

TECHNOLOGY USE AND INTEGRATION BY OHIO'S COMMUNITY COLLEGE
ESL INSTRUCTORS

DISSERTATION
SUBMITTED TO
ASHLAND UNIVERSITY

In Partial Fulfillment of the Requirements for
The Degree

Doctor of Education in Leadership Studies

Kristine Ann Dobransky, BS in Education, MA in TESOL and Bilingual Education

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A Dissertation
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By

Kristine A. Dobransky

ASHLAND UNIVERSITY, 2015

Dr. Harold E. Wilson, Chair, Dr. Constance M. Savage, Co-chair

Abstract

Technology has become ubiquitous at all levels of education. The purpose of this exploratory study was to determine what technology is currently being used in Ohio's community college ESL programs and at what level of the substitution, augmentation, modification, redefinition (SAMR) model the technology is being used or integrated. This study was conducted using mixed methods methodology and a cross-sectional survey design. Survey and interview data were collected and analyzed for common themes. Data suggest that Ohio's community college ESL instructors are just beginning to realize the potential of using technology in their ESL courses. Although few community college ESL instructors are using technology in their ESL courses, those who are use a variety of educational technology mainly at the substitution and augmentation levels of the SAMR model.

Keywords: ESL, technology, community colleges, Ohio, SAMR model

DEDICATION

To my father who I hope is looking down from Heaven with pride.

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to all who helped me through this long and arduous dissertation journey. In particular, I wish to acknowledge the members of my dissertation committee, especially my committee chair, Dr. Harold E. Wilson. I would also like to acknowledge all of the hard-working ESL professionals who rarely receive the credit they deserve and without whom this project would not have been possible.

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CHAPTER I

Introduction

Throughout my academic career as an English as a Second Language (ESL)/English Language Learner (ELL) educator, I have worked in various academic settings. My teaching career began as a part time faculty member in an Intensive English Language Program (IEP) at a small Northwestern Ohio university. A few years later, I began teaching ESL, now commonly referred to as ELL, in a mid-size public school at the K-12 level in Northeastern Ohio. During the same time period as my K-12 experience, I have also worked as an adjunct faculty member in an ESL program at a large community college in Northeastern Ohio. Although I have enjoyed all of these experiences for different reasons, my most rewarding experience has been teaching ESL at the community college level. This was due, in part, to my love for teaching adult language learners. In my experience, most adult ESL students at the community college level have a sincere desire and commitment to learn English. I also feel genuine empathy for this population of students because of my own language learning and study abroad experiences.

When I began teaching in the early 1990's, classroom technology consisted of overhead projectors, cassette players, filmstrips, VHS players, and maybe a language laboratory, all of which seem like relics when compared to today's educational technology. Eventually, computers, the World Wide Web (WWW), and the Internet caused extraordinary and transformational changes in education. These changes and the

immense and rapid growth of educational technology has made this an exciting, if not hugely challenging, time to be an educator.

During the past several years, there has been an undeniable push towards technology use and integration at the K-12 level. For example, my own public school district has adopted the MacBook Air, iPad Mini, and Apple TV for teachers during the 2013-2014 school year and provided MacBook Airs for students in 2015. Consequently, this has led me to wonder about technology use and integration at the community college level because many students will choose to begin their post-secondary careers at the community college considering the lower tuition and fees charged when compared to a typical four-year institution. Community colleges tend to have small budgets because they are generally under more pressure than universities to keep tuition and fees low which affects the amount and types of advanced technology that community colleges can afford to purchase (Roe, 2009).

Statement of the Problem

A small budget is not the only factor that affects technology use and integration at the community college. Another important consideration that cannot be ignored by community colleges is the economic level of typical community college ESL students. While universities tend to attract ESL students from middle- to upper-class families with prior K-12 schooling, community colleges in many parts of the United States, cater to lower-income immigrant populations who either cannot afford university tuition or are unable to gain admission because of educational deficits (Roe, 2009). Furthermore, many ESL students at the community college level tend to be working adults, who are struggling to pay for basic necessities as well as tuition, fees and books (Roe, 2009).

This low economic level may also mean that these students have little or no experience using technology until their first community college class (Mate-Martinsen, 2009).

