with content related to the topics she was teaching. For her, it was all about providing an additional source of input for her students. While she knew that she could probably deliver the same content through lecturing, she believed that YouTube was a better way to provide content to students as she found it provided that additional perspective.

In addition to the authenticity of video Kathryn particularly liked using videos because they allowed her to scaffold what students were learning. She said,

I think scaffolding is really important for second language stuff. We do a lot of songs and you know the cloze exercises and then they listen and then we talk about it and then they listen and then I show it with the lyrics so they can see what words it really was and what they thought it was ... they enjoy that a lot.

Beyond scaffolding, YouTube allowed her to broach more sensitive topics. She discussed how there are certain topics she knew students probably would not like to hear her lecture about but she said, “if we show a video and then we talk about it things are much easier and if they can see that it’s talked about in the video and it’s okay, you know that’s helpful too.”

Both instructors lauded YouTube as a great resource for finding videos on just about every topic they could want. Jim noted that he rarely had to look beyond YouTube for good videos. He discussed how he was very picky about what he used from YouTube and would often watch several videos before finding something usable. He said, “it’s

worthy of consideration if the English is good, the speech is clear, and it's something that's accessible to my students, something that will be interesting to my students.” He went on to say, “So science, history, culture, language, anything you want, I'll find you a good video and the students will go 'wow, this is interesting' and it really challenges them.” Depending on the level of the students he was teaching he used videos of various lengths and different types of activities. For his lowest level students, he said he would provide a short 2 or 3 minute video and have them complete a fill in the blank exercise where as with higher level students he would use a video upwards of twenty minutes long and have them take notes free style.

In addition to watching videos, some instructors recorded videos in class. Instructors who were teaching the oral communications classes talked about recording their students' presentations so that they could go back later and evaluate their speaking skills. Lisa talked about how in her class she recorded student presentations and then had the students go back and evaluate their own video presentations, reflecting on what they did well and what they needed to improve on.

Other technologies instructors mentioned integrating into their courses included things like word processing tools, concordancers, audio, an ELMO, skill specific software, and websites. Shelly liked using word processing tools for providing feedback to students. She particularly liked the track changes and comments functions in Microsoft Word that allowed her to put her feedback directly in context. Jim discussed how he uses audio in two ways. Most of the time when he integrates audio into his class,

he is playing sound files for his students. Occasionally though, he will have students record their own voices with digital audio recorders.

Bill discussed how he would provide links for students to access activities online to review concepts covered in class. Usually these activities were purely for review and did not count towards their grade. Occasionally if a website had the option to send their score to someone, the instructor would have students email him their scores so students could receive credit. Most of the time however he said he just used the websites for practice. Jim and Lisa both talked about the power of Google and how it allowed them to access a wide variety of content to share with their students. They especially liked being able to search for images so instead of having to just describe something to students they could show it to them. Kathryn talked about how she used the library's website to train her students in how to gather information via scholarly peer-reviewed journals. Another thing she liked doing was interactive activities on the Internet. She said that in the past when she taught grammar she really liked using a site that explained how to diagram a sentence with examples and then provided space for students to practice diagramming sentences.

Another aspect of technology integration instructors discussed was using technology to help manage their courses. Most of the instructors spoke of using email to keep in contact with their students to make announcements, collect assignments, and provide feedback to students. All of the instructors talked about using the course management system for keeping an electronic grade book and attendance. For the

majority of the instructors, their course site was central to everything that they did with regards to teaching.

Instructors used technology outside of their classes in other parts of their job. Some of the instructors mentioned using technology to do general research on what was happening in the field of ESL and what new resources might be useful to them as instructors. Kathryn noted she was often online looking for new things to incorporate into her teaching. Some instructors, besides teaching, had other positions in the program. While all instructors discussed using email, to the instructors that had additional duties email was particularly important. Another important technology was online file storage. Instructors used programs like Gmail or Dropbox to store files and share with others, allowing them to collaborate more easily with their peers.

Frequency of technology integration. Most of the instructors reported using technology in some way every day in their class. All but one of the instructors had a regularly scheduled class in a computer lab on campus. While the remaining instructor had a lab time assigned to him, he chose not to use it regularly during the semester due to issues that arose the semester he participated in the study. When it came to student use of technology, most of the instructors said that for the most part the only time students used technology in class was when they were in the computer lab. A couple of the instructors allowed students to use computer technologies in the regular classroom, but only during certain class periods when the instructor deemed technology appropriate to the situation.

While students did not access technology often within class, many of the teachers utilized the program's course management system to organize course materials for

student access. Shelly noted that it really depended on how technology was defined. While she personally used presentation tools to help her with her lessons every day, her students were not necessarily accessing technology every day in her class. She continued on to say that if you considered what students were required to do outside of class on the course site, then it could be said that her students used technology every day as well. Lisa discussed how it really depended on the class being taught, the goals of the course, and the level of the learner. For some classes she felt it was impossible not to integrate technology while for others she found herself integrating technology much less.

Student achievement and technology integration. Many of the instructors discussed how they felt their use of technology helped with student achievement. For some of the instructors this meant connecting their integration of technology with the objectives of their classes. Lisa spoke of how it was easier to connect technology integration to some of the learner outcomes more than others. She said this was especially true for those outcomes that had a technology piece built into them. In Kathryn's course, one of the objectives of the course was to help students with reduced speech. She talked about how she used videos in her class every day, most times with captioning, so students could see the sentence as it would be written, but listen to the speakers and better understand how reductions worked.

David was certain that at least some of the ways he integrated technology were helping with student achievement. He then discussed in detail an example where he felt the technology made a difference in the students' success. One week he would provide online materials for students to access before a quiz and the next week he did not and this

pattern recurred unplanned multiple times throughout the semester and he noticed that the weeks in which the online materials were provided students scored higher on the quizzes than the weeks where no additional materials were given.

Bill discussed how in the past using Skype with his oral communications students was really beneficial to students speaking skills. He stated,

I think with our listening/speaking classes one of our goals is to get students to communicate more effectively and become more fluent in the language and I think using technology in that way students were a little more open to talking maybe than in the classroom setting all the time and I think it was helpful to some students they weren't as nervous as they were in the classroom

For Bill he liked how the technology allowed him to work more one-on-one with the students and provided shier students the opportunity to show their language skills in a non-threatening environment.

While most of the instructors were able to provide examples of ways they felt their integration of technology helped with student achievement, some instructors were unsure. Jim discussed that while he would hope that everything he does in his class, including the things he does with technology would be focused toward student achievement, he was not sure if he could say with any real certainty if that was the actual case.

Integrating technology with assessments. The intensive English program relied heavily on computer-based assessments. When students enter the program they take an online placement test to determine what level courses they will take. Once they've been

placed in their classes, they take a diagnostic test to make sure they were placed in the right level. Throughout the semester in each of their skill area courses they take approximately five, depending on the skill, formative assessments online to monitor their progress in relation to the learner outcomes. At the end of the semester students are given an achievement test that focuses on the learner outcomes in each of their courses. Bill stated that all of the testing for the program was housed online and managed through their e-learning site, the program's course management system. He noted that while instructors still created their own assessments, both paper-based and electronically, all instructors were required to integrate the program's formative assessments into their courses throughout the semester.

All of the instructors mentioned how they integrated technology into their assessments in the courses they were teaching. For some of the instructors that meant implementing just the program's online formative assessments and not integrating technology into other types of assessment they may have given their students. Bill said a lot of the time he was in the computer lab he was using the lab time to give the program's formative tests because for test security purposes instructors needed to supervise the students while they took the assessments. Kathryn stated that she was still unfamiliar with how to create her own assessments within the course management system and so outside of using the program's online formative assessments, the rest of the testing that she did in class was paper-based. Lisa said that for her sometimes it was just easier to create a paper-based test for her students.

Beyond testing, some instructors did discuss other ways in which they used technology to assess their students. Shelly talked about how she would have her students upload their papers to the course management system and then she would assess them in Word providing feedback to the students using track changes and then upload the feedback to the course management system for students to access. She noted that she did all the grading herself because the course management system did not have the capabilities to analyze the papers and the intensive English program did not have access to the automated writing evaluation system Criterion. She stated that even if she did have access to Criterion she would not solely rely on that as a way to give students feedback on the papers they wrote.

Student use of technology in the language classroom. Instructors spoke of a variety of ways in which students were using technology in their language courses. The majority of the uses of technology were instructor directed uses of technology. This mostly involved students accessing resources on the Internet, typically through the program's course management system. Instructors often viewed the course management system as a hub in their classes where students could gather information about assignments, submit homework, and participate in discussion boards, among other things. Bill gave an example of how in his class he posted a link for students to learn about how to paraphrase when writing and then had students post reflections on the course management site about what they learned. He said,

I think to make it meaningful for them students were commenting on each other's posts so it became not so much of me in front of the classroom teaching but them

exploring something and learning it and then discussing it on, I mean it's like a chat forum, nonsynchronous, but I think that helped them learn it differently than if I was to teach it in a classroom

He believed that having students summarize what they learned and discussing with it peers made it a more communicative learning experience for the students.

The resources students used included both instructor made sources as well as pre-made resources from reputable websites. Most of the instructors that had their students access external websites had them complete the activity as a supplement to what they were learning in class. Bill said that he liked to use pre-made websites as they provided instantaneous feedback to the students. For him, it was about students "practicing and learning, kind of discovering what, what they know and what they need to continue to work on." Only David mentioned asking his students to take screenshots of their scores from external websites and submitting the screenshots for credit to him. Another popular resource available online that instructors directed students to use was their course textbook's online component. Instructors mentioned how, when available, they had students use these activities to review what was being taught in class.

Kathryn remarked how much she liked the built in dictionary that students had on their cellphones. She discussed how easy it was for students to quickly take out their phone, check a term, and then continue with what they were doing. Several instructors spoke about how they encouraged students to use their own technologies to help them learn new terms and concepts. Like Kathryn, they liked the idea of facilitating students in their learning by allowing them to discover information for themselves and then if they

had any questions about what they found, could go back to the instructor where it could be discussed individually or as a class.

Many of the instructors discussed how the students created PowerPoint and Prezi presentations for their class assignments. Students in the upper level oral communications courses had a course objective that was related to their ability to integrate presentation software into the oral presentations they delivered. Lisa discussed how she was not very teacher-centered, having a learn-by doing philosophy, and so if presentation software was being used it was being used by her students. In her class she said, “if I do PowerPoint presentations and Prezi presentations, they're the ones learning how to do it and doing the presentations, and using them to present something.”

One common student use of technology in the instructors' courses was using a word processor to write papers. Instructors particularly liked having students use Google Docs where students would share documents with each other and then be able to peer edit each other's documents providing feedback directly in text. Shelly often gave students the option for minor assignments of either using a word processor or writing them out by hand. She noted that for some of her students, they struggled with typing and since that was not a priority for her, she gave students the choice to either use digital technologies or a pencil and paper.

Some of the instructors discussed how students used video technologies in class. In one of Lisa's classes she recorded students' presentations and uploaded them to her class's course management system. Their students could review their videos and, following a rubric, evaluate their work. She said,

they did their own evaluation in the forum so everybody else could see it too. So it makes them more, I think more accountable for whatever they're doing because they know that other people are going to be seeing it and also they can share with their friends too and then they can talk about 'Okay I think you did this or that' so it can be used for peer help or whatever, peer review if you will.

Kathryn discussed how in her courses, her students would typically use YouTube to gather information. Students would often use videos to share information with others in class as well.

Supporting student use of technology. Some of the instructors discussed how they provided support for their students with regards to technology integration. The support they provided varied, with some support coming in the form of face-to-face help while other times the support was via email. Instructors reported that most of the face-to-face technological support they provided to students was when they met in the computer lab. Lisa remarked that with regards to technology integration, most of the time she was integrating technology her students were the ones who were using the technology while she just supported their use.

While the majority of the time instructors were able to help students with their technological issues sometimes this was not the case. David discussed how in one of his classes he stopped integrating technology because the students struggled with getting the technology, in this case the course management system, to work and failed to contact him when they had problems with the system. He noted that even when they were in the computer lab and he could monitor the situation there were still issues that he was unable

to solve. He got frustrated with the situation and the students were frustrated with the situation so in the end he determined it was best just to not integrate technology at all.

In rare instances, it was not the instructor supporting the students but in fact the students supporting the instructor. Kathryn discussed how her students' knowledge of technology often was greater than her own knowledge. She provided examples of cases where her students would introduce new technology, usually a phone app, to her and help her learn the app so that they could use it to communicate with each other.

Banning technology in the classroom. While most instructors were okay with their students having access to technology during their class, some instructors were more restricting than others in terms of how much students could access the technology during the class period. Lisa had the most relaxed policy with regard to student use of technology in her language courses. She allowed students in her classes to use cellphones, tablets, and computers during the class period to help them with their studies with the caveat that they actually use the technology for that purpose and not to be texting with their friends or browsing social media. To her she would rather provide students the access so that they can for example quickly look up a term and then continue on instead of her having to spend ten minutes trying to explain the same concept.

David's policy was the strictest of the six participating instructors. In his class all cellphone use was banned. He noted that the policy was out of necessity as he did not believe students to be responsible enough to deal with them during class time and did not want students to lose focus from the lesson. Keeping the students focused on what their learning was the true goal behind the policy.

The majority of the instructors took a stance somewhere in between the two extremes. Shelly discussed how she really wants to give that freedom to students so that they can look up information when they need to but at the same time struggles with losing control. She said,

I want to be really open and let them use their phone and let them use their laptops because I think that they can be such effective tools but there are so many distractions on them and students don't always have that ability to monitor themselves ... and I can't always tell what's going on. So yeah, it is sort of this constant battle back and forth.

She noted that her threshold for allowing students to use their own technology in class really was dependent on the students she was teaching in a given semester.

Required integration of technology. Only a couple of the instructors spoke of required uses of technology. Bill said that in the program all instructors were required to use the course management system to take attendance and keep track of their grades. The reason for this is because all of the progress reports across courses were curated through the course management system and so all instructors were expected to use the course management system for at least this purpose. He said beyond this, the only other requirement for technology integration was using the formative assessments in the skills-based courses. The instructors discussed how there is no requirement for having to use technology in their teaching. Jim stated that while he consistently integrated technology into his courses, there were some instructors who he believed only used technology to the point of what was required of them and nothing more.

Instructor Observations

All six instructors were observed teaching during the semester in which they participated. Three instructors taught only one course the semester they participated and were each observed four times. Two instructors taught two courses and were observed four times for each of their two courses for a total of eight observations each. The final instructor taught one regular course and two courses in the exit level program. Only the exit level program courses were observed and because of the high stakes nature of these courses, each was only observed twice, for a total of four observations for this instructor.

Setting. The majority of the observations took place in a traditional classroom setting. Because the intensive English program only has control over one traditional classroom space, a seminar space, the vast majority of instructors who teach for the intensive English program end up teaching in one of the university's over 200 general classroom spaces across campus. In addition, because the intensive English program does not follow the time schedule that the university follows, it is often difficult to place the same instructor in the same classroom for the entire week. This leads to instructors often being assigned two different classroom spaces for teaching, not including a lab space if they have chosen to teach in a computer lab.

Most of the classrooms the participating instructors taught in had the same layout. The classrooms averaged 45 seats, with the lowest being 33 and the highest being 48. Moveable tablet desks were aligned in rows to fit the classroom space with a fixed desk for the instructor usually at the front center or front left of the classroom. In addition to the desk for the instructor at the front of the room, there was a document camera and a

technology console that housed the audio and video equipment for the room including a dvd player, in some cases a vhs player, hook ups to connect a laptop, and a switch panel that allowed instructors to switch between projecting the dvd player, the laptop, the vhs player (where available), and the document camera. In addition, the console controlled the projector and projection screen. The projection screen hung either in the center of the room or in the corner opposite to where the technology console was placed. Chalkboards lined the wall behind the instructor's desk and in some cases, an additional board lined either a sidewall or back wall.

Two instructors taught classes in a space that differed from this format. While the technology setup was the same for these instructors, the desk situation was different. In these classrooms instead of having individual desks, large tables existed in their place. For one instructor, the tables were permanently fixed in one position and could not be moved from their spots, while for the other instructor, she was in a more flexible learning space that allowed for the tables to be moved to whatever configuration the instructor desired. In addition, the latter instructor's classroom with the flexible environment was the only classroom to have a whiteboard instead of a chalkboard in the classroom.

Some instructors were observed teaching in a computer lab. The majority of the instructors observed were assigned to the program's language lab. The lab had 20 Mac desktop computers for student use. At the beginning of the study, the computers were aligned 4 computers to a row, 5 rows total, all facing the same direction with only one entrance to each row as the rows butted against the wall. After the first semester of observations, the configuration of the lab was changed so that four of the rows created

two islands to create more space between the rows so that the instructor could have easier access to the computers near the wall. In addition, the room was equipped with a projector that faced towards the front of the room and a projector screen that could be pulled down manually. A whiteboard is available on the front wall behind the projection screen.

The computers in the language lab had a complete set up with a mouse and keyboard and headphones connected to each computer. An additional sixth row was set up at the back of the room. This row contained a Mac desktop computer for instructor use, hook ups if an instructor wanted to connect their own computer to the projector, and a printer for instructors and students to print to. Each of the computers had a standard set of applications installed for students to use including Microsoft Office tools and web browsers with links to language activities, as well as specialized software for student language practice.

Because there was a high demand for lab time in the intensive English program, not all instructors were able to get lab time in the program's own language lab. Some of the instructors who participated in the study were assigned to labs in other buildings on campus. The other labs instructors were assigned to were similar in their setup. Each lab had 25 desktop PCs for student use and one desktop PC for instructors. The labs were organized in one of two ways. The lab was either set up in rows with all of the rows facing one direction or the lab was set up as one large island, like a boardroom table, with computers going down each side of the island and the instructor computer at the head of the island.

The computers in these labs were equipped with a mouse and keyboard but students had to provide their own headsets if they wanted to listen to audio on the computers. The computers all had Microsoft Office suite installed as well as web browsers for students to access the Internet. One of the labs was owned by the computer science department and had additional software not relevant to the students in the intensive English program. Each of the labs had a printer at the front of the room. The instructor computer was connected to a projector that projected onto the front wall. Whiteboards lined the wall behind the projector screen. Hook ups were available near the instructor computer if an instructor desired to use a personal computer instead of the instructor computer provided.

Instructor integration of technology. Instructors were observed integrating technology in a variety of ways for a variety of purposes in their courses. While instructors integrated a wide range of technological tools, the most often used tool in their classroom was the computer. Whether using it to present or to navigate the instructor's course site on the program's course management system, integration of computers and computer technologies were observed in almost every instructor's course during practically every visit.

When it comes to integrating the course management system in their courses, the instructors were observed implementing it in a number of ways. The most often observed use of the course management system was to share assignment information and post materials for student access. Several of the instructors, either at the beginning or end of class, were observed pulling up their course site and reminding their students of

assignments that needed to be completed, resources added, grades that were posted and more. Jim, in his class, was seen reminding students where they could find their progress reports on the course management system. The course management system was observed as a way to collect assignments as well. Lisa was seen showing her students where they were to upload their next assignment, going through the steps of how to locate the forum to upload the document and what kind of name to give the document they were uploading,

Some of the instructors were observed implementing collaboration tools in and out of the course management system. This included using tools such as forums and wikis. Bill used forums as a way for groups to post findings and students to respond to the findings. In his class, Bill had students work in groups of three to review grammar rules. Groups were responsible to posting the rule along with two examples, one they found and one they developed. For homework, each student was asked to comment on two other groups' postings, letting them know whether or not their description of the rule and examples were clear and providing better examples of the rule if they could. Lisa was observed using wikis as a place for her students to collaborate on an online reading. The instructor split students into groups and provided each group with a reading. Groups were then tasked with coming up with three or four main points and entering the points into a wiki on the course management system. The wikis were then shared with the whole class so that everyone could see all the points students highlighted, discussing these points as a class. Shelly was seen pulling up an example introduction in Google Docs and together as a class had the students discuss what was good about the document

and what improvements were needed. In Shelly's class students submitted an assignment through Google Docs to the instructor. The instructor then chose one of the student's assignments and projected it on the main screen. As a class, the students reviewed the document. After reviewing the document as a class, students were asked to take the suggestions that came out of the discussion and rewrite the example. Students were then assigned to rewrite their own paragraphs they had submitted earlier.

Many of the instructors were seen integrating presentation software into their courses. Whether they were in a computer lab or in a regular classroom, the instructors were observed using presentation tools to guide their lessons. Both Bill and Shelly were observed using presentation software not just to lecture, but to post student exercises and play games as well. Bill was observed using PowerPoint presentations as a jumping off point for group discussions. Shelly was seen using PowerPoint in her class to play review games with her students in order to prepare for an upcoming exam.

Videos were another technology instructors were observed integrating into their courses. In Kathryn's course, she was observed using videos in multiple ways. She was seen often starting her course with a music video playing and the lyrics visible up on the screen so her students knew the words they were listening to. In one class the researcher observed, the instructor did an activity with a video on YouTube where she first just played a video and then asked students what they thought they heard, then she provided them a handout with the text of the video and they listened to the video again. Students then reviewed vocabulary for the video going over unfamiliar terms and then the

instructor did another activity with the students where the students had to pick out example structures of the language point they were reviewing that day in class.

Another way instructors were seen integrating technology was through the use of external websites. External websites were seen being used typically in one of two ways; instructors were either (a) having students complete activities on external websites or (b) having students use external websites to look up something for class. Bill was seen providing external resources to students in class for them to access as an additional way to review before their next exam. Jim was observed integrating external websites as a whole class activity. He was teaching in the regular classroom and he pulled up a website and had his students debate the answers for each choice with the majority answer being the one he marked. At the end of each activity he would click the submit button and would receive instantaneous feedback the class could view and see how they did. In Lisa's class students were observed working on creating citation pages and so Lisa had provided students with several online resources to help them make sure they were citing sources correctly. In the case where none of the sites showed how to cite a particular type of resource, the instructor and student were observed working together to search the Internet and come with a solution for how the source should be cited.

A couple of instructors were seen using search engines as a way to provide answers to students' questions. In Jim's class, he was observed using Google image search to find an image to help him answer a student's question about a particular item. David was observed using a search engine to help find a definition to clarify a term he was having difficulty defining on his own.

Other technologies instructors were observed using include a document camera, audio, and word processing software, among other things. Bill was observed using an ELMO in one of his classes as a way to review the subject of that day's lesson. In Kathryn's class because her computer did not have a disc drive, she was observed using a DVD player to play audio recordings for students. On the particular day she was observed using the player for audio the remote to the player had gone missing so she had to skip through each track to get to the one she wanted to play each time she wanted to play the track. In Shelly's course, she was observed demonstrating how the track changes feature in Word works so that students would understand how they could see her comments and corrections, turn them off and on, and accept them and reject them. Jim was observed using audio with his students as part of a textbook activity. The students first listened to the audio and answered questions in their textbook. They then discussed in pairs in answers. The pairs came back and as a whole class they reviewed their answers, using the audio to double-check and clarify any questions the students might have had. David was observed using an iPad to take notes while students had group discussions in front of the class. In Lisa's class she and a student were observed working together on a Word documents with her providing feedback and make comments and changes using track changes in the sidebar for the student to later reference.

Instructors were at times observed using technology for other aspects of their job. Kathryn, for example, was seen reviewing lesson plans for a future class and researching information on the Internet to provide later to students. Many of the instructors were observed using their computers to record attendance within the course management

system. Some of the instructors were observed composing emails. Shelly was seen writing an email to the technology liaison because her students were having difficulty accessing the course management system and she needed a solution to provide to her students so that they could gain access to the course again. Lisa was observed using a digital filing system as a way to organize all her course documents. She was seen searching for a document for one of her classes in the filing system and then moving it over to the course management system, making it available for students to access.

Frequency of integration. The majority of the instructors were observed integrating technology in some way in just about every class the researcher observed. Of all of the instructors, Lisa integrated technology into her courses the most. Both she and her students were observed using technology in some way during the four class periods that her classes were observed. David, on the other hand, integrated technology the least in comparison to other instructors. He was the only instructor that was not observed in a lab. He was observed eight times, and only once in those eight observations were students seen using technology as part of their course work.

Integrating technology with assessments. Many of the instructors were observed using technology to deliver assessments to their students with formative assessments observed as being used most often. Both Bill and Kathryn were both seen implementing the program's formative assessments in their classes. In each case on the day of the formative assessment, the instructor wrote the password to the assessment on the whiteboard and then had their student login to the course site and click on the link to the assessment, enter the password and then complete the assessment. The instructors

monitored students as they took the formative assessments and told them that they would only get one attempt at the assessment. While most of the assessments observed were regular multiple choice questions, some of the assessments involved students having to listen to audio in order to answer the questions. Kathryn was seen at the end of her class when the students were finished with their assessments pulling up the scores on her computer and reviewing with students how they did on the assessments. Bill, too, used the course management system to design his own quizzes and was observed implementing these quizzes during one of courses he taught in the computer lab.

Beyond using tests to assess student progress, instructors were observed assessing student progress in other ways. In David's course he was seen recording student presentations on a digital video camera and taking notes on an iPad. Lisa was seen in her class assessing students writing through the use of the track changes feature in Word. She handed back students hard copies with the track changes comments clearly visible in the right hand column. She gave students time to review their papers and ask her any questions about the feedback that she provided to them.

Student use of technology in the classroom. Students were observed using technology in a variety of ways for their language learning purposes. The majority of the observed technology use by students was instructor directed use of technology. Most of the activities that instructors had their students complete were either embedded in the course management site or were linked from the course management site. In Bill's course, students were seen completing an activity where they were grouped into threes and were responsible for explaining a rule and then finding an example online and

developing an example of their own that for the rule and posting all of the information they gathered to a class forum. At the end of class Bill was observed giving students a homework assignment where every student had to respond to two other groups' postings and discuss whether or not their explanation was clear and provide a better example if possible to those provided by the group. Students in Shelly's class were observed completing an activity in a forum setup in the course management system where they were to submit a practice citation after listening to a lecture on how to cite sources. In Lisa's class, students worked in groups to collaborate together on a wiki and write out key points from articles that they read in their individual groups.

On occasion students were observed accessing information beyond the course management system. In Kathryn's course, students were observed using search engines to do research for an assignment that they were then to hand write and turn in either at the end of class or the next day if they ran out of time in class. In Jim's class, students were observed watching a YouTube video and then completing an exercise on paper. Jim had tiered the activity for two different levels so that his lower level students had to complete a cloze exercise while higher-level students took notes on the video they were watching without any guide to follow. The students were observed working at different paces with some pausing and rewinding in the video while others listened straight through taking notes. In Shelly's course, students were seen using a website to help them discover how certain phrases were used. Students then wrote their own sentences in a word processor based on their research.

Other technologies students were viewed using in class included presentation software and word processing software. In one of both David and Kathryn's courses students were seen using PowerPoint and Google Slides to give presentations to the class on topics chosen by the student. Students in both Lisa and Shelly's courses were observed on multiple occasions using a word processor to work on assignments during their class time. In one of Lisa's classes, students were observed not only working on their own assignments but providing peer feedback to other students in the course using Google Docs as a way to collaborate on the documents as well.

Supporting student use of technology. All of the instructors were observed supporting their students' use of technology in the classroom in some way. The majority of the support observed by the researcher was the instructors troubleshooting issues with students' access to needed resources in the classroom. For example, in Bill's course students had difficulty with accessing an online activity. He was observed working with the student to figure out a solution, eventually having the student open the page in a new browser in order to get the activity to work.

When the instructors were teaching in the computer labs they all were observed walking around monitoring their students' progress and answering student questions as needed. The majority of support requests observed revolved around minor issues like a page not loading correctly or the sound coming out of the computer speakers instead of the headset. The instructors were always able to help their students in these situations even if they were not able to solve the issue right away in class. Lisa took a slightly different approach having her students support one another in their technical needs, but

monitoring to make sure that no issues arose. Her students were sharing documents with each other for peer evaluation. One of the students was having trouble sharing the document with his partner and she monitored the situation having the partner guide the student through the steps of how to share the document and only answering questions about the process when neither student knew what to do next.

In David's course unfamiliarity with the technology lead to students needing support with their presentations. In one of his observed courses, students were giving presentations but were having trouble accessing presentations they saved on their own flash drives on the instructor's personal computer, which was being used for the presentations. The instructor was observed showing students how to find the file on his computer and then open the file into presentation mode. At the end of one of Shelly's courses she was observed working with a student reviewing issues the student had with an assignment and double-checking her work. The instructor had control of the mouse and keyboard and was running through the steps with the student on how to send a document to oneself.

Implementing a backup plan. Sometimes no matter how well laid out a plan was the technology would not work in the manner the instructor expected and in these cases the instructors were seen implementing a backup plan. In Jim's class, a video he had used in previous semester for testing was no longer available when he went to find it on the day of his test. At the last minute he changed the exercise so that students instead of watching the YouTube video and answering questions about the video now listened to an audio track from the textbook and answered questions about the conversation. He

ends up playing the audio track three times for the students in order for them to answer all the questions presented to them.

In Shelly's course, students had an assignment that required them to find examples on an external website and then post the examples and comment on them in a forum she had set up in her course website on the course management system. Students initially had issues logging in to the external website, as many had forgotten their login information. This issue led her to have students work in pairs to look at the examples on the external website, pairing students who could not login with those who could. A second login issue developed where students were unable to login to the course site. This appeared to be a system error and not one the instructor could solve on her own. At this point the instructor told the students to save their work in a word document and if they were able to access the course site to copy and paste to the forum but if they were not to just send her the word document by email and that she would follow up with them later once she knew more about the system error.

Banning technology in the classroom. One instructor had a strict policy with regards to cellphone use in his classroom. His policy, which was written out for students in his syllabus, banned students from using personal technologies, specifically cellphones, during class time. Going one step further than just restricting them, students were asked to put their phones on his desk at the beginning of every class and pick them up at the end of class. This policy appeared to be well ingrained in his students' minds as every class observed the students when they came in automatically put their personal technology on the instructor's desk even if he had not arrived to class yet.

Other instructors appeared to be a bit more lax when it came to students using their own personal technologies in class. Though the instructors tended to be more flexible with students, instructors were still seen telling students to put cellphones away if an activity did not call for their use. In one class observed in a lab, one of the instructors was seen taking a cellphone away from a student for the duration of the class period after asking the student several times to put the item away. The instructor was observed returning the cellphone to the student after the class ended with a reminder to the student that they are not to be used in class.

Beyond banning personally technologies, another ban within the classroom that was observed was instructors restricting access to certain websites when students were working online in the computer lab. In a couple of cases, instructors were observed reminding students to stick to the course management system or asked students to close out pages that were not related to the materials they were currently working on in the class.

Student Survey Data

Students from all six participating instructors courses were provided a link to a survey asking students about their instructor's integration of technology. The survey had three parts. The first section had 22 closed-ended questions. The questions were formulated from the TESOL Technology Standards for Language Teachers and asked students to rate their instructors against each item on a 5-item Likert scale from 'almost always' to 'never'. A sixth response, 'don't know', was provided as an option, however no student ever choose this option. The students either answered with one of the 5 items

on the scale or they did not respond to the question at all. The second section of the survey included five open-ended questions, four of which were direct questions about technology integration in the observed course, and the fifth was a space for students to add any additional comments they might have. The third section asked students to provide demographic data about themselves, including but not limited to age, nationality, and intended major. Described below are the survey results from each of the six instructors' classes.

Survey results for Bill's class.

Demographics. Bill taught one course in the observed semester. He had 15 students enrolled in his course. Of the 15 students, 8 students accessed the survey and 5 students completed the survey for a response rate of 33%. Of the students who responded, 40% were male and 60% were female. The average age of the respondents was 26 years old. Two respondents reported their nationality, one being Iraqi and the other Colombian. Two respondents reported their intended major, one being psychology and the other veterinary medicine.

Descriptive statistics for closed-ended questions. Descriptive statistics for students in Bill's course related to Goal 1 of the TESOL Technology Standards for Language Teachers are documented in Table 1. The majority of students in Bill's course reported that their instructor integrated digital technologies as well as the Internet frequently within the course. Additionally, they indicated that he frequently used various technologies to create course materials. The students overwhelmingly agreed that their

instructor worked to protect their privacy as well as their ownership of the work they produce in the course.

Descriptive statistics for students in Bill's course related to Goal 2 of the TESOL Technology Standards for Language Teachers are documented in Table 2. Students reported that the instructor only occasionally asked about students previous technology use and what technologies students were curious to learn more about for use in their language course. While students overwhelmingly agreed that the instructor frequently trained them to use technology appropriately in the course, they indicated receiving training to use technology critically less regularly.

Descriptive statistics for students in Bill's course related to Goal 3 of the TESOL Technology Standards for Language Teachers are documented in Table 3. Students reported that the instructor only occasionally used an electronic grade book to record students' grades. Similar views were indicated with regards to their instructor assessing their progress and providing feedback via digital means. Mixed feelings were reported in terms of their instructor getting feedback from them. While some felt their instructor frequently asked for student feedback, others only saw this happening occasionally in their class.

Descriptive statistics for students Bill's course related to Goal 4 of the TESOL Technology Standards for Language Teachers are documented in Table 4. The majority of students reported that they were only occasionally able to maintain contact with the instructor by email. Most of them indicated that the instructor regularly used a course management system in their course as well as provided course materials to the students

via electronic means. They overwhelmingly agreed that their instructor frequently made digital space available to them so that they could access necessary course materials.

Open-ended question responses. Students in Bill's course reported the instructor integrating a variety of technologies in his course including a computer, projector, PowerPoint presentations, and the Internet. They reported that outside of class they were required to use a computer for coursework including accessing the course site on the program's course management system. Two students reported that the instructor used technology every day while one student reported him using technology almost every day. The students all reported that the instructor was using technology more in the class than the students. One student noted that there was one day a week students went to the computer lab to use technology but the other days of the week it was the instructor who mostly used the technology. One student found that the integration of technology was helpful in this course.

Survey results for Kathryn's class.

Demographics. Kathryn taught one course in the observed semester. She had 11 students enrolled in her course. Of the 11 students, 4 students accessed the survey and 2 students completed the survey for a response rate of 18%. Of the students who responded, 50% were male and 50% were female. The average age of the respondents was 33 years old. Both of the respondents reported their nationality, which was Korean. Both students reported their intended major, one being business and the other graphic design.

Descriptive statistics for closed-ended questions. Descriptive statistics for students in Kathryn's course related to Goal 1 of the TESOL Technology Standards for Language Teachers are documented in Table 5. Results showed that the students were evenly split with regards to the frequency in which their instructor integrated technology, including digital tools and the Internet. Some saw integration as a frequent occurrence while others viewed it as happening only occasionally in the course. A split in views was seen in relation to the instructor respecting student ownership and protecting their privacy as well.

Descriptive statistics for students in Kathryn's course related to Goal 2 of the TESOL Technology Standards for Language Teachers are documented in Table 6. While students were split on their answers on the frequency with which their instructor asked their opinions on previous use and what technologies they would like to learn, they agreed that it did occur regularly. The same thing was seen in relation to training received on how to use technology appropriately and with a critical eye.

Descriptive statistics for students in Kathryn's course related to Goal 3 of the TESOL Technology Standards for Language Teachers are documented in Table 7. Whereas previously the students were split but leaned in the same direction with previous statements, this was not so with regards to statements connected to Goal 3. While one student indicated that the instructor frequently used an electronic grade book and computer-based testing in the course, the other student indicated the opposite reporting the instructor rarely, if ever integrated technology in such ways. An extreme difference in views was seen with regards to feedback as well, both in receiving feedback digitally

from the instructor and in terms of the instructor requesting feedback from the students on the technology being integrated into the course.

Descriptive statistics for students in Kathryn's course related to Goal 4 of the TESOL Technology Standards for Language Teachers are documented in Table 8. The students agreed they were easily able to contact their instructor via email when needed and that their instructor frequently used a course management system for them to access materials and information about the course. However their opinions vastly differed with regard to the instructor providing them a space to maintain their course work online and showing them how they could track their progress in the course via digital means. One student reported that the instructor frequently provided space and support for how to keep track of their progress while the other indicated this rarely happened.

Open-ended question responses. Students in Kathryn's course reported the instructor using technology in a variety of ways. They said she used Google Docs, PowerPoint, and the program's course management system. One student reported that the instructor used technology for discussions and the teaching of idioms. One student reported that there was no required use of technology outside of class while the other reported having to use Google Docs for the course. One student reported that technology was almost always used in the course while the other student reported that technology was used sometimes. One student responded that technology was used not much by the instructor versus the students. One of the students noted that he preferred turning assignments in online and receiving feedback online from the instructor rather than by paper.

Survey results for Shelly's classes.

Demographics. Shelly taught two courses in the observed semester. In her first class she had 13 students enrolled. Of the 13 students, 7 accessed the survey and 5 students completed the survey for a response rate of 38%. Of the students who responded 40% were male and 60% were female. The average age of the students was 23 years old. All five students reported their nationality with two Chinese, one Saudi, one Thai and one Malaysian. All five students reported their intended majors with one student in computer science, one in psychology, one in English literature, and two stating they were undecided.

In her second class she had 11 students enrolled. Of the 11 students, 10 accessed the survey and 10 completed the survey for a response rate of 91%. Of the students who responded 80% were male and 20% were female. The average age of the students was 20 years old. All ten students reported their nationality with seven Chinese, one Saudi, one Spanish, and one Omani. All ten students reported their intended majors with five students in engineering, including civil, chemical, electrical, and mechanical engineering, one student in design, one in computer science, one in veterinary medicine, one in English literature, and one stating they were undecided.

Descriptive statistics for closed-ended questions. Descriptive statistics for students in Shelly's first class related to Goal 1 of the TESOL Technology Standards for Language Teachers are documented in Table 9 and for her second class in Table 13. The students in Shelly's second class strongly agreed that she integrated technology, including digital tools and the Internet, frequently in their course. The students in her

first class were a bit more divided, yet still agreed integration happened regularly. While the majority of the students in both classes indicated their instructor took measures to integrate technology in a manner that they deemed culturally appropriate, one student strongly disagreed with this believing the instructor rarely did this.

Descriptive statistics for students in Shelly's first class related to Goal 2 of the TESOL Technology Standards for Language Teachers are documented in Table 10 and for her second class in Table 14. While students in the instructor's second class were divided relatively evenly across the spectrum in terms of her asking them what technologies they wanted to learn in the course, students in her first class overwhelmingly felt that she rarely if ever asked their opinion on the technologies to be integrated. While the students in both classes were pretty evenly divided with regard to training received from the instructor, the majority of students in both classes indicated they received training regularly on how to use technology appropriately and with a critical eye.

Descriptive statistics for students in Shelly's first class related to Goal 3 of the TESOL Technology Standards for Language Teachers are documented in Table 11 and for her second class in Table 15. The majority of the students in both classes indicated their instructor frequently used an electronic grade book to maintain grades for their course, however one student strongly disagreed indicating the instructor never did this. The majority of students in Shelly's first class indicated that their instructor used digital means frequently to provide feedback to students and assess their progress with all the students in her second class strongly agreeing to this same point. Students in both classes

were mixed in terms of whether their instructor asked their opinion about technologies learned in class with responses at both ends of the spectrum.

Descriptive statistics for students in Shelly's first class related to Goal 4 of the TESOL Technology Standards for Language Teachers are documented in Table 12 and for her second class in Table 16. All of the students in both classes overwhelmingly agreed that the instructor integrated a course management system into her teaching. In general, the majority of the students in both classes reported their instructor integrated technology in their classes as a means to communicate and collaborate with the students frequently. There was only one dissenter, a student in the instructor's second class, to the statements about using technology to grade and providing a digital space for students' coursework, with the student indicating that this rarely happened.

Open-ended question responses. Students in Shelly's first class reported technology being integrated into the course in a variety of ways including the use of computers, smartphones, the projector, PowerPoint, the Internet, and the course management system. One student noted that sometimes they would use the Internet for help with collocations. When students were asked about required uses of technology, one student responded that were required to use email, another PowerPoint, and a third computers. Another student responded to this same question, "I think Moodle is very important because I could see what I learned or what I should do on it." Two students reported that technology was used every day in the course while one student responded that it depended on the class. A fourth student responded that the instructor would allow students to use the Internet if they needed to look up something with regards to what they

were learning. When asked about how much technology was used by the instructor versus the student, one student responded that the instructor used technology more than the students while another responded that it was equal between the two.

Students in Shelly's second class reported technology being integrated in various ways including using computers, laptops, smart phones, a projector, a blackboard, Word, PowerPoint, the Internet including external websites, the course management system, and email. Students in this course reported that they were required to use a computer outside of class for online homework, using Microsoft Office applications including Word and PowerPoint, accessing the Internet and the accessing the course management system. The majority of the students responded that technology was used every day in the course and those who did not respond with every day stated that it was integrated almost every day or mostly every day. When asked about how much technology was used by the instructor versus the student, consensus leaned towards the instructor using more technology than the students. One student replied, "most of the technology use in class has been done by the instructor. Outside class students do most of it." One student noted at the end of the survey, "this class has the highest technology standard in all of my classes."

Survey results for Jim's class. Jim taught one course in the observed semester. He had eight students enrolled in his class. Of the eight students, two students accessed the survey with zero students completing the survey, for a response rate of 0%. Because none of Jim's students completed the survey, no data from his class is available with regard to his students' thoughts on how technology was integrated into his course.

Survey results for David's classes.

Demographics. David taught two courses in the observed semester. In his first class he had 14 students enrolled in the course. Of the 13 students, 7 accessed the survey and 5 students completed the survey for a response rate of 38%. Four students responded to the question of gender, with 75% male and 25% female. Three students reported their nationality, with two Japanese and one Omani. Three students reported their intended major with one in chemical engineering, one in animal science, and one in business.

In his second class he had 18 students enrolled in the course. Of the 18 students, 4 students accessed the survey with 3 students completing it for a response rate of 17%. Two students responded to the question of gender, with 100% female. Two students reported their nationality with one Brazilian and one Korean. Two students reported their intended majors with one in language and the other in electrical engineering.

Descriptive statistics for closed-ended questions. Descriptive statistics for students in David's first class related to Goal 1 of the TESOL Technology Standards for Language Teachers are documented in Table 17 and for his second class in Table 21. Students in both classes indicated that the instructor, for the most part, integrated technology, including digital tools and the Internet, in their classes at least occasionally. The majority of students in both classes agreed that the instructor often strived to protect their privacy and respect ownership of the work they produced in the courses. While similar results were found with regard to the instructor integrating technology in a culturally appropriate manner, one student from the instructor's first class strongly disagreed, indicating that the instructor never integrated technology in this way.

Descriptive statistics for students in David's first class related to Goal 2 of the TESOL Technology Standards for Language Teachers are documented in Table 18 and for his second class in Table 22. While a couple students in David's second class reported their instructor had frequently asked them about what technologies they have previously used and what kind of technologies they would like to use, the vast majority of students in both classes indicated that the instructor rarely, if ever, asked for their input. Students in both classes did agree that the instructor at least occasionally, if not more often, displayed his knowledge of technology in their classes.

Descriptive statistics for students in David's first class related to Goal 3 of the TESOL Technology Standards for Language Teachers are documented in Table 19 and for his second class in Table 23. The majority of students in both of the instructor's classes reported that the instructor frequently used an electronic grade book to manage student grades. However two students from the instructor's first class and one from his second class indicated that a grade book was used rarely, if ever, in their courses. Similar results were seen with regard to the instructor surveying them about their feelings regarding the technology being integrated in the classes. While the majority indicated that they were regularly surveyed, a student from his first class reported they were hardly ever asked of their opinion while a student from the second class indicated they were never surveyed.

Descriptive statistics for students in David's first class related to Goal 4 of the TESOL Technology Standards for Language Teachers are documented in Table 20 and for his second class in Table 24. In general, almost all of the students in both classes

reported that their instructor integrated technology in their classes as a means to communicate and collaborate with the students at least occasionally, with the majority indicating that the instructor frequently used technology to maintain contact with students. The students felt the instructor frequently was in contact with them by email and generally used technology as a way to manage their courses. The only disagreement was with regard to the instructor using technology as a means to grade student work, with one student indicating that the instructor hardly ever graded in this manner.

Open-ended question responses. Students in David's first class reported technology being used in a few different ways including the use of laptops, computers, PowerPoint, and Word. One student reported that quiz software was used to help with vocabulary study. Students reported that they were required to use computers outside of class, with one responding that they had to use the computers to access the course management site and emails as well as the vocabulary website. Students differed on their view of how often technology was used in class with one student responding once a week, while another responded every day. When asked about how much technology was used by the instructor versus the student, one student responded that the instructor used technology a little more than the students.

Only one student responded to the open-ended questions in David's second class. She reported that the Internet, presentation software, and computers were used in the course. Outside of class, she said students were required to use computers and the Internet for their courses. She noted that technology was used in the course three times

each week. There was no response to the question regarding how much technology was used by the instructor versus the student.

Survey results for Lisa's courses.

Demographics. Lisa taught three courses in the observed semester, however only two of the courses were observed. Students enrolled in the two observed classes were the same for each course and so the students were asked to respond once with regards to both of the courses. 10 students were enrolled in the observed courses. Of the 10 students, 7 students accessed the survey with 5 students completing the survey for a response rate of 50%. Of the students who responded, 40% were male and 60% were female. All five students reported their nationality, with four Chinese and one Korean. All five students reported their intended major, with one in mechanical engineering, one in economics, one in finance, one in food science, and the remaining student reporting the intensive English program as their major.

Descriptive statistics for closed-ended questions. Descriptive statistics for students in Lisa's course related to Goal 1 of the TESOL Technology Standards for Language Teachers are documented in Table 25. The majority of the students in the instructor's class reported that their instructor frequently integrated technology, including digital tools and the Internet, in their classes. In addition, they strongly agreed that their instructor frequently had their interests in mind, through respecting the students' ownership of the work they produced in her classes and protecting their privacy when integrating technology in the course.

Descriptive statistics for students in Lisa's course related to Goal 2 of the TESOL Technology Standards for Language Teachers are documented in Table 26. The majority of the students in the instructor's classes reported that the instructor frequently provided training to students on how to use technology in both an appropriate manner and with a critical eye. They indicated that their instructor regularly asked them what technologies they were familiar with and what technologies they would like to learn about for language learning.

Descriptive statistics for students in Lisa's course related to Goal 3 of the TESOL Technology Standards for Language Teachers are documented in Table 27. The majority of the students in the class reported that their instructor frequently used digital means to track student progress and that she used an electronic grade book to manage their grades in both of their classes. Students were a bit divided as to the frequency in which their instructor surveyed them about their feelings towards the technology being integrated in the class. While the majority of the students indicated the instructor surveyed them at a minimum occasionally, one student felt as if they were rarely surveyed about their feelings regarding the technology being integrated.

Descriptive statistics for students in Lisa's course related to Goal 4 of the TESOL Technology Standards for Language Teachers are documented in Table 28. All but one of the students reported that their instructor integrated technology in their classes as a means to communicate and collaborate with the students frequently. The remaining student indicated that their instructor only kept these lines open occasionally. This applied to their instructor being available to communicate with them via email as well as

maintaining a course management system for them so they had access to course materials. In addition, it applied to the instructor providing a space for them to access the necessary resources for their class as well as demonstrating to students how they could use digital means to track their progress in their courses with her.

Open-ended question responses. Students in Lisa's courses reported that computers, email, Prezi, PowerPoint, and two types of course management systems were integrated into their ESL courses. One student reported using APA online in class. Outside of class students reported being required to use computers, email, and two different course management systems for their coursework. One student when asked this question responded "all of them." The majority of students reported technology being used every day or almost every day in their courses, with only one student reporting a minimum of two times a week. When asked about how much technology was used by the instructor versus the student, two students responded almost always while another student responded a lot. One student reported equal use by the students and the instructor.

Faculty and Staff Interviews

Faculty and staff participants. Eight faculty and staff members with connections to the intensive English program were interviewed to provide insight into technology requirements and support for instructors in the intensive English program. These eight participants included three administrators for the program: the former director of the program who rotated away from the director position during the course of the study, the interim director of the program who was acting director during the second

half of the study, and the assistant director to the program. Four of the participants dealt directly with educational and/or technical support for the instructors including two IT support specialist, one former and one current, assigned to the program by the college, the former technology liaison who left his position in the intensive English program during the course of the study, and the current educational support person who handled the management of the program's course management system after the technology liaison to the program left. In addition, one professor in applied linguistics with the department of English was interviewed for the study.

The former director is a tenured faculty member in applied linguistics and served as director of the intensive English program for nine years. She noted that the director position is part of a group of ESL positions that tenured faculty in the applied linguistics program in the department of English serve in. She graduated with a doctorate in linguistics and her area of specialty is second language acquisition. The interim director has been teaching English as a second language for over twenty years. She has a master's in TESOL and had been with the intensive English program for seven years. She was currently serving as the interim director while the department of English conducted a job search for a new director. The assistant director has been teaching English as a second language in the department of English for over twenty years and within the intensive English program for the last ten. She has a master's in TESL and has held the position of assistant director for the last four years. None of the administrators mentioned having any formal training in computer assisted language learning.

The IT support specialists had both been in their positions for more than 10 years at the time of their interviews. Both had technical backgrounds and had at minimum a bachelor's degree in a related field to their position. Neither of the IT support specialists had backgrounds in English as a second language or in CALL.

The former technology liaison for the program had been in his exact position for two years, however he had been working with the intensive English program for some time while working towards an advanced degree. The current coordinator of the course management system had been with the intensive English program for two years and at the time of the interview had recently added the duties as coordinator of the course management system. Both the former technology liaison and the current course management system coordinator had graduate degrees in teaching English as a second language or a related field. The former technology liaison in addition to having a degree related to ESL, had a graduate degree in curriculum and instruction with a focus on computer assisted language learning. While the current course management system coordinator did not have a technical degree, he did have experience working with technology in education, supporting online instruction and providing technical support to instructors.

The representative from the English department is a tenured faculty member within the applied linguistics program and coordinates the English placement test for international students that they take once they've been fully admitted into the university. He has a master's in TESL and a doctorate in a related field and had been at the

university for over fifteen years at the time of the interview. One of his main research areas was computer assisted language learning.

Administrative perspective on technology integration. The administrators overall had a positive view towards technology. Both the former and interim directors noted that they try to make technology available to their instructors. They said that for the instructors that teach five days a week, at least one of those days will be in a computer lab for those interested in using the lab. The assistant director, who is responsible for assigning labs to instructors, said that she works really hard to accommodate all the requests that come to her. The interim director noted that not every instructor wanted a lab day and some did not want a lab day every week. For the latter group, instructors might share a lab time with another instructor who wanted more sporadic use and then they would rotate weeks in the lab. She said that beyond their lab, other labs were made available to them on campus. Every instructor was provided with a computer to use in his or her teaching. Other technologies the program made available to instructors included digital video cameras and specialized software different from what might normally be installed on a computer.

Instructors, according to the interim director, were integrating technology in a variety of ways. She discussed how the program's course management system was the most often used technology within the program. The course management system had the capacity for instructors to be able to post announcements, links, reminders, and weekly schedules as well as collect homework through assignment modules, share files with students, create chats, wikis, glossaries, and discussion boards for student communication

and collaboration, develop quizzes beyond the assessments provided by the program with quiz modules, and allow students to record their voice with an audio recorder module that integrated into the CMS. Another integration was with the textbooks being assigned to instructors. The assistant director noted that several of the textbooks being used by the program had online components, however it was left up to the instructor as to whether they wanted to use it or not. Beyond this, the interim director mentioned that some instructors had begun playing around with mobile technology in their classes and trying out different apps with their students.

Both the interim director and the former director noted that there is some required use of technology in the program. All of the instructors have to use the program's course management system to track grades and attendance for their classes. In addition, they have to monitor their students when they take the program's formative assessments online. Beyond this there are no other required uses within the program. The interim director noted that they really left it open to the instructors as to what they wanted to do in their courses. Though instructors were not required to use the course management system beyond the program prescribed uses, the majority of instructors used other modules within the system. The former technology liaison noted that maybe only 2 or 3 instructors out of the average 19 instructors only used the CMS to the extent that was required of them and nothing more.

At the time of the former director's interview, the former technology liaison was still serving in his position as technology liaison and she mentioned him as being the main instructional technology support for instructors. She felt that the instructors had

good educational support in him because he was familiar with the platform they used for their course management system, conducting workshops for faculty when they needed them. She noted that he supported instructors in their use of technology helping them integrate in different ways such as developing blending learning courses. The other IT support mentioned was the IT support specialist who served both English and the intensive English program. The former director mentioned that he specifically only worked with helping to maintain the technology in the language lab and instructors' individual computers.

The interim director was interviewed just after the departure of the former technology liaison. She noted that up until that semester he was the main form of technology support for instructors. She discussed how they split the support that he was providing into two separate positions, with one person handling the course management system and the other managing the language lab. She discussed how the new course management system coordinator had already started working one on one with instructors in supporting their needs and had planned on hosting workshops for instructors on different aspects of the course management system.

One area the program was integrating technology heavily was in testing. The former director and assistant director discussed how they have tried to move the majority of their testing to an online format, including diagnostic and achievement tests, among others. The former director noted that there are always tradeoffs when it comes to testing students online and that the program has tried to balance production, realism, ease, and quick turnaround all within the online environment. She stated that it is an ongoing

process with the online testing and that they are always making adjustments believing that they can make it better. The assistant director noted there is a team that works on the assessments and that they all take a course offered through applied linguistics on second language assessment. The former director stated that while a team of instructors are involved in putting together the assessments, all instructors are involved in their implementation.

The program works to support instructors' technological needs in a variety of ways according to the former director and the interim director. They have the language lab within the program's main building for one thing. Both mentioned that the former technology liaison was a good source of support and if they had interest in a certain type of technology he would help them implement it or research it to provide more information to the instructor on its implementation. In addition, the directors mentioned that they provided support for the instructors in their professional development in CALL by sending them to conferences. Instructors had professional development funds available to them that would allow them to go to conferences, many of which had technology focused sessions, such as MIDTESOL (Midwest TESOL) or the Electronic Village held at TESOL, or were completely technology-centered such as CALICO or the conference held by the English department at their university. The former director noted that there was an informal level of support that existed between the full time lecturers in the intensive English program and the graduate students in applied linguistics. During their meetings, instructors would get the chance to talk with the graduate students serving in their program and learn about some of the latest research going on with technology.

This was particularly beneficial to those instructors who may not have been in graduate school for a while.

Both the former director and the interim director really stressed that the program tried to do what it could to support instructors in their technology needs. They encouraged its use within the courses taught in the program since technology was integrated into the program's learner outcomes. For example, students at the advanced level in oral communications needed to be able to give presentations with electronic visual aids, such as PowerPoint or Prezi presentations. Additionally, when faculty had ideas for ways to integrate technology, they provided instructors with the flexibility to try those things in their classes. If these projects required funding, the former director mentioned that the program did try and go after internal grants to support the technological needs of the instructors. The interim director noted that there is definite interest in integrating technology by the instructors in the intensive English program and that many have integrated technology to various degrees of success. Both directors felt that there was a push within the program to investigate the integration of technology in teaching ESL.

Technical support. According to one of the IT support specialists, it is the job of the IT person to provide basic support to the instructors. This meant that the instructors could go to the IT support specialist if they were having trouble with a computer owned by the university for support or if they had technical support issues in one of the Department of English's computer labs including the language lab in the intensive English program. Both IT support specialists iterated that their job was to only support

faculty, staff, and the student labs and not to provide training to faculty in how to use the technology available to them. Training, they said, was provided by the technology liaison within the intensive English program.

Part of supporting the faculty and staff included writing internal grants to get funding for technological needs within the department. The former IT support specialist noted that during his tenure with the program he wrote a variety of grants to support instructors' needs including smaller grants for renewing language learning software, purchasing a mobile projector, and upgrading network infrastructure and larger grants for updating the technology in the language lab and purchasing a mobile laptop cart. At the time of the interview, the current IT support specialist had noted that since he had been in the position, he had yet to write an internal grant for the program. Larger grants he said were written about every four years as the university upgraded outdated equipment on a 4-year plan.

The current IT support specialist talked in depth about maintaining instructors computers. He said that while not every instructor received a computer from the college, every instructor had a computer assigned to them, either from the college or from the program. All of the computers in the intensive English program were Apple computers as that was the specialty of the former IT support specialist, including the computers in the language lab. If instructors had issues with their assigned computer they were to send him an email which would then create a ticket in a ticketing system allowing for the IT support specialist to share the information with other IT personnel, when needed, to come up with a solution. The ticketing system maintained a record of all reported issues and it

was the main way in which he interacted with the instructors in the program, though he did maintain a couple of office hours every week in the program's main building. He reiterated, his main job was "fixing computers, deploying software, fixing hardware problems, fixing networking. Nothing with user education typically at all."

As for maintaining the language lab in the program's main building, the current IT support specialist and a hired staff of student assistants would install or remove software on the computers as instructed by the technology liaison and program administration. He noted that instructors often taught in computer labs all over campus and not necessarily always in the language lab. He said he was only responsible for supporting technical issues within his jurisdiction and that if an instructor taught in a different lab across campus, they would have to seek support from the IT support specialist for the department the lab was managed by. He did confirm that at least in the buildings he managed, there were student assistants available to instructors to help them with technical issues during their class times.

Educational support. During the beginning of the study, the intensive English program had one technology liaison that coordinated the language lab and managed the program's course management system. When the liaison left the program in the middle of the study, the position was split into two positions, with one person managing the course management system and the educational and pedagogical support that goes along with that and the other person coordinated the language lab.

The former technology liaison stated that it was his job to manage the course management system, providing faculty support, setting up courses online, and providing

workshops either on topics requested by faculty or on topics he felt the instructors might benefit from. In addition he managed the language lab including organizing testing/ tutoring support for students in the intensive English program. While originally hired to teach English as a second language courses, he noted this rarely happened as most of his time with the program was supporting their technological pedagogical needs. The current coordinator for the course management system reported that he only handled the first part of the former technology liaison's duties including creating courses online, troubleshooting issues, and supporting faculty use.

The course management system for the program is separate from the course management system that the majority of the main university incorporates into their courses. While initially a different course management system from what the rest of the university used was not necessary, this changed as the program began to develop their online assessments, all housed within the program's system. The assessments that had been developed needed a more flexible system than the system provided by the university and thus the different system from the university system became a need for the program.

The current coordinator said that it was the main technological tool used by instructors and students in the program. Developed as a project by graduate students in English, the course management system was initially set up by the former IT support specialist. When the use of the course management system became a permanent fixture in the intensive English program, IT support wrote a grant to purchase a specialized server and helped set the system up. Back end support of the course management system

was eventually moved to central IT and all of the front-end management was handled by the former technology liaison and now by the course management system coordinator.

Both the current coordinator and the former technology coordinator noted that they did not handle anything with the server side of the course management system, with the latter stating his duties stopped with the course management system where a command prompt was needed. The duties of the course management system support person, beyond setting up courses in the system and troubleshooting issues, was to export grade reports from the system. All of the instructors were expected to enter their grades into the course management system and then students' grades from all their courses were compiled into one single grade report for each student. The only required use of the course management system was for grades, attendance, and the program's formative testing.

The former technology liaison noted that beyond the required uses some instructors would use the course management system to share resources with students, with few taking full advantage of the system and using it to create their own assessments for students to take, having students chat with each other, and more. The current coordinator said that the management system had assignment tools, quiz tools, and voice tools installed. He said that most of the uses he sees within the system are very basic with instructors not really using it in any creative way. The former technology liaison noted that while instructors may not be innovative with their use of the course management system, he felt instructors were reasonably good about utilizing the system in their courses. While neither the former technology liaison or the current course

management system coordinator had concrete suggestions for how to increase use, the former technology liaison believed that many of the instructors would be open to using the system more if they could be provided with a solid rationale for its use.

The current coordinator and former technology liaison both spoke of the multitude of ways in which they supported the instructors. Both discussed how they provided support over email and in person to instructors. If there was enough interest in certain topics or if there was a new required use within the program, such as when the electronic grade book was integrated into all of the courses within the program, they would hold group workshops to provide support to several instructors at the same time. The current coordinator mentioned that the majority of the workshops revolved around how to use tools within the course management system. In the past the former technology liaison had worked with instructors in the program to teach blended ESL courses. In some rare instances, he provided technical support to instructors as well.

The instructors have a variety of technological tools available for use in their teaching according to the former technology liaison. He said that each instructor had a personal computer provided to them by the department, either desktop or laptop. In addition, the program had five additional laptops for checkout to be used in class if an instructor could not or did not want to bring their own computer to class. Other hardware technologies available to instructors included digital video cameras, headphones, and boom boxes. Beyond the course management system, other tools on the computer instructors used included things such as digital file systems like Dropbox or Box.com, specialized language software like Pronunciation Power, and Internet resources such as

private YouTube channels. Hardware equipment was only available for instructors to checkout. If an instructor wanted the students to use for example a digital video camera for an assignment the instructor would have to check out the equipment for students to use.

Any instructor who wanted a day in a computer lab could get one and almost all of the instructors took advantage of this opportunity. Because of the way classes were scheduled, not every course could get lab time in the program's own computer lab but the former technology liaison said that the administration was really good about finding lab space in other computer labs across campus for those who wanted space. The language lab, when not being used by a class, was open to anyone to use and the program encouraged student self-study in the lab. Since the instructors in the program predominantly used Macs, often times the computer labs, and even the classrooms did not have the necessary hookups for instructors to connect their computers and so the program provided connectors to instructors for them to take to class to hook up their computers to the classroom consoles. None of the support personnel indicated that instructors had any difficulty with hooking up their computers to the system once they had the proper connector.

In their interviews a few barriers to technology integration entered the discussion. One barrier mentioned was budget constraints. There was a feeling that not enough money was being invested into technology and not a lot of effort was being put towards getting grants to upgrade old equipment or purchase new technologies. Another barrier mentioned was support from the administration. There was a wish for more support for

technology integration into the program and investment in its use. Technology failure was mentioned as a barrier as well. While the program had control over their own language lab and the classroom in their program building, this was not so outside of their building. It was mentioned that instructors sometimes ran into difficulties in other labs where, for example, the sound would not work and because those labs would be locked down by the department that ran them, the instructor would not be able to fix the issue. Implementation cycles were another barrier that emerged. The program was told that software could only be installed during semester breaks so they would often have to plan ahead with anything they might want to add to the computers. This hindered their ability to try newer tools right away because they would have to wait until the next installation cycle to have something added. One final barrier mentioned was technical support. It was mentioned that at times it was felt like the technical support was working against the needs of the program rather than with and so there was a recommendation for better technical support that would work with the instructors and the program.

Connections with English. Even though the intensive English program is housed under the department of English, the program, for the most part, functions separately from the department. The former technology liaison mentioned that they do not provide any specific workshops for instructors in the intensive English program. A representative from the applied linguistics program did mention however that the English department does offer workshops to any faculty member within English, including the faculty in the intensive English program, and that they are welcome to attend. He mentioned that this applied to the brown bags that the applied linguistics program offered on specialized

topics as well, many of which were related to computer assisted language learning.

Another professional development opportunity offered that both the interim director and former director said the intensive English program instructors could participate in was an annual conference the applied linguistics program held on technology in language learning.

Another way in which the programs interact is through the hiring the intensive English program does from the applied linguistics program. The applied linguistics program offers masters and doctorate programs, which have focus, either formally or informally, on technology and language learning. The former director, the interim director, plus the former technology liaison all mentioned that the intensive English program would hire teaching assistants from either the master's or doctoral applied linguistics program. Teaching positions and some coordinator positions, like testing coordinator or technology liaison, have been offered to masters or doctoral students in the past.

In addition to having teaching assistants from applied linguistics, the former director and the interim director mentioned that the program would occasionally allow graduate students in the applied linguistics program to conduct research within the intensive English program. Sometimes this meant the graduate student would teach a course in the program, however most times it involved the graduate student getting volunteer instructors to try out materials within their existing course. The interim director noted that the graduate assistants working with the intensive English program have introduced some ideas about integrating technology that have been really excellent.

While these connections existed, there appeared to be a consensus among those interviewed that there were very few real connections between the two programs, with the interim director stating that it mostly was an informal flow of ideas between the intensive English program and applied linguistics. The representative from the applied linguistics program did not know why there was not a stronger connection between the programs noting that he wished there were.

Summary

Instructors in this study defined technology broadly and through function. They discussed in their definitions how they saw technology as a tool with many providing examples of technological tools to help them in their definition. They included a wide range of both hardware and software technologies in their definition including tools such as computers, cellphones, tablets, the Internet, and course management systems. When it came to defining technology integration, they all viewed it as a way to implement technology in their teaching with some narrowing that down specifically to use within the language classroom. Based on their definitions of technology integration, all of the instructors felt they were to some degree integrating technology into the courses they taught.

Several factors played a role in whether or not instructors integrated technology into their courses. The biggest challenge to instructors' integration of technology was the reliability of the technology and technology failure. Though challenges existed, instructors saw real promise in its use in teaching with many noting that it really

enhanced student learning, providing a more motivating and interactive environment for students.

Administrators tried to support instructors' integration of technology. They provided every instructor with a computer and made sure to schedule those who wanted lab time in a computer lab. The college and program in addition made sure there were dedicated educational and technical support to help faculty with their integration needs. The program felt that they were very supportive of their instructors and noted that some of their instructors were doing some truly creative things with technology.

Instructors believed they integrated technology into their language teaching, discussing several ways they were currently using technology as well as ways in which they had used technology in the past. The majority of the instructors found themselves integrating technology every day in some way in their courses. The most often cited use of technology was the use of the program's course management system. Most instructors saw the course management system as the central hub to their teaching with many discussing how they used it to share resources, collect assignments, have students collaborate on activities, post grades, and deliver assessments.

Almost all of the instructors were observed integrating technology in some way into their courses every day they were observed. Though instructors were seen integrating technology, for the most part their integration was limited in scope. Instructors were observed integrating technology in one of three ways; (a) to deliver information to students, (b) to provide feedback to students, or (c) to have students use

the technology for language learning purposes. The most often observed technological tool integrated into their teaching was the course management system.

In general, students reported that their instructors knew how to integrate technology and frequently demonstrated their capabilities in their courses. Most of the students in the instructors' courses saw technology being used in class over half the days in a week. Very few students indicated that instructors rarely used technology in their courses. There was a strong minority however that felt their instructor rarely if ever surveyed them with regard to their feelings about the technologies being integrated in their courses.

Chapter Five: Discussion

This study aimed to better understand instructors' espousal and enactment of technology for teaching English as a second language. Four research questions guided the study's research: (a) how do instructors define technology?, (b) what perceptions do instructors have towards the integration of technology in the English as second language learning environment?, (c) how do instructors integrate technology into the English as a second language learning environment?, and (d) what is the association between instructors' espousal of technology integration and their enactment of technology in the English as a second language learning environment?

Instructors from one intensive English program at a university in the Midwest were invited to participate in this study, which explored their perceptions towards using technology for teaching ESL as well as their actual integration of technology into their teaching practices. Data for the study was collected through instructor interviews and observations, student surveys, administrator and staff interviews, and document collection. The study involved 6 instructors including 5 full time and 1 teaching assistant, 30 students, and 8 administrators and staff including 3 directors / assistant directors, 2 IT support specialist, 2 technology coordinators, and 1 representative from the English department outside of the intensive English program. Qualitative data were analyzed through coding procedures while quantitative survey results were analyzed using descriptive statistics. Results of the study were presented in chapter 4 and are discussed in this chapter.

Findings

Research question 1. The first research question was how do instructors define technology. Findings from this study show that instructors primarily defined technology with regards to function and use in context, with few speaking of its uses specifically in language learning in their initial definitions. Most defined technology broadly, similar to Moore (2006) who said “technology, in all its forms, is a means for accomplishing work” (p. 401). In the study, Shelly defined technology as “any device that can help us function in the world.” Lisa’s definition was similar to that of Shelly’s. She stated that technology was “the gadgets and the, the software, and the different applications that we might use to make different things.” David in his definition of technology said that it is “electronic equipment that’s used to, I don’t want to limit it to the classroom cause it’s not just to the classroom but, electronic equipment that’s used as a tool in someway.”

Bill defined technology similar to that of Hansen and Froelich (1994) who defined technology as a process where we use “tools, procedures [or] knowledge” (p. 202) as a way to connect with the world, however Bill’s definition focused in on teaching. He stated, “when I think of technology, I think of using it to improve teaching.” While none of the instructors specifically referred to CALL within their definitions of technology, the sentiment was there within their definitions. Egbert (2005) defined CALL as “learning language in any context with, through, and around computer technologies” (p.4). In the study, Jim’s definition was the closest in alignment with Egbert’s, where he defined technology as “a tool to give my students as many language learning opportunities as I can.”

One reason that the term CALL may have been omitted from their definitions of technology is because some of the instructors when defining technology focused more on the specifics of what technology is than what they could do with it. When they did mention technology use, it tended to be in very non specific terms. Some of the instructors appeared hesitant to limit their definition to any one use because they saw it not only as a tool for the classroom but for life in general. Another possible explanation as to why instructors did not specifically refer to CALL in their definitions is because the researcher when talking about technology and specifically technology for teaching language never used the term herself. The only time CALL was referenced in interviews was with regard to participants' background education. Even in this instance, the researcher did not use the term CALL first, specifically asking the participating instructors what background they had in teaching with technology. It was the participating instructors who referenced taking courses specific to CALL, receiving CALL certification, or discussing how while they did not have a formal course in CALL, it was covered in part in other classes during their graduate studies. Because the researcher did not use the terms CALL or computer assisted language learning when referencing technology integration in the second language classroom, instead using other terms such as technology, technology for language teaching, technology in language instruction, and technology for teaching ESL. It makes sense that the instructors would use the same or similar terms when defining technology and talking about how they integrate it in their language teaching, not because they are unfamiliar with CALL but because they were referring to it as the researcher referred to it.

Instructors in the study were found in part to define technology by providing a list of technological tools as a way to determine what technology was and was not to them, similar to that of Bebell et al. (2004), Healey et al. (2011), and Lam (2000). For example, in Healey et al.'s (2011) definition of technology they state that technology is

Systems that rely on computer chips, digital applications, and networks in all their forms. This includes not only desktop and laptop computers but also a wide range of electronic devices such as DVD players, data projectors, and interactive whiteboards ... [it] also includes computer-driven mobile devices such as cell phones, smart phones, personal digital assistants (PDAs), and MP3 players. (p. 4)

Similarly, instructors' definitions included items such as computers, cell phones, tablets, the Internet and course management systems purposefully avoiding including items such as blackboards, pens, and books. Bax (2003) referred to this notion of not considering a tool to be technology as normalization, where a technological tool has become so ingrained in our everyday lives that we resist referring to it as technology at all. Lisa spoke to this phenomenon in her own definition stating, "I don't think books and pens register as technology maybe because I used books and pens for most of my life and they were never referred to as technologies."

In a way, computers have already become normalized for this group of instructors. As David noted in his definition of technology integration, technology for him was a "seamless part of my classes." For David, technology integration was not about doing something special with the technology, but weaving it into his classes just like any other resource used for teaching, like a textbook. While the majority of the

instructors were sure to include computers in their initial definition of technology, the term was infrequently in their discussions of how they integrated technology into their courses. When they talked about integrating technology in their courses, they often mentioned tools like the program's course management system, presentation software, word processors, and the Internet, all tasks that a computer, or computer-like technology such as a smartphone or tablet, is needed for in order to complete the tasks. A potential consequence of this with regards to the normalization of computers is, if instructors use of technology becomes normalized than are they really cognizant of how they are integrating the technology into their classroom. If instructors are unaware of how technology is being integrated into their classroom, than is their use of technology effective and if not how does this affect students in their learning of English.

However, the barriers instructors indicated with regard to technology integration, specifically with regard to technology failure, give an opposing view to normalization. The majority of the instructors noted having some issues with technology integration in their language classes. Even David, who referred to his integration as "seamless," encountered issues in his integration. In fact, David ended up cancelling computer lab days in one of his classes due to ongoing issues he was unable to find a solution to. Since normalization is focused on the idea that something is so ingrained that it is no longer noticed, the fact that instructors are facing issues with regard to integration provides a reason to doubt technology truly being normalized for this group of instructors. In this sense, as much as technology integration was perceived positively by the participating instructors, and defined positively by the instructors, being perceived as a tool that could

benefit their teaching pedagogy, it was seen as a tool that failed on them and kept them from carrying out lessons as planned as well. What appears to be happening in the case of this study is while perceptions of technology and how those perceptions are coming out in instructors definitions of technology may be normalized for this group of instructors, true normalization in the sense of actual integration so ingrained that it really is seamless to the class has yet to be fully realized.

Instructors believed that integrating technology helped students with the skills they were learning and saw technology integration as a way to enhance the teaching methods they were already implementing in the language classroom. Technology integration to these instructors was about expanding the experiences of students and providing them with more learning opportunities than they would be with traditional methods (Kim, 2008; Lam, 2000). Based on their definitions of technology integration all of the instructors stated that they believed they did integrate technology into their language courses. The fact that every instructor believes his or her self to be integrating technology into their course corroborates the ubiquitous nature of technology in education other studies alluded to (Arnold, 2007; Golonka et al., 2014). This belief can be attributed in part to the fact that instructors define technology integration so broadly, including a wide range of tools used in a variety of contexts in their definitions..

Research question 2. The second research question asked what perceptions did instructors have towards the integration of technology in the English as second language learning environment. Instructors in the study overall had a positive attitude towards

technology. These findings are consistent with previous research on beliefs toward technology integration (Albirini, 2006; Park & Son, 2009; Wiebe & Kabata, 2010).

Results of the study found that there were several reasons why instructors integrated technology into their courses. Findings indicated the number one reason instructors integrated technology was because it was believed to enhance student learning. Technology was believed to enhance instruction and what could be provided to students, giving instructors access to more authentic content than ever before (Kim, 2008; Lam, 2000, Park & Son, 2009). Findings indicated that instructors believed technology promoted interaction within the language classroom, allowing for students to communicate both inside and outside the classroom. Results of the study showed technology was believed to encourage a student-centered classroom, fostering student autonomy in the second language environment (Gallardo & Gamboa, 2009; Meskill, et al., 2002). All of the instructors found real promise with regards to integrating technology.

The studies findings showed that instructors faced some barriers when integrating technology into their language teaching as well. These findings are consistent with other research on technology integration in second language learning (Albirini, 2006; Gallardo & Gamboa, 2009; Gillespie & Barr, 2002; Jones, 2001; Lam, 2000; Park & Son, 2009). The biggest barrier instructors faced when integrating technology was technology failure. Technology failure manifested in a few different ways for the instructors. For some instructors, technology failure related to the age of the equipment and the inability to do everything they had planned with the technology because the technology what was

available to them was outdated (Park & Son, 2009). Shelly discussed for example how in some of the labs the connection was so slow it would take students 10 minutes to log into the computers. With most of the classes only being 50 minutes long, she wondered if such issues were worth it. Reliability was another issue instructors had with the technology. Instructors would find that one day they could do something in a classroom with the technology provided, but the next time they tried to do something, the technology failed.

For most instructors though, technology failure referred to hardware or software issues that prevented instructors from being able to integrate technology into the language classroom. David discussed having several audio issues with the computer lab that he had been assigned to that prevented students from completing listening exercises. Lisa discussed having similar issues in a previous class where the lab she was assigned had no audio. Despite trying everything she personally could to get the audio, she never found a solution to the problem. Technical support personnel for the program noted that they were only responsible for supporting the lab in the program's main building as well as any labs located in the main building that housed the English department. If an instructor was assigned to a lab outside of these areas, they would have to get support from the department who was responsible for those labs. Educational support for the department mentioned that instructors when sometimes run into issues when assigned to these labs because they would be locked and so they would not be able to fix an issue even if they knew how. While Lisa worked with the assistant director to work around the issues as best she could, David was unable to figure out how to address the issues in the class and,

because he lacked support from the department responsible for the lab, ended up eliminating lab days from this course.

Other barriers instructors mentioned were issues with access to technology and lack of technological knowledge, not only for the students but the instructors as well. These barriers to integrating technology in language teaching are consistent with findings in previous studies regarding barriers to access (Albirini, 2006; Lam, 2000) and knowledge (Albirini, 2006; Gallardo & Gamboa, 2009; Lam, 2000; Park & Son, 2009). Educational support personnel for the department additionally mentioned administration as a barrier to technology integration. There was a feeling from the educational support personnel that administrators, while in general supported technology integration, did not support or invest in it as much as was believed possible. While it is not possible for the researcher to speak to the situation before the study, it is possible that some of the perceived lack of support from administration during the study could be attributed to the program's turnover in administration and staff support during the course of the study.

The study began with a one director, however this director rotated away from being in the director position, which led to the appointment of an interim director while the program searched for a new director who was hired at the conclusion of this study. Technical support personnel changed, with one person being in charge at the beginning of the study, however, this person was moved to a different position and a new person took charge. In addition to changes in these two areas, there was a change in educational support. At the beginning of the study there was one person in charge of all educational support for the program, including managing the program's course management system

and the program's language lab. However one year into the study this person left and the position was split into two positions, where one person managed the lab and the other managed the course management system.

A lack in consistency could easily be perceived as a lack in support by instructors and other personnel. As Egbert et al. (2002) noted in their study, lack of administrative support can affect an instructor's integration of technology, even if that instructor has experience with CALL. The majority of this study took place while the interim director was in charge of the program. Because she was only serving in the interim while a search for a new director was being conducted, she was not able to make any significant changes to the program even if she wanted to. Though she was visibility in favor of technology integration, she could not invest in technology any more than was laid out for her. This led to indefinite delays in the implementation of technology projects, such as the reconfiguration of the language lab, which was interpreted by some as a lack of support.

Results of the study showed there were many considerations instructors made when it came to integrating technology. Instructors wanted to be sure that when they integrated technology that it was appropriate to the task at hand and fit with what they were doing in their teaching. These results align with those of Lam (2000) where it was found that technology integration by instructors came down to whether or not integrating technology was the best option for the teaching situation. Another consideration discussed was determining what to use in their class. With such a plethora of resources available to instructors one of the challenges they face is figuring out what is worthwhile and what can be weeded out. According to Fotos and Browne (2004) it is important for

instructors to have the skills to be able to evaluate technology for integration as well as implement technology into their classes. Similarly, Compton (2009) concluded that instructors at all skill levels should be able to compare applications to determine what's best for integration. In the end though, the biggest consideration instructors made came down to whether or not integrating the technology made sense to the instructors. Many of the instructors felt that technology naturally integrated better with some skill areas over other areas (Kim, 2008), and were careful about integrating technology in a way that would benefit students and stick to the objectives of the course.

One thing instructors can use to help them in their decision making is the TESOL technology standards. None of the instructors in the current study had received formal training on the standards, though one of the instructors was familiar with the standards, since the standards manual was a supplementary text in their graduate program. The technology standards were created as a guide to help instructors determine how they should be integrating technology into their language teaching. No one resource exists to specifically help instructors determine what technologies are better used with what skills over others. The standards serve as a good starting point in providing instructors with the knowledge necessary to better evaluate the technology that is out there. Beyond their guidelines for use, the standards provide several examples from exemplary users of technology in language learning of how technology could be integrated into different skills, student levels, and more. These examples can help instructors begin to form their own ideas of how to best integrate technology for the needs of their students.

Some considerations were more confined to student use and restricting student access. Results of the study showed that while some instructors saw the benefit to using technology, some were hesitant to allow students to access technology within their courses. The presence of some amount of reluctance to integrating technology into teaching is consistent with other studies (Gallardo & Gamboa, 2009; Kim, 2008; Lam, 2000). Determining how much access students should have and when they should be able to access technology was a real struggle for some instructors. Some instructors were concerned that too much access would lead to a loss of control (Park & Son, 2009). Meskill et al (2002) in their research noted that this struggle with who should have control was often related to classroom experience. Another consideration with regards to students was learner training. Instructors wanted to be sure that whatever they integrated was worth their time to integrate it. They were more likely to train students to use something if they knew they would use it often in class versus something that would only be used once.

Results of the study indicate that instructors generally felt like they had the necessary support to integrate technology into their language classes. The instructors knew whom it was that they needed to contact if they had a problem with their computer or if they had an idea for integrating technology and needed assistance in implementing their ideas. These findings align with previous studies that suggest in order for instructors to integrate technology they need to have a form of support for their integration (Gallardo & Gamboa, 2009; Kiliçkaya, 2009; Lafford, 2009; Lam, 2000; Park & Son, 2009; Stockwell, 2009).

Findings indicated that instructors believed the program supported them in further developing their skills, providing them with the resources to build onto what they already knew. These results align with previous research, which has shown administrative support is important to instructors' integration of technology (Egbert et al., 2002). Results showed that many of the instructors tried to take advantage of professional development opportunities, such as attending conferences and reading literature within the field. Hubbard (2007) spoke of the importance of professional development for instructors, both formal and informal, with regards to CALL noting rapid change within the field makes professional development essential. While the instructors knew the support was there, some were hesitant to use the support, as they did not want to be a burden to others. This belief lead to some missed opportunities in integrating technology.

One thing administrators and technology support personnel can do to help in this situation is to make sure instructors are aware that they are there to support them in their teaching needs, whatever those needs may be. At the same time, some instructors need to be more forward about their needs. In the instance of the current study, one of the instructors who was hesitant to ask for support was a novice in the classroom environment, having less than five years teaching experience. Though the instructor was relatively confident in their ability to integrate technology, the instructor was uncomfortable asking for support. Administrators and technology support personnel should consider working more closely with novice teachers to help alleviate any hesitancy that may exist in asking for support.

Results of the study showed that instructors saw themselves integrating technology in a variety of ways. These results are consistent with previous research that showed intensive English instructors integrated technology for a variety of skills (Jones et al., 2008; Torrie 2009). Instructors reported frequently using technology in their classes with most citing that they integrated it every day or almost every day into their courses. The study found that instructors mainly used technology to present materials to students, whether through presentation software, a website, or a video. These results align closely with the results of Boswell and Shiina (2003) in their study of IEPs where they found instructors mostly integrated technology for word processing or conducting presentations. The program's course management system was the most often cited use of technology in their course, followed by presentation software. Beyond the use of the program's course management system, other technologies the instructors discussed using often included presentation software, word processors, Web 2.0 tools, videos, and the Internet.

Results of the study showed that instructors strived to integrate technology in ways that would help with student achievement. For some this meant aligning their technology integration to the program's learner outcomes. Instructors were found heavily integrating technology with student assessment. Though instructors wanted to believe that their integration helped with student achievement, results of the study showed some instructors were still unsure if their use actually helped students. Lawrence (2001) notes that instructors' integration of technology is dependent on many things, including the perceived effectiveness of the technology integration on students learning. As Lam

(2000) found in her study, instructors are concerned that technology will not meet the needs of the students.

Research question 3. The third research question asked how do instructors integrate technology into the English as a second language learning environment. Results from the observations showed that almost every participating instructor integrated technology in some way every day in their classes. Students surveyed in participating instructors classes confirmed this with the majority stating that technology was integrated every day or almost every day into their courses. Though instructors were seen regularly integrating technology into their courses, the amount of time technology was integrated was minimal. These results are consistent with Jarvis (2004) who found in his research that instructors were integrating technology an average of 10% or less into their courses.

Less integration of technology by the instructor is not to be perceived as a negative thing. Instructors do not need to be using technology 100% of the time in their classes for technology integration to take place. During their interviews, instructors' perceptions of technology integration showed thoughtfulness in their use. These instructors were never observed using technology just for the sake of the technology in their classes. The instructors appeared to always have a plan as to why they were integrating technology into their courses. As Jim mentioned in his interview, if he could not see a benefit to integrating technology into his class, he would not integrate it. This was evident in his integration of technology in his language class. When Jim was observed he never appeared to integrate technology without a purpose behind it.

The researcher observed instructors using technology in a few different ways in their teaching. The findings indicate that the instructors when teaching in a traditional classroom setting were the primary users of technology. When the instructors taught in the computer lab, the students tended to use more technology than the instructor. The participating instructors' students agreed with this assessment reporting that instructors by far used technology more, but when students did use technology it was mostly in the computer lab.

When instructors were working with students in the computer lab, the majority of the technology used was on computers, specifically through the use of the Internet. These findings align with those of Jarvis (2004) who found that when instructors did integrate technology it typically involved only tools like the Internet and word-processing software with tools such as concordancers rarely being used. In the traditional classroom setting, findings showed instructors were overwhelmingly using computers as their main technology resource. Though instructors had access to other technological tools, such as digital cameras, use of such tools was rarely observed. Instructors were found to use their computers in a few different ways including using it for presenting material, quizzing students, and researching information.

Results of the study indicated that instructors were met with a few barriers when observed integrating technology into their language teaching. Access to technology is one barrier instructors faced. One instructor was teaching a writing class but only was assigned to a lab once a week. Lack of access to technology made it difficult for the instructor to do certain writing activities in class. For example, when the instructor was

returning an assignment for the first time, she wanted to show students how she had provided feedback in track changes and give them time to review their feedback. However, the class met in the regular classroom that day and not every student had brought a computer with them so she had to change her plan. Another observed barrier to technology integration was technology failure. Technology failure here refers to the technology not working in the expected manner. In one observed class, the program's course management system was not letting anyone log in. The instructor had planned for students to complete an activity inside the course management system that day, but because of login issue, developed a backup plan where students could still complete the activity and but instead of posting to a forum would send the information via email.

Findings showed that integration of technology by the participating instructors was more teacher-centered than student-centered. Integration of technology was typically limited to direct instruction or having students complete assessments or quiz-like activities with instructors rarely using technology for student construction of knowledge, communication, or collaboration (Ertmer et al., 2012). Instructors in the traditional classroom setting were mostly seen using technology to lecture to students or present content. Findings from the student surveys produced similar results. When observed in the computer labs, the majority of technology use by the students was using the computer to complete exercises online and quizzes through the course management system.

For many of the instructors it seems that they were limiting their integration of technology to teacher-centered methods because that is what they appeared most

comfortable and confident with. Instructors appeared most confident in their uses of technology when they were using, for example, PowerPoint to lecture students on that day's topic. For some instructors, when they integrated technology in a manner that would be considered student-centered they sometimes appeared less sure of their integration. For example, when Shelly had her students use concordancers to research collocations, she appeared visibly flustered throughout the lesson. Compare this to a following lesson where she appeared at ease while lecturing her students about proper citation.

When examining the above example, it is possible to make the case that because instructors appear more comfortable with teacher-centered technology practices, these practices dominate their teaching more than student-centered technology practices. The concern becomes then, do instructors realize how they are integrating technology and how their beliefs are or are not reflected in this use. The potential consequence here is if instructors are unaware of how they are integrating technology, thinking they are doing one thing when they are actually doing another, what affect is that having on students' learning and achievement. This is an emerging area that could use exploration in the future.

Research question 4. The fourth research question asked what is the association between instructors' espousal of technology integration and their enactment of technology in the English as a second language learning environment. Specifically, this question is looking at the alignment of instructors' perceptions of integration and actual integration of technology. Results of the study showed that overall instructors'

enactment of technology aligned with their espoused beliefs. These results are consistent with other studies that examined instructors' espousal and enactment of technology in teaching (Drenoyianni & Selwood, 1998; Ertmer et al., 2012; Gilakjani, 2012).

Results of the study showed instructors' espousal and enactment of technology aligned particularly close with regards to frequency of use. Most of the instructors reported using technology in their courses every day or almost every day and researcher observations and student surveys indicated the same. There was only one discrepant case, where the instructor indicated in the beginning integrating technology every day; however, actual integration was rarely observed by the researcher and students in the instructors' course were mixed as to the frequency technology was used. The instructor later attributed the discrepancy to the makeup of the class and the days that the researcher observed.

Frequency of use was observed in the study due to discrepant findings during the pilot study. In the pilot study, the researcher found that although one of the participating instructors believed that she rarely used technology in her language course, she actually integrated technology quite a bit. In the pilot, the reason for the discrepancy was attributed to who was using the technology. Although students in the instructor's class used technology quite a bit, because the instructor herself was not using technology she did not consider technology to be integrated very much into her course. In the current study, the majority of instructors' perceptions of how often technology was being used aligned with the researcher's observations and student survey results on frequency of use.

While there was one discrepant case, factors outside the instructor's control contributed to the discrepancy.

Findings indicated espousal and enactment of technology were in alignment with regards to their definitions of technology and their integration of technology. Instructors' integration of technology followed closely with Egbert's (2005) definition of CALL. As previously noted, Egbert (2005) defines CALL as "learning language in any context with, through, and around computer technologies" (p. 4). Instructors in their integration of technology integrated computers far more than anything other technology in their courses. These findings are consistent with Boswell and Shiina (2003) who in a survey of instructors found that when instructors integrated technology into their language courses they were more likely to use computer-based technologies like word processors and presentation software. Findings of the study showed instructors using computer technologies such as course management systems, videos, presentation tools, and word processors for teaching and learning.

Though in general instructors' perceptions of their integration of technology aligned with their actual use, differences did exist. Schön and Argyris (1978) in their theory of espousal and enactment noted that often times a difference does exist in our perceptions and actions, however these discrepancies usually go unnoticed.

One difference that existed between instructors' perceptions of integration and their actual integration was with regards to their teaching philosophy. While the majority of the instructors discussed their teaching philosophy as being student-centered and noting that technology facilitated a student-centered environment, few instructors actually

integrated technology in a way that would be considered student-centered. These findings are consistent with other studies that have examined instructors' espousal and enactment of technology (Chen, 2008; Lee & McLoughlin, 2008). Chen (2008) in particular noted that while instructors espoused student-centered beliefs, in actuality technology integration was dominated by teacher-centered practices.

In the case of the current study, a student-centered philosophy means stressing "student responsibility for learning and is focused on knowledge construction and how students are induced to work and learn together" (Liu, 2011, pp. 1012-1013). During their interviews, instructors espoused student-centered pedagogies, discussing how they strived for a class where the instructor was more of a facilitator. Instructors used terms such as "student autonomy" and "independent learner". They saw their role as a guide to students, wanting to avoid being the "supposed expert" in the class. While they acknowledged that sometimes explicit instruction was necessary, they strived to give students control of their learning. Lisa often referred to the concept of learn by doing, where students are in control of their own learning. Many of the instructors noted how technology facilitated student-centered learning, providing them more opportunities to produce their own work and explore on their own the concepts covered in class. While the majority of the instructors could speak generally to how technology fit with philosophy, specifics of how exactly technology facilitated such a philosophy in their classes were not always clear.

Though instructors espoused student-centered beliefs, during the researcher's observations instructors were rarely seen using technology in ways that would be

considered student-centered, often integrating technology in ways that would be considered teacher-centered. In the case of the current study, a teacher-centered philosophy is “based on an assumption of knowledge delivery that resembles traditional teaching methods, and underscores the importance of knowledge reproduction” (Liu, 2011, p. 1012). Many of the instructors were routinely the only ones seen using technology in the classes observed by the researcher. When instructors integrated technology into their courses, the majority of the time it was to present material or supplement the current curriculum, such as to show a video related to the concept they were covering in the class. Students were rarely seen using technology outside of doing online drill exercises or quizzes of a similar nature. While the observer did see some examples of student-centered integration, such as using the internet to research a concept and forums to share and comment on what they learned, the majority of these uses came from a single source, Lisa, whose own espoused philosophy was the clearest with regard to student-centered learning.

Ertmer et al. (2012) noticed a similar discrepancy between instructors’ beliefs and practices. In their study they split instructors into three groups; (a) those who use technology to deliver content to students and supplement instruction, (b) those who use technology to complement or enhance instruction, and (c) those who use technology to transform instruction. One of their participants in their study espoused beliefs that aligned with ideas of enhancing instruction however in practice, this instructor’s use of technology was more aligned with delivery of and supplementing instruction. In the current study findings showed similar patterns with many of the instructors espousing

beliefs more aligned with the ideas of enhancing instruction however in practice, their integration was more in line with supplementing what was already being learned in class and using technology to present content to students.

One possible explanation for the discrepancy is that the realities of the context in which the instructors were teaching in may not have allowed instructors to fully realize their pedagogical beliefs in context. As Fang (1996) noted in his review of the literature on beliefs and practices, previous research found that “the complexities of classroom life can constrain teachers’ abilities to attend to their beliefs and provide instruction which aligns with their theoretical beliefs” (p. 53). Such reasoning could explain why David’s observed integration of technology vastly differed from the pedagogies he espoused. In David’s case, higher enrollment in one of his classes coupled with students’ apathy in that class towards using technology for learning, along with the fact that he had limited control over the technology in the computer lab he was assigned could explain why David chose to limit his technology integration to more teacher-centered pedagogies in this class even though his pedagogical beliefs supported a more student-centered approach.

Using the TESOL Technology Standards as a Guide to Best Practices

In this study, the TESOL Technology Standards for teachers were used in part to analyze the data collected. The standards were chosen as a system of coding for analyzing this study’s data because they are an established set of research-based guidelines developed by leaders in the field of computer assisted language learning on how teachers could integrate technology into their language teaching. For ESL

instructors, the TESOL technology standards provide a rubric for instructors on best practices for integrating technology into the language classroom, including performance indicators for each standard in order for instructors to easily evaluate themselves against the standards. Results of the study showed that these instructors are already applying some of the practices outlined in the standards in their classroom, however there is still work to be done.

With regard to the first goal, “language teachers acquire and maintain foundational knowledge and skills in technology for professional purposes” (Healey et al., 2011, p. 189), all of the instructors in this study were meeting the first standard, which relates to being able to use technological tools and create lessons with technological tools. Instructors regularly demonstrated their competence in the integration of technology into their language teaching. In addition, instructors in the study were seen meeting the fourth standard of the first goal, which covers instructors using technology in ways that are socially, culturally and ethically appropriate. Students in the study reported that they felt their instructors respected their ownership when it came to the work they did for class and protected their privacy, not sharing their information in inappropriate ways.

Exploring the second and third standards of the first goal, (a) demonstrating knowledge of a variety of technological tools and how they could be integrated in a given context and (b) trying to develop their technological skills and knowledge in order to continuously evaluate and adopt newer technologies during their teaching career, respectively, these instructors still have some work to do. With regard to the second

standard, while instructors have demonstrated their ability to use the Internet to their advantage when teaching and use the program's course management system to share materials with their students, improvements could be made in term of better identifying technological tools that could be integrated into their teaching in order to meet the program's learning outcomes as well as sharing what they've learned with colleagues. While as a group these instructors use a variety of tools in their teaching, individually the majority of the instructors in the study appeared to have two or three technological tools that they heavily relied on, including the course management system, rarely expanding their use beyond these tools. The instructors, in general, seemed willing to share information with colleagues, however, in the case of one instructor there was hesitancy with regard to sharing materials and knowledge with other instructors. Instructors need to be open to working with their colleagues, communicating with each other about what they know, what they are learning, and what they would still like to know.

In terms of the third standard for the first goal, while these instructors appeared to be seeking professional development in CALL, reportedly attending conferences, brownbags, and workshops, as well as trying to keep up on relevant research through journal articles, the majority of their technology use appeared to be stagnant. These instructors did not appear to explore the possibilities of emerging technologies, and if they were, they did not talk about it with the researcher. Additionally, while instructors enumerated how they took advantage of different professional development opportunities, none spoke of participating in a community of practice. As Stockwell (2009) noted in his study, participating in a community of practice can help instructors,

both novice and experienced, through communication with other instructors. Such communities allow instructors to learn more about what others are doing in their classes, share their plans for integrating technology, and get feedback from others on their integration.

With regard to the second goal, “language teachers integrate pedagogical knowledge and skills with technology to enhance language teaching and learning” (Healey et al., 2011, p. 192), this group of instructors, as a whole, are not fully meeting the performance indicators of the standards under this goal, though individually, there are some instructors who meet or exceed the requirements of the standards. The first standard under the second goal asks instructors to be able to identify technological tools and spaces that would suit their teaching situation and evaluate the tools and spaces for the context they are teaching in. Instructors in this study for the most part seem to be aware of the technologies available to them. They know what software is on the computers, how to gain access to a computer lab, where to find additional resources online, and about the features and functions of the program’s course management system. Where this group needs work with this standard is in evaluating tools and spaces for their teaching context. While the instructors acknowledge that there are other technological tools beyond those they are using that could benefit their teaching context, some of the instructors seem hesitant to make the leap to actually go out and find additional resources and determine appropriateness of fit to their teaching situation. For example, one instructor discussed how he could see the potential of using smart phones to help improve his students’ communication skills, he was hesitant to explore and evaluate options that

might benefit students acquisition of language skills outside of class time. While instructors are not expected to evaluate every new technological tool that appears on the market, instructors should show a willingness to explore additional options and evaluate these options for use in their class. Even if in the end they choose not to use a different method, they will at least know that they explored the options out there, evaluated the options, and made a decision based on what was best for their class and their students.

Emerging data from the study indicate that the second standard under the second goal is where instructors really need the most work. The second standard asks instructors to be able to “coherently integrate technology into their pedagogical approaches” (Healey et al., 2011, p.194). Instructors in this study espoused student-centered pedagogical beliefs. However, as was discussed in the findings above, instructors overall enactment of technology was more closely aligned to teacher-centered practices. The instructors in this study espoused the concepts that go with this standard. For example, one of the performance indicators mentions embedding the technology used and not just having it as an additional piece. This fits with one of the instructor’s definitions of technology where the instructor saw technology integration as “a seamless part of my classes.” However, their enactment of technology does not fully align with the standard. Part of this standard asks instructors to review their pedagogical beliefs in order to make sure that how they are integrating technology aligns with the beliefs they espouse. While instructors espouse the ideas of having a student-centered classroom through which student autonomy is fostered and technology is integrated seamlessly, what the researcher observed indicated otherwise. While on occasion instructors were observed using

technology in a manner that aligned with their pedagogical beliefs, overall instructors' technology integration differed from the beliefs they espoused. Though some discrepancies may be attributed to the realities of the classroom context as Fang (1996) noted, it is still important for instructors to be aware of how their beliefs are reflected in their integration of technology. No matter the approach instructors decide to take in the end, what is key is that instructors need to make sure that their approach is reflected in their integration of technology.

In terms of the third standard of the second goal, which focuses on instructors designing and managing technology-based activities that align with instructors' goals for the class, these instructors, while not totally aligned with this standard, are moving towards being in alignment. Based on the results of the study, it's clear that these instructors have a purpose behind their technology use. Though individually most of the instructors' uses of technology appeared limited to a few specific technologies, they seemed to have some basic knowledge of other existing technologies. However at times it appeared that some choices that were made with regard to technology integration did not necessarily take into consideration the knowledge or abilities of the students. For example, one of the performance indicators under this goal is making sure that students know how to use the required technology to meet the goals of the lesson. In one observed class, the instructor had a new student in the class. It was not until the end of the class period that the instructor approached the student with regard to his familiarity with the technology and how to submit the assignment. In a different observed class, the website the instructor chose to use to review concepts covered in a previous class had

questions that were not written clearly and made the activity difficult for the instructor's beginning level students to follow along with. The instructor later admitted that there was a rush before class to get the lesson prepared and that the instructor had only briefly skimmed the site before deeming it suitable to use in class. When instructors choose to use a technology-based activity last minute without real familiarity of the content being presented, the instructor runs the possibility of choosing an activity that may not fit the goals of that class. The students in this class would probably have been better served had technology not been used at all in this particular lesson, than being exposed to unclear language structures. As Blake (2008) noted, "teachers must put the same kind of thought into using technology in service of the curriculum that they regularly do in selecting specific L2 readings or preparing in-class discussions and other such classroom activities" (p, 133). Instructors need to be cognizant of the materials that they are providing to students, making sure that the activities being chosen truly fit the goals of the class. It's important that instructors not use technology for the sake of the technology, but use it because it aligns with the needs of the students.

Exploring the fourth standard of the second goal, which asks instructors to use research results as a way to inform their lessons involving technology integration, results of the study are inconclusive as to whether or not instructors are meeting this standard, and if they are to what extent. Though some instructors mentioned in their interviews that they tried to stay up to date on relevant CALL research, it is difficult to determine through observation if instructors are actually using such information to inform their practices. What can be said, however, as Robb (2006) noted in his discussion on

instructor professional development, staying on top of relevant research could provide instructors with the guidance needed to adopt new technologies into their teaching, or if not adopt new technologies, find new ways to adapt technologies they are already familiar with.

With regard to the third goal, “language teachers apply technology in record keeping, feedback, and assessment” (Healey et al., 2011, p. 199), instructors in this study strongly aligned with the first standard of this goal, which relates to instructors using appropriate technologies to aid them in their student assessment. Instructors in the study not only meet this standard at the basic level, but many meet this standard at the expert level as well. These instructors not only keep electronic records of their students’ progress but use technology to show how students have progressed over time as well. Most of these instructors are regularly integrating computer-based formative assessments into their courses as well as providing digital feedback to students when students submit assignments electronically.

This group of instructors has yet to meet, however, the second and third standards under the third goal. The second standard asks that instructors use technology as a way to gather and evaluate information about their teaching in order to improve their teaching. The third standard asks that instructors be able to use technology in order to analyze how helpful certain student uses of technology are in order to improve their own teaching. While instructors in this study exhibited an understanding of relevant research-based principles with regard to computer-based assessments as well as demonstrated an ability to interpret computer-based scores such as the TOEFL for students, the instructors did not

fully demonstrate their ability to meet other expectations of the second standard such as eliciting feedback from students about how they could improve their technology integration. Instructors should, when possible, gather feedback from students on their technology practices. By gathering data from students about the instructor's technology practices, instructors are better able to evaluate their own practices and future integration of technology. In terms of the third standard under goal three, there appeared to be no real indication that instructors used technology to evaluate student technology use. Not only did it appear that instructors did not elicit feedback to improve their own integration, the instructors in this study did not appear to elicit feedback from students with regard to student use of technology and how instructors could improve student use of technology in their teaching. As was mentioned before, obtaining feedback from students can only help instructors in their quest to better integrate technology in the future. In addition, instructors did not appear to evaluate their students' use of technology in their language classroom. While it is understandable that content is more important than the tool used to produce the content, it is still important for instructors to moderate how students are doing with the technology being used in class so that they can adjust, when needed, the tools to best suit the needs of the students.

With regards to the fourth goal, "language teachers use technology to improve communication, collaboration, and efficiency" (Healey et al., 2011, p. 202), this group of instructors use of technology is strongly aligned with the third goal of the fourth standard, which states that instructors use technology to more efficiently handle the day to day tasks of teaching such as preparing lessons, grading assignments, and keeping student

records. Participating instructors in this study demonstrated how they used technology to: (a) give feedback to students; (b) maintained a course management system that was not only used to present content and collect data from students, but also was available for students to participate in class activities and retrieve necessary course materials; and (c) showed how they used electronic resources to gather materials for use in their class, by either their students or themselves.

In addition to being strongly aligned with the third standard of the fourth goal, these instructors are mostly aligned with the first standard of the fourth goal as well. The first standard of the fourth goal states that instructors maintain contact and collaboration with other relevant parties, including not only students but program administration and colleagues as well, through the use of communication technologies. These instructors discussed using email to maintain contact with their students and, when necessary, their colleagues. At the expert level for this standard, which talks about the need for instructors to maintain a place where they can share relevant course information, the instructors in this group closely aligned to this, with all of the instructors using the program's course management system to post relevant course information and share files with students, and most of the instructors using technological tools, both in and outside the course management system to provide feedback to students. Where these instructors appear to need some work is related to making connections outside the program. The majority of these instructors did not appear to be a part of any online communities nor did they appear to rely on lesson plans other instructors posted online, wholly or in part, in the creation of their own lessons. While it is possible this group of instructors did indeed

participate in such practices, it was not evident from the interviews and observations that many, if any, were doing so. Instructors should explore online communities relevant to their teaching. Such communities offer instructors a wealth of information and can help instructors not only with integrating technology in their course, but in general implement good practices into their teaching.

The second standard is where instructors appear to need to work more on in terms of the fourth goal. This standard asks that instructors “regularly reflect on the intersection of professional practice and technological developments so that they can make informed decisions regarding the use of technology to support language learning and communication” (Healey et al., 2011, p. 204). From an outside perspective it’s hard to determine how much instructors are truly meeting this standard. The participating instructors during their interviews all noted that they participated in relevant professional development, expanding their knowledge base by attending conferences and workshops and reading relevant research. However, to what extent they are meeting other aspects of this goal, such as choosing technological tools that encourage appropriate language use or determining what research results are most relevant to the needs of the instructor’s context, is much more difficult to determine. As with the online communities, these instructors may already be integrating such practices into their teaching and learning, however results of the interviews and observations remain inconclusive to this point. What can be said though is that such practices can benefit an instructor’s teaching and learning process. The focus of this entire standard is really about making sure that instructors stay relevant in the field through ongoing professional development and

applying knowledge gained from such development, when appropriate, to their own teaching context. Hubbard (2007) saw professional development in CALL to be crucial for instructors given the rapidity in which technology changes. Using these standards is one step instructors can take in building themselves professionally with regards to technology integration.

As mentioned above, the TESOL Technology Standards provide instructors with a solid rubric for evaluating themselves with regards to their technology integration in teaching. When examining the instructors' espousal and enactment of technology through the lens of the standards, what is seen is that instructors are on the right track to being in alignment with the standards. However, there are still some places where the instructors could better align themselves to the standards, specifically with regard to their pedagogical beliefs and integration of technology. The standards exist so that instructors are able to see where they should be when it comes to technology integration in the English as a second/foreign language classroom. By accessing the standards, reading through the performance indicators for each standard, and evaluating themselves against the standards it is possible that these instructors would see where they currently align and where they need to improve. The vignettes included with the standards provide examples to help instructors and show what they could be doing to meet the standards and are meant to further prompt instructors into considering how they could employ similar ideas in their own teaching.

Practical Implications

This study has implications for the integration of technology in second language learning specifically with regards to professional development. Emerging results of the present study revealed that while instructors' espousal and enactment aligned overall, one key difference existed with regard to instructors' teaching philosophies. Instructors' teaching philosophies are at the core of all instructors' beliefs and practices. Differences between instructors' espoused beliefs regarding their teaching philosophies and their actual integration of technology might have an affect on how technology is being integrated into their courses. The practical implication is that instructors need greater awareness with regards to their teaching philosophies and how they are integrating technology. Familiarizing themselves with the TESOL technology standards might help instructors clarify their stance with regards to technology integration and help instructors integrate technology more in line with their teaching philosophies.

The goal is not to integrate technology for the sake of technology, but to have greater awareness as to their options for integrating technology. Instructors do not have to integrate technology in order for technology to be considered integrated into their course. Lack of integration in itself can be integration, but there has to be consideration and reasoning behind that nonuse. By understanding the technology standards and how they can apply to their teaching situation instructors are better prepared to integrate technology into their course. More active considerations with regards to technology integration might affect how technology is integrated into the language classroom.

Instructors in the current study for example mentioned in their follow-up interview that the presence of the researcher made them more aware of how they were integrating technology and reflect more on their use of technology. Having knowledge of the standards could help bring forward in the minds of instructors similar awareness and reflection of their technology integration and in turn affect how their use aligns with their pedagogical beliefs. For example, goal two standard two of the technology standards asks that instructors to “coherently integrate technology into their pedagogical approaches” (Healey et al., 2011, p.194). More specifically, one of the performance indicators under this standard asks instructors to reflect on their pedagogical beliefs in order to make sure that their integration of technology supports said beliefs in their teaching. Taking this standard into consideration, along with the vignettes provided with the standard that exist to give instructors examples of how to apply the standard in context, instructors can better recognize the connections between their beliefs and their use.

Instructors should not however think of the standards as stand alone guidelines. The real power of the standards comes from taking the ideas of multiple standards in order to better an instructor’s integration of technology as a whole. So for example, by being part of a community of practice, as recommended by goal one standard three and goal four standards one and two, instructors can gain a better understanding about the technologies available and how other instructors are using the technologies in their classes. By seeking out and evaluating technologies different from those they are currently using, as recommended by goal one standards two and three and goal two

standard one, instructors can take suggestions from what they've learned in the community of practice, plus their own research, and determine the technologies that may fit well into their current practices. By designing a lesson and implementing technologies that fit with the course goals, as recommended by goal one standard three and goal two standards two and three, instructors can integrate technology in ways that support the needs of the students. Finally, by reflecting upon their beliefs and making sure that the technologies they are integrated support the beliefs they espouse, as recommended by goal two standard two, instructors are able to make sure that however they are integrating technology, that their use aligns with their teaching pedagogies and that such pedagogies are accurately reflected in their integration.

Results of the study showed instructors' definitions of technology integration impacted their integration of technology. Instructors believed that integrating technology facilitated students' language learning and saw technology integration as a way to enhance the style of teaching they were already implementing in the language classroom. The practical implication of this finding is that instructors need to be aware of how they see technology integration within their teaching. Understanding how they define technology might help align their integration of technology with their pedagogical beliefs.

For example in her definition of technology Shelly stated that for her it was "any device that can help us function in the world." She continued on to say technology integration involved "enhancing what students are doing and what they are able to do." While having such a broad definition of technology allowed her to encompass the variety

of tools she integrated in her class, it in turn had an affect on her integration and its relation to her teaching philosophy. Because she defined technology integration broadly, anytime she used technology was reported as integration of technology in her class. This led to her integration of technology being viewed as more teacher-centered, which contrasted with the student-centered philosophy she espoused. In this case, it appears as if the instructor's pedagogical beliefs did not play a role in how the instructor defined technology or if they did play a role, it was a secondary thought. By reflecting on pedagogical beliefs and considering them when defining technology, it is possible that instructor's definitions of technology will better align with their beliefs and therefore their integration of technology might better align with the pedagogies they espouse.

Results of the study showed that instructors believed they had administrative support for their integration of technology. However, some instructors felt uncomfortable taking advantage of the support that was available to them leading to potential missed opportunities for integration of technology into their teaching. The practical implication of this finding is that if technology is ever expected to be normalized for instructors, they need to feel comfortable enough in their setting in order to take full advantage of the resources available to them.

While it does not seem practical for teacher trainers to be expected to instill confidence in pre-service teachers technology integration, more effort can be made to provide future instructors with the necessary skills needed to integrate technology so that comfort, or the lack there of, becomes less of an issue for these instructors when they enter the field. In the case of this study, it seemed as if the novice teacher had the most

difficulty in communicating needs with the administration and technical support. As previously mentioned, administrators and educational support personnel may want to take special care to work with novice teachers. One idea administrators might consider is pairing a novice instructor with a more experienced faculty member. As previous research has noted, one thing that can help instructors in their integration of technology is creating a form of support for them in their integration (Kiliçkaya, 2009; Lafford, 2009; Stockwell, 2009).

In the current study, inconsistency in administration, technical support staff, and educational support staff may have played a role in instructors not seeking out support from these personnel. As Egbert et al. (2002) noted in their study, administrative support, or a lack thereof, does affect how instructors integrate technology into their courses, even when instructors have experience with technology in teaching. While administrators are not expected to go to the extremes to accommodate instructors' requests, they should, within reason, be open to working with instructors and their requests. If there is a change in support, instructors need to be made aware of the change and who they can go to if they need technical or educational support.

Another thing administrators should consider is making sure instructors are aware of all of their options. In this study for example many instructors were unaware that the program had a classroom computer cart that could be used for teaching in their classes. If instructors are not aware of all their options, they will not be able to take full advantage of the resources available to them. It is the responsibility of the administrators and

educational support personnel to make sure that instructors are aware of all options available to them.

Limitations

There are some limitations with regards to this study. The study only had six participants over the course of three semesters even though during this time the program averaged 13 full time instructors and four teaching assistants during this period of time. Part of the difficulty with recruiting participants came from gaining access after a change in leadership within the program during the course of the study. Having to reestablish the study with a new director lead to some delays in recruitment.

Timing of the study prevented gathering more student data with regards to instructor integration of technology. Future studies should consider using focus groups or individual interviews with students to better understand how instructors are actually integrating technology into language teaching. In addition, while instructors were observed during the course of the semester, these observations were limited to just a few times per a class over the course of a sixteen-week semester. Further participant observation might provide more in-depth understanding of instructors' integration of technology.

In addition, the study was a collective exploratory case study. While the exploratory nature of the study allowed for a deeper examination of instructors' integration of technology in one intensive English program, the results are not generalizable outside the context examined. Specifically, the results of the study are not

generalizable to other intensive English programs or the English as a second / foreign language community as a whole.

Recommendations for Further Research

This study examined instructors' espousal and enactment of technology integration for teaching in one intensive English program. Future studies should consider examining espousal and enactment within other English as a second/foreign language settings. Instructors from only one program were interviewed for this study. Examining instructors from multiple programs might provide greater insight to instructors' espousal and enactment of technology integration.

The current study was exploratory in nature and examined espousal and enactment of technology very broadly. Because of this, questions with regard to if instructors' espousal of technology integration led to effective enactment were left unanswered. Future studies should consider examining instructors' espousal of technology and how that plays a role in the effectiveness of their enactment of the same.

Researchers could examine such effectiveness either quantitatively or qualitatively. Following a quantitative approach using a pretest/posttest design, an experimental design could be drawn up to see if technology integration was effective. However, the drawback of such a design might not address all the potential variables that could affect the outcomes (Reeder et al., 2004). Taking a qualitative approach, researchers would I think first have to research what effective use of technology looks like in a second language classroom. Then either using an existing model, such as Chapelle's (2001) criteria for CALL task appropriateness, or developing a model of their

own based on relevant research, researchers could gather data by observing courses and interviewing instructors about their espousal and enactment of technology integration. Then either through the use of an established model or the researchers' own developed model, data could be analyzed to determine what kind of effect espousal of technology integration has on their enactment of technology.

Differences in instructors' espousal and enactment of technology integration with regard to their teaching philosophies on student-centered learning was an emerging finding that is worth exploring in the future. This study was exploratory in nature and therefore did explore in-depth the differences that emerged with regard to student-centered and teacher-centered technology integration. While previous studies in other areas of education have begun to examine student-centered technology integration, research in the field of second language learning is still needed.

Final Thoughts

What was interesting to me in this study was the emergence between the discrepancy in instructors' pedagogical beliefs and their enactment of technology. I was not expecting to find a discrepancy in their pedagogical belief systems. I believe that this study only scratched the surface with regard to how instructors' student-centered beliefs may or may not manifest themselves in their integration of technology and that further research in this area really is required to better understand why this discrepancy exists.

Initially I anticipated that there was a greater connection between the intensive English program and the English department, specifically, the applied linguistics program. It surprised me to find that there was not as strong of a connection between

the two programs and that instructors in the intensive English program did not take greater advantage of what many in the field would consider to be a valuable resource.

In the end, I wish that I would have had more time to go back and visit with the students in the participating instructors' classes. While I was able to collect some data from students, had I been able to get one-on-one interviews or even focus groups, I think I would have been provided with an even more in-depth understanding of how technology was being integrated by the language instructors into their courses. Four observations did not seem like enough to really get into how instructors were actually integrating technology and having student interviews would have provided, I believe, a better understanding of instructors' integration of technology.

I feel like this study contributes to the overall understanding of instructors' espousal and enactment of technology integration in the second language classroom. While it seems to have posed as many questions as it answered, I believe it provides the field with interesting insights into instructors' belief systems on technology integration. In addition, I think that the study brings greater awareness to the TESOL Technology Standards and shows how instructors can use them as a guide for best practices when it comes to integrating technology into second language learning. Though the standards have been available to instructors since 2008, it feels like many instructors are unaware of their existence or how they can be used to help them in their integration of technology.

Conclusions

Results of this study show that English as a second language instructors are integrating technology for the purposes of teaching and learning. Instructors in this study

defined technology and technology integration in a variety of ways. While some instructors defined technology broadly, the majority of instructors saw technology integration specifically through the lens of teaching English as a second language. Instructors' definitions of technology and technology integration were found to have an impact on their integration of technology in their classes.

Instructors perceived themselves as integrators of technology, using technology in a variety of ways for a variety of purposes. Though their use appeared to vary, further exploration revealed that instructors' integration of technology was typically limited to that of presenting or researching content. Though instructors were limited in their use of technology, the types of technologies used to present content varied greatly. Instructors were found to use presentation software, videos, and the Internet as a way to share content with students.

Administrators and support personnel provided their own views of technology integration within the intensive English program. While administrators felt that there were instructors in the program that used technology in very creative ways, educational support personnel felt instructors' technology integration was limited, with instructors rarely using technology beyond the course management system. Overall, administrators and educational support personnel believed that instructors had the necessary support to integrate technology within their teaching practices. Instructors' perceptions of support aligned with these sentiments though not all instructors took advantage of the support available to them.

Students in participating instructors' courses provided insight into their instructors' integration of technology in their ESL courses. In general, students reported that instructors knew how to integrate technology and did so on a regular basis within their courses. The majority of the students felt like they were given opportunities to provide input on the types of technologies being used in class and their enjoyment of these activities. There was a strong minority who disagreed with this sentiment, believing their instructors rarely, if ever, asked for their feedback with regards to the technology that was being integrated into their language courses. The students overwhelmingly agreed that their instructors used technology more than them when they were in the traditional classroom setting, however when in the computer lab, the students found that the use was more equal with some believing students were using the technology more.

Instructors perceived some barriers to their integration of technology. The number one barrier reported by instructors was technology failure. Technology failure meant a variety of things to these instructors, however most commonly technology failure was related to technical issues with hardware or software computer technologies. Technology failure was rarely observed by the researcher in the classroom. When technology did fail, instructors showed they had the skills to troubleshoot minor issues or implement a backup plan when the issues were beyond the scope of their own knowledge.

This study examined the alignment between instructors' espoused beliefs towards technology integration for teaching English as a second language and their actual

integration of technology. Findings indicate that in general instructors' beliefs towards technology integration align with their actual use of technology. This was particularly true in the case of frequency of use and in how instructors defined and integrated technology.

One major discrepancy between instructors' espoused beliefs and actual integration existed. This discrepancy involved instructors' teaching philosophies. While instructors' espoused philosophies that focused on student-centered learning and discussed how technology integration played a role in facilitating a student-centered classroom, instructors' rarely were observed using technology in ways that would be considered student-centered. The majority of the observed uses of technology by the instructor were teacher-centered in nature, including the instructors integrating technology to lecture or supplement their lessons.

Understanding instructors' espousal and enactment of technology integration is important. While the instructors' beliefs in this study mostly aligned with their practices, there was the one major discrepancy, the discrepancy with regard to their teaching philosophy. As Ertmer (2005) noted in her research, without knowledge of instructors' beliefs towards technology integration and their uses of technology, "practitioners and researchers may continue to advocate for specific uses of technology that they are unable to facilitate or support, because of these underlying fundamental beliefs" (p. 35).

In the case of this study, it is the instructors underlying fundamental beliefs, their teaching philosophy, that is misaligned with their integration of technology. Understanding these differences between espousal and enactment of technology

integration can help draw attention to where we need to focus our efforts. This information could be used to inform professional development and better prepare instructors for integrating technology into teaching English as a second language.

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Table 1

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for Bill's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	5	40	40	20	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	5	40	40	20	0	0	100
Used online technology in my ESL course.	5	40	40	20	0	0	100
Respected ownership of my own work in my ESL course.	5	80	0	20	0	0	100
Used technology in culturally appropriate ways.	5	60	20	20	0	0	100
Protected student privacy when using technology in my ESL course.	5	80	0	20	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 2

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for Bill's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	4	0	0	100	0	0	100
Asked me which technologies I would like to learn about.	4	0	25	75	0	0	100
Demonstrated their understanding of technology in my ESL course.	4	50	25	25	0	0	100
Trained me to use technology in appropriate ways for language learning.	4	75	0	25	0	0	100
Trained me to use technology critically for language learning.	4	25	25	50	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 3

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for Bill's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	5	40	0	40	20	0	100
Used computer-based testing in my ESL course.	5	40	40	20	0	0	100
Provided feedback in my ESL course through digital file exchange.	4	25	25	50	0	0	100
Used technology to assess my progress in my ESL course.	4	25	25	50	0	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	4	50	0	50	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 4

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for Bill's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	5	40	0	60	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	5	60	20	20	0	0	100
Shared course materials electronically in my ESL course.	5	60	0	40	0	0	100
Used technology for grading in my ESL course.	5	40	40	20	0	0	100
Provided a digital space for students to access course materials.	5	80	0	20	0	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	4	50	25	25	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 5

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for Kathryn's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	3	33.3	0	66.7	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	3	33.3	33.3	33.3	0	0	100
Used online technology in my ESL course.	3	33.3	33.3	33.3	0	0	100
Respected ownership of my own work in my ESL course.	3	33.3	33.3	33.3	0	0	100
Used technology in culturally appropriate ways.	3	33.3	33.3	33.3	0	0	100
Protected student privacy when using technology in my ESL course.	3	33.3	66.7	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 6

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for Kathryn's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	2	50	50	0	0	0	100
Asked me which technologies I would like to learn about.	2	50	0	50	0	0	100
Demonstrated their understanding of technology in my ESL course.	2	50	50	0	0	0	100
Trained me to use technology in appropriate ways for language learning.	2	50	0	50	0	0	100
Trained me to use technology critically for language learning.	2	50	0	50	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 7

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for Kathryn's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	2	50	0	0	50	0	100
Used computer-based testing in my ESL course.	2	50	0	0	0	50	100
Provided feedback in my ESL course through digital file exchange.	2	50	0	0	0	50	100
Used technology to assess my progress in my ESL course.	2	50	0	50	0	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	2	50	0	0	50	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 8

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for Kathryn's Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	2	50	50	0	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	2	50	50	0	0	0	100
Shared course materials electronically in my ESL course.	2	50	0	50	0	0	100
Used technology for grading in my ESL course.	2	50	0	50	0	0	100
Provided a digital space for students to access course materials.	2	50	0	0	50	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	2	50	0	0	50	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 9

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for Shelly's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	6	50	33.3	16.7	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	6	33.3	50	16.7	0	0	100
Used online technology in my ESL course.	6	33.3	50	16.7	0	0	100
Respected ownership of my own work in my ESL course.	5	40	40	20	0	0	100
Used technology in culturally appropriate ways.	5	60	40	0	0	0	100
Protected student privacy when using technology in my ESL course.	5	40	60	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 10

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for Shelly's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	5	20	20	40	20	0	100
Asked me which technologies I would like to learn about.	4	0	0	75	25	0	100
Demonstrated their understanding of technology in my ESL course.	5	20	40	40	0	0	100
Trained me to use technology in appropriate ways for language learning.	5	20	40	40	0	0	100
Trained me to use technology critically for language learning.	5	20	60	20	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 11

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for Shelly's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	4	75	25	0	0	0	100
Used computer-based testing in my ESL course.	5	20	40	40	0	0	100
Provided feedback in my ESL course through digital file exchange.	5	40	40	20	0	0	100
Used technology to assess my progress in my ESL course.	5	40	40	20	0	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	5	20	20	40	20	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 12

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for Shelly's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	5	60	20	20	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	5	80	0	20	0	0	100
Shared course materials electronically in my ESL course.	5	60	20	20	0	0	100
Used technology for grading in my ESL course.	5	60	40	0	0	0	100
Provided a digital space for students to access course materials.	5	60	40	0	0	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	5	20	80	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 13

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for Shelly's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	10	80	20	0	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	10	40	50	10	0	0	100
Used online technology in my ESL course.	10	70	30	0	0	0	100
Respected ownership of my own work in my ESL course.	10	40	60	0	0	0	100
Used technology in culturally appropriate ways.	9	88.9	0	0	11.1	0	100
Protected student privacy when using technology in my ESL course.	9	77.8	11.1	11.1	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 14

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for Shelly's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	10	0	50	40	10	0	100
Asked me which technologies I would like to learn about.	10	10	30	40	10	10	100
Demonstrated their understanding of technology in my ESL course.	9	0	66.7	22.2	11.1	0	100
Trained me to use technology in appropriate ways for language learning.	9	22.2	55.6	22.2	0	0	100
Trained me to use technology critically for language learning.	10	40	40	10	10	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 15

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for Shelly's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	10	60	0	20	0	20	100
Used computer-based testing in my ESL course.	10	0	20	70	10	0	100
Provided feedback in my ESL course through digital file exchange.	9	77.8	22.2	0	0	0	100
Used technology to assess my progress in my ESL course.	10	80	20	0	0	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	10	10	40	30	10	10	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 16

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for Shelly's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	10	70	30	0	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	10	90	0	10	0	0	100
Shared course materials electronically in my ESL course.	10	50	30	20	0	0	100
Used technology for grading in my ESL course.	10	70	20	0	10	0	100
Provided a digital space for students to access course materials.	10	50	40	0	10	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	9	55.6	44.4	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 17

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for David's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	5	60	20	20	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	6	33.3	16.7	50	0	0	100
Used online technology in my ESL course.	6	33.3	16.7	50	0	0	100
Respected ownership of my own work in my ESL course.	5	40	60	0	0	0	100
Used technology in culturally appropriate ways.	6	50	0	33.3	0	16.7	100
Protected student privacy when using technology in my ESL course.	5	40	40	0	20	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 18

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for David's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	6	16.7	0	33.3	16.7	33.3	100
Asked me which technologies I would like to learn about.	6	16.7	0	50	16.7	16.7	100
Demonstrated their understanding of technology in my ESL course.	6	33.3	50	16.7	0	0	100
Trained me to use technology in appropriate ways for language learning.	6	16.7	50	33.3	0	0	100
Trained me to use technology critically for language learning.	6	33.3	16.7	50	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 19

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for David's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	6	50	16.7	0	0	33.3	100
Used computer-based testing in my ESL course.	6	33.3	33.3	33.3	0	0	100
Provided feedback in my ESL course through digital file exchange.	6	16.7	33.3	16.7	33.3	0	100
Used technology to assess my progress in my ESL course.	6	33.3	50	0	16.7	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	6	33.3	50	0	16.7	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 20

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for David's First Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	6	50	33.3	16.7	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	5	20	60	20	0	0	100
Shared course materials electronically in my ESL course.	6	33.3	50	16.7	0	0	100
Used technology for grading in my ESL course.	6	16.7	33.3	33.3	16.7	0	100
Provided a digital space for students to access course materials.	6	50	33.3	16.7	0	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	6	33.3	33.3	33.3	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 21

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for David's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	3	0	33.3	66.7	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	3	0	66.7	33.3	0	0	100
Used online technology in my ESL course.	3	0	66.7	0	33.3	0	100
Respected ownership of my own work in my ESL course.	2	50	50	0	0	0	100
Used technology in culturally appropriate ways.	3	0	66.7	33.3	0	0	100
Protected student privacy when using technology in my ESL course.	3	100	0	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 22

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for David's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	3	33.3	0	33.3	33.3	0	100
Asked me which technologies I would like to learn about.	3	33.3	0	33.3	0	33.3	100
Demonstrated their understanding of technology in my ESL course.	3	66.7	33.3	0	0	0	100
Trained me to use technology in appropriate ways for language learning.	3	33.3	0	66.7	0	0	100
Trained me to use technology critically for language learning.	3	66.7	33.3	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 23

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for David's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	3	33.3	33.3	0	33.3	0	100
Used computer-based testing in my ESL course.	3	33.3	33.3	33.3	0	0	100
Provided feedback in my ESL course through digital file exchange.	3	33.3	33.3	33.3	0	0	100
Used technology to assess my progress in my ESL course.	3	66.7	33.3	0	0	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	3	33.3	33.3	0	0	33.3	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 24

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for David's Second Class

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	3	66.7	33.3	0	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	3	33.3	66.7	0	0	0	100
Shared course materials electronically in my ESL course.	3	33.3	66.7	0	0	0	100
Used technology for grading in my ESL course.	3	66.7	33.3	0	0	0	100
Provided a digital space for students to access course materials.	3	33.3	66.7	0	0	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	3	66.7	33.3	0	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 25

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 1 for Lisa's Classes

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Taught with digital devices in my ESL course.	5	80	0	20	0	0	100
Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.	5	80	0	20	0	0	100
Used online technology in my ESL course.	5	60	20	20	0	0	100
Respected ownership of my own work in my ESL course.	5	80	0	20	0	0	100
Used technology in culturally appropriate ways.	5	40	40	20	0	0	100
Protected student privacy when using technology in my ESL course.	5	80	0	20	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 26

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 2 for Lisa's Classes

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Asked me about what technology-related resources I have used in the past.	5	40	40	20	0	0	100
Asked me which technologies I would like to learn about.	5	40	40	20	0	0	100
Demonstrated their understanding of technology in my ESL course.	5	60	20	20	0	0	100
Trained me to use technology in appropriate ways for language learning.	5	80	0	20	0	0	100
Trained me to use technology critically for language learning.	5	80	0	20	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 27

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 3 for Lisa's Classes

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Used an electronic grade book in my ESL course.	5	80	0	20	0	0	100
Used computer-based testing in my ESL course.	5	20	60	20	0	0	100
Provided feedback in my ESL course through digital file exchange.	5	60	20	20	0	0	100
Used technology to assess my progress in my ESL course.	5	80	0	20	0	0	100
Surveyed me about my enjoyment of activities involving technology in my ESL course.	5	40	20	20	20	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Table 28

Descriptive Statistics for Statements Related to TESOL Technology Standard Goal 4 for Lisa's Classes

Statement	<i>n</i>	Almost Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Total (%)
Was able to interact with me using e-mail in my ESL course.	5	80	0	20	0	0	100
Used a course management system, such as Blackboard or Moodle, to post information about the class.	5	80	0	20	0	0	100
Shared course materials electronically in my ESL course.	5	60	20	20	0	0	100
Used technology for grading in my ESL course.	5	60	20	20	0	0	100
Provided a digital space for students to access course materials.	5	80	0	20	0	0	100
Showed me how to use technology to keep track of my progress in my ESL course.	5	80	0	20	0	0	100

Note. Statements adapted from *TESOL Technology Standards: Description, Implementation, Integration* (pp. 189-215), by D. Healey, E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011, Alexandria, VA: TESOL.

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Appendix A: Instructor Interview Guide

Set of interview questions for instructors with matching TESOL Technology Standards for Language Instructors

- 1) What is your background with ESL
- 2) How do you define technology?
- 3) What kind of background (training) do you have for teaching with technology? (Goal 1 Standard 1, Goal 1 Standard 3)
- 4) How do you integrate technology into your language teaching? (Goal 1 Standard 2, Goal 2 Standard 2, Goal 4 Standard 1)
- 5) How often would you say you integrate technology into your classes?
- 6) Can you give me an example of techniques you have used to influence student achievement?
- 7) What are your reasons for using technology in language instruction? (Goal 2 Standard 1, Goal 2 Standard 4)
- 8) How confident do you feel teaching with technology?
- 9) What challenges does technology present for language instructors?
- 10) Are there any specific barriers you've found that have hindered your use?
- 11) What facilitates your use?
- 12) What kind of support do you have for integrating technology into your class?
- 13) How do use technology for assessment in your language class? (Goal 3 Standard 1, Goal 3 Standard 2, Goal 3 Standard 3)
- 14) What considerations do you take when integrating technology into the language classroom? (Goal 1 Standard 4, Goal 2 Standard 3, Goal 4 Standard 2, Goal 4 Standard 3)
- 15) What do you find to be most promising about using technology for language instruction?
- 16) Can you give an example of your technology use that you felt really helped students learn?

Appendix B: Follow-Up Interview Guide for Instructor Participants

General Questions

Tell me about your teaching philosophy (in general).

Do you see technology fitting in with your teaching philosophy? How?

How do you view your classroom – what is the role of the teacher versus the student?

Would you say your teaching style is more teacher-centered or student-centered? Explain.

I spent (insert semester observed) observing your technology integration. What does technology integration mean to you – (when you hear the concept “technology integration” what do you think of?)

Based on this, do you believe that you integrate technology into your classes?

How long would you say you have been using technology for teaching ESL?

How often would you say you integrated technology into your (insert language skill taught) course(s) – everyday, sometimes, rarely, never?

In your (insert language skill taught) class(es) you appeared to use technology (insert frequency observed) by my observations and your students surveyed reported technology (insert frequency reported by students). Would you agree with this assessment? Was this semester representative of your technology integration in your language class(es)? When do you find yourself not integrating technology?

How much of the technology being used in your class do you see is being done by you versus being done by the students?

The class(es) I observed was/were a (insert language skill and level taught) course(s) – do you believe your use of technology helped improve your students’ (insert language skill taught) skills? If so, how so?

One thing I noticed was that when students were focused on an activity and you had “down time” you would be working on your computer – during those times what are you typically using your computer for ?

Do you ever feel pressured to use technology? (If so, how so?)

What role do you see technology integration playing when it comes to helping your students meeting the learner outcomes? (How do you technology to meet learner outcomes?)

Do you feel you have the support you need from the program to integrate technology? What makes you feel this way?

Do you feel the inconsistency in classrooms (sometimes teaching in up to three different classrooms a week for one class) affects your teaching? (How so? – Does it affect your use/lack of use of technology? – How so?)

Questions for Bill

One day in the lab your students were working on activities on an external website (external from the CMS). The activity appeared to be just for student practice – you did not collect scores. When you have activities from external websites do you ever collect scores or is it always just for personal study? What is your reasoning for doing it this way?

From my observations most of the time in the lab, if the students were on the computers they were completing some sort of assessment – would you agree that in this class the majority of the time technology (computers) is(are) being used by students in the lab it is to complete assessments? If so, is there a reason behind this (explain)?

In one of your classes I noticed one of your students using google translate on the computer (I'm not sure if this was while they were taking the Friday quiz or completing the in-class assignment). Is this a resource students are allowed to use in class (do you care that they use this resource or do you see it as a form of cheating?)

Questions for David

In our initial interview I asked about your confidence with using technology and you said you were confident – what does that mean to you?

One class period students were doing circle discussions and you had your tablet in hand – what purpose did your tablet serve in this activity?

What reasoning do you have for having students place electronics at the front of the class?

You appear to be knowledgeable about technology and show an interest in integrating it in your teaching yet in my observations I saw very little to no integration of technology– can you explain this dissonance?

You had a lab day for one class but not for the other – what is the reasoning behind this (I know you said your one class did activities home – why not the other as well)? I didn't get the chance to observe a lab day – what would usually happen?

In one of your classes students gave a presentation, which you recorded – were they required to use a visual aid (PPT) for their presentation? Is that something you prepared them for?

Questions for Jim

Several times throughout the semester you mentioned that my presence/ your participation had you reflecting on your technology use (weren't using tech in the way you thought you were) – Can you explain what you mean?

You use a lot of Youtube – what advantages do you see in this as opposed to traditional audio?

One day you had a bit of trouble with one of the online exercises (the answers that you and students agreed upon didn't match with the answers in the activity) – do you vet the activities that you use in class (was this just a fluke incident?)

Questions for Kathryn

Is there a difference between the quizzes your students take and the formative assessments they complete online? (I noticed that you gave a paper-based quiz in the lab one day but students later completed formative assessment on the CMS that same day– what is the difference – and is there a reason for the difference?)

One day you were playing a CD in the DVD player – no remote (is that a common occurrence?)

In our initial discussion you said that your reasons for using technology in language instruction was to provide students with a wider variety of learning experiences – can you expand upon this (how do you feel technology provides a wider variety of learning experiences to students?)

In my observations I noticed that you use YouTube videos in a variety of ways in your teaching – what role do you see YouTube playing in your class (what are your reasons for integrating YouTube)?

Questions for Lisa

How did your week of online teaching go – what were students' reactions?

My observations showed that your students have a lot of freedom to use technology – not just in the class where one might expect that sort of freedom – but also in the other class. What is your reasoning for this?

How do you take into account for these things – give students access to technology yet maintain control?

Your students brought their computers with them every day – which seemed to be a requirement. Did you survey your students before hand about their access to technology?

Questions for Shelly

In one of your classes you had students working with COCA but they were having trouble logging in – instead of sending them to their email accounts to find login information you attempted to login to as many computers as possible and ended up having students working in pairs based on who was able to remember their login. Can I ask you what your reasoning behind this was? (Why not just let them login?)

You seem open to letting students use personal technology, especially in your one class, but yet also hesitant at the same time – where do you draw the line between allowing the use of personal technology and not allowing (and what are your reasons for drawing the line where you do?) When you do allow access to technology how do you maintain control (or do you not – do you think control is necessary?)

I noticed you often would give students the choice to either handwrite and submit or submit electronically – what is your reasoning behind giving options? (In one instance this option appeared to have an effect on the activity of the day – only two had submitted to Google Docs – you seemed a bit surprised – In interview you stated that all papers were submitted via CMS – and maybe this needs clarifying are papers only essays or are papers all written assignments) (when they do submit by email, Google Docs, CMS – how do you provide feedback?) (do you notice a difference in the quality/ quantity in students work when they submit electronically versus paper-based?)

In our initial discussion you said you wished that you had more days in the lab – have you ever inquired about getting more days in the lab? (You were also hesitant to ask students to bring laptops to class because you did not think everyone had access to a laptop– is this something you knew for fact? I only ask because my observations show that technology use, especially in your one class, seemed almost integral to the class but that you may have been at times held back in what you could do because not everyone had access on a particular day)

Appendix C: Administrator Interview Guide

Tell me about yourself

- Background (education)
- How long have you been director of the IEP (for director)
 - o Is it a rotating position like department chair?
- Describe to me your position in the IEP to me (for assistant director)

Director Specific Questions

Can you outline the IEP program for me?

- Description of levels
- Courses
- Curriculum

I saw that you belong to UCIEP (University and College Level Intensive English Programs)

- How does this influence your program?

What is the student make up of the IEP?

- Culturally
- Age
- Grad / Undergrad

What is the faculty make up of the IEP?

- MAs / PhDs
- Full time / Part time / TAs
- CALL-trained?

When you hire new faculty what do you look for?

- Requirements
- Is there a tech requirement?

Assistant Director Specific Questions

Textbook Materials

- Criteria
- Textbooks
 - o Online Components

Labs

- Assigning
- Accommodating requests

General Questions (Both Director and Assistant Director)

Does the IEP program require instructors to use technology?

What kind of support do you have for your instructors?

- Personnel
- PD

What resources are available to your faculty?

- Technology
- Office
- Materials

Special Programs

What are the facilities like?

- Classrooms

How does the CALL / TESL program influence your program?

Appendix D: Technology Personnel Interview Guide

Tell me about yourself

- Background (education)
- What is your position with the IEP?
- How long have you been in that position?
- How do you define technology?

Describe your position in the IEP

- What support do you provide instructors?
- What other types of support are available to instructors?

Technology

- What technology is available to instructors?
 - o To students?
- Describe facilities available
 - o What spaces are used?
- Are instructors required to use technology in the IEP?
- What barriers exist to the use of technology?
- What support do you get from the English department?
 - o From the college?

Training (Formal / Informal)

- What training is available to instructors?
- How does the MA / PhD program in applied linguistics influence the IEP?

What are some exemplary uses of technology in the IEP?

How would you classify the program's use of technology as a whole?

Who are exemplary users?

Who are non-users?

Appendix E: English Department Representative Interview Guide

Tell me about yourself

- Background (education)
- What is your role in the department?
- How long have you been in your position?
- How do you define technology?

What is the English as Second Language program?

- How does it differ from the IEP?

Describe the Masters and PhD Programs in Applied Linguistics and Technology

- Research focus

What was your role with the TESOL technology standards?

- How do the standards influence your program?
- Does your program teach the standards?

What kind of training (formal/informal) do you provide to instructors in the department?

What influence does your program have on the IEP?

- How do your programs interact?

Appendix F: Observation Guide

Course Information

Date

Class

Instructor

Time

Observation #

Setting

Where is the class located?

What is the layout of the room?

What is the environment like?

(Include sketch of space)

Instructor

How does the instructor begin class?

What is the day's lesson?

How does the instructor move through the lesson?

How does the instructor interact with the students?

What is the instructor doing when not interacting with the students?

Students

How many students are present?

How do the students interact with the instructor?

What are the students doing during the lesson?

Technology

What technology is available?

Where is the technology located?

Does the technology appear to be in working condition?

What technology does the instructor provide?

What personal technology does the instructor allow students to use?

How does the instructor integrate the available technology?

Do any technology issues develop?

How does the instructor solve any technology issues?

Appendix G: Online Student Questionnaire

Technology Use in the IEP

Dear Participant,

You are being asked to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked to click continue. This will allow your participation in this study.

This survey is a research project in regards to technology use by instructors in the Intensive English Program.

You are being asked to participate in this study to better understand how your instructors in the IEP program used technology in your IEP courses. Your participation is voluntary. The survey will take about 15 minutes to complete.

There are no direct benefits to you as a participant in the study. There are no known risks at this time for participating in the study.

All responses are anonymous and confidential. Data will only be handled by the researcher and will be destroyed immediately after data analysis. If you have any concerns, please contact the researcher at: sb704206@ohio.edu

Additionally, while every effort will be made to keep your study-related information confidential, there may be circumstances where this information must be shared with:

- * Federal agencies, for example the Office of Human Research Protections, whose responsibility is to protect human subjects in research;

- * Representatives of Ohio University (OU), including the Institutional Review Board, a committee that oversees the research at OU;

If you have any questions regarding this study, please contact Stephanie Buechele by email at buechele@iastate.edu or by phone at (515) 294-4105. If you have any questions regarding your rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740)593-0664.

By clicking on the "CONTINUE" button below you agree to have read the above information and agree to participate in this survey. You also acknowledge that you are at least 18 years of age.

Read each statement and circle the choice you feel best describes your thoughts.

My language instructor:

1) Taught with digital devices in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

2) Created materials using basic technological tools, such as word processor or presentation software, in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

3) Used online technology in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

4) Respected ownership of my own work in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

5) Used technology in culturally appropriate ways.

Almost Always Often Sometimes Rarely Never Don't Know

6) Protected student privacy when using technology in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

7) Asked me about what technology-related resources I have used in the past.

Almost Always Often Sometimes Rarely Never Don't Know

8) Asked me which technologies I would like to learn about.

Almost Always Often Sometimes Rarely Never Don't Know

9) Demonstrated their understanding of technology in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

10) Trained me to use technology in appropriate ways for language learning.

Almost Always Often Sometimes Rarely Never Don't Know

11) Trained me to use technology critically for language learning.

Almost Always Often Sometimes Rarely Never Don't Know

12) Used an electronic grade book in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

13) Used computer-based testing in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

14) Provided feedback in my ESL course through digital file exchange.

Almost Always Often Sometimes Rarely Never Don't Know

15) Used technology to assess my progress in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

16) Surveyed me about my enjoyment of activities involving technology in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

17) Was able to interact with me using e-mail in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

18) Used a course management system, such as Blackboard or Moodle, to post information about the class.

Almost Always Often Sometimes Rarely Never Don't Know

19) Shared course materials electronically in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

20) Used technology for grading in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

21) Provided a digital space for students to access course materials.

Almost Always Often Sometimes Rarely Never Don't Know

22) Showed me how to use technology to keep track of my progress in my ESL course.

Almost Always Often Sometimes Rarely Never Don't Know

Please write your answers in the space available.

23) What types of technology were used in your ESL class?

24) What types of technology were you required to use outside of your ESL class?

25) How often was technology used in class?

26) How much of the use of technology was done by the instructor versus the students?

27) Additional Comments:

28) Age:

29) Gender:

30) Nationality:

31) Are you willing to be interviewed about the use of technology in your IEP courses?

Yes / No

32) If yes, please write your email in the space below:

Appendix H: Coding System – TESOL Technology Standards

TESOL Technology Standards for Language Teachers

Goal 1: Language teachers acquire and maintain foundational knowledge and skills in technology for professional purposes.

Standard 1: Language teachers demonstrate knowledge and skills in basic technological concepts and operational competence, meeting or exceeding TESOL technology standards for students in whatever situation they teach.

Standard 2: Language teachers demonstrate an understanding of a wide range of technology supports for language learning and options for using them in a given setting.

Standard 3: Language teachers actively strive to expand their skill and knowledge base to evaluate, adopt, and adapt emerging technologies throughout their careers.

Standard 4: Language teachers use technology in socially and culturally appropriate, legal, and ethical ways.

Goal 2: Language teachers integrate pedagogical knowledge and skills with technology to enhance language teaching and learning.

Standard 1: Language teachers identify and evaluate technological resources and environments for suitability to their teaching context.

Standard 2: Language teachers coherently integrate technology into their pedagogical approaches.

Standard 3: Language teachers design and manage language learning activities and tasks using technology appropriately to meet curricular goals and objectives.

Standard 4: Language teachers use relevant research findings to inform the planning of language learning activities and tasks that involve technology.

Goal 3: Language teachers apply technology in record-keeping, feedback, and assessment.

Standard 1: Language teachers evaluate and implement relevant technology to aid in effective learner assessment.

Standard 2: Language teachers use technological resources to collect and analyze information in order to enhance language instruction and learning.

Standard 3: Language teachers evaluate the effectiveness of specific student uses of technology to enhance teaching and learning.

Goal 4: Language teachers use technology to improve communication, collaboration, and efficiency.

Standard 1: Language teachers use communication technologies to maintain effective contact and collaboration with peers, students, administration, and other stakeholders.

Standard 2: Language teachers regularly reflect on the intersection of professional practice and technological developments so that they can make informed decisions regarding the use of technology to support language learning and communication.

Standard 3: Language teachers apply technology to improve efficiency in preparing for class, grading, and maintaining records.

Note. TESOL technology standards for language teachers. Reprinted from *TESOL*

Technology Standards: Description, Implementation, Integration (p. vii), by D. Healey,

E. Hanson-Smith, P. Hubbard, S. Ioannou-Georgiou, G. Kessler and P. Ware, 2011,

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Appendix I: Permission to Use Technology Standards

From: Carol Edwards <CEdwards@tesol.org>
Subject: RE: Question about TESOL Technology Standards
Date: May 14, 2012 11:06:27 AM EDT
To: Buechele, Stephanie L [WLC] <buechele@iastate.edu>

Stephanie,

Your research sounds fascinating! You are free to use exact wording from the Technology book in your survey and your dissertation. Please give credit to TESOL as the publisher and copyright holder if that is not clear from your context.

The APA-style citation for your reference list is

Healey, D., Hanson-Smith, E., Hubbard, P., Ioannou-Georgiou, S., Kessler, G., & Ware, P., *TESOL technology standards: Description, implementation, integration*, Alexandria, VA: TESOL.

Good luck,

Carol Edwards | Publishing Manager
TESOL International Association
703-518-2525 direct
703-836-0774 main
703-836-6447 fax
1925 Ballenger Avenue | Alexandria, VA 22314
www.tesol.org
Advancing Excellence in English Language Teaching

Appendix J: Pilot Study Methodology and Results

Pilot Study Methodology

The study focused on two instructors, “David” and “Sam”, in the English Language Improvement Program at Ohio University. Pseudonyms were used in order to protect the anonymity of the instructors in the study. The study used purposeful sampling, defined as specifically choosing participants based on the fact that they are known providers of information relevant to the research. The two instructors were identified because they were known to use technology in class, based on computer lab records. One instructor had a Master’s Degree in Applied Linguistics and the second instructor was completing a Master’s Degree in the same area. Both instructors had received CALL training as a required component of their Master’s program. Two groups of students (Class A, David, n=10 and Class B, Sam, n=14) currently enrolled in graduate classes at Ohio University also participated in the study.

The setting of the study was the English Language Improvement Program (ELIP). The focus of this program is to help undergraduate and graduate students improve their writing and speaking skills. The program is mainly targeted to international students. The pilot study examined two ELIP 582 courses, which are graduate level courses aimed at helping international students improve their oral communication skills. It is the third course in a series of four courses and covers topics including language, academic culture, strategies for leading discussions/presentations and occasionally teaching.

At the beginning of winter quarter 2008, both instructors were interviewed to gain an initial understanding as to their perceptions towards the use of technology in the

language classroom. After the interviews were conducted, instructors were then observed three times over the course of the quarter, during weeks 3, 6, and 9. At the end of the quarter, students in each of the instructors' courses were given a questionnaire that examined the students' perceptions of their instructor's use of technology on the students' language learning. The response rate for Class A (David's class) was 50% and for Class B (Sam's class) was 64%. After the quarter had concluded, both instructors were interviewed again to revisit the topics discussed during the initial interview, as well as to discuss what was observed in the classroom by the researcher and the results of the questionnaire completed by the students.

Results of the Pilot Study

Overall, while both instructors mentioned in the interviews use of CALL in their classes, the researcher observed very little use. Both instructors reported that they saw CALL as a supplement to their course and this was supported by the observations. Results of the questionnaire showed that in general, students in both classes perceived their instructors use of CALL as useful towards their language learning with 80% of Class A strongly agreeing or agreeing and 100% of Class B strongly agreeing or agreeing.

Examining Class A, David defined technology as "something that centers around computers or the use of computers" (personal communication, March 14, 2008). In his interviews, he reported using technology in someway every class period and this was confirmed during observations. One thing to note is that while the instructor reported using CALL more than the students in the class, the researcher observed the students

using it more than the instructor and the students felt that there was a balance between instructor use and student use of technology in the class. Though the researcher did not observe much technology being used in the classroom, technology was still being used and the students confirmed this.

Examining Class B, Sam defined technology as “anything that needs to be plugged in” (personal communication, March 14, 2008). In her interviews, she reported rarely using technology in the class, as she didn’t feel it was called for in this class and observations confirmed this. The instructor perceived the students as using technology more in the class and the students reported that they did use the technology more. While the researcher never saw technology being used in the class, technology use was often referred to such as reminding students to check Blackboard for assignment updates or to submit recordings they had made using the audio recording software Audacity.



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