ESL learners at the community college are a diverse group with diverse learning challenges, especially in regards to educational technology. Some ESL students come to the community college while still enrolled in high school through a Post-Secondary Enrollment Option Program (PSEOP). They may also be Generation 1.5 students, non-native English speakers who have graduated from a high school in the United States but still need additional English instruction (Crandall & Sheppard, 2004). Due to the recent push to integrate educational technology at the K-12 level, some students may bring with them a wealth of experience in using educational technology while others may not. Other adult learners, who may be new immigrants, and particularly those from less-developed countries, often have relatively little or no access to up-to-date computer technology, especially if they come from working class or impoverished neighborhoods (Roe, 2009).

Because ESL students who enter the community college either during or after high school may bring with them a wealth of experience in using educational technology, they may expect and assume that such technology use will be encouraged and continued at the community college level. If community college instructors are not prepared to use educational technology in the ESL classroom or discourage its use, there could be a disconnect between the instructor and the younger, traditional ESL student. Conversely, older, non-traditional ESL students, particularly those from less technologically advanced countries, may not have much experience with educational technology and may struggle to develop technological competency while learning English (Roe, 2009).

Research Questions

The purpose of this study was to explore what educational technology is currently being used by instructors in ESL classrooms at the community college level. The specific questions this study sought to address are:

Research Question 1. What educational technology is currently being used by ESL instructors at the community college level in Ohio?

Research Question 2. How is technology currently being used in ESL classrooms by community college instructors?

In regard to research question number one, I wanted to learn about the specific types of technology that are currently being used at the community college level. This may include, but is not limited to: email, course management systems (Blackboard, Angel, etc.), non-ESL specific software (Microsoft Word, Power Point, etc.), ESL software, blended use technology which encompasses technology used both in and out of the classroom (websites, blogs, podcasts, etc.), and mobile technology (smartphones, iPads, etc.).

In regard to research question number two, I wanted to know specifically whether technology is simply being used in the ESL classroom or integrated into instruction. Rao (2013) highlighted several key differences between the two.

Characteristics of technology use:

- used rarely, sporadically, randomly and arbitrarily, often as an afterthought
- used for the sake of using technology; especially when the same task could be achieved without technology
- used solely to deliver information and/or content

- used primarily by the instructor or individuals working alone
- used to complete lower-order thinking tasks

Characteristics of technology integration:

- used routinely in the classroom and is planned and purposeful
- used to support learning goals and objectives and to engage students with content
- used mostly by students
- used to encourage higher-order thinking and/or to construct and build knowledge
- used to collaborate both inside and outside the classroom
- used because it is essential to the learning activity or the activity could not be achieved through non-technology means

Although this is an acceptable guide for differentiating between technology use and integration, Puenedura's substitution, augmentation, modification, redefinition (SAMR) model was used to determine at what level Ohio's community college ESL instructors are using and/or integrating technology in their ESL classrooms.

An overview of the methodology

This study used both quantitative and qualitative data to answer the research questions. Ohio's community college ESL instructors were invited to take part in a voluntary survey designed to determine what educational technology is currently being used in Ohio community college ESL classrooms. Quantitative data were collected, analyzed, and reported about each community college's ESL program including:

instructor's gender, ESL teaching experience of the instructor (in year ranges), employment status (full-time, part-time, adjunct), and institution. Additional data were collected to determine what technology is currently being used and at what SAMR level, who is using the technology and where. Qualitative one-on-one interviews were conducted with survey respondents who volunteered to participate in this study in order to confirm and expand upon survey data.

Importance of the Study

The integration of technology in education has become more widespread in recent years and has facilitated learning both in and out of the classroom. Nevertheless, despite the proliferation of educational technology, there are few studies that examine technology use and integration by ESL instructors at the community college level. Hopefully, this study will make a contribution to the knowledge of what educational technology is currently being used at the community college level so that current practices can be improved upon. In addition, Rao (2013) suggested that many instructors falsely believe that they are integrating technology when in fact they are only using technology. Results from this study can be used to help encourage community college ESL instructors to move from technology use to technology integration. This study may also bring attention to a need for on-going professional development in technology integration for community college ESL instructors.

Key Terms

This study used several terms with which a reader may not be familiar. Therefore, the following terms and definitions are provided:

Adult ESL students: “for the purposes of this paper, adult ESL students are aged 18 or older who are enrolled in one of the many types of adult ESL programs offered by community colleges...” (Crandall & Sheppard, 2004).

English as a Second Language (ESL): “formerly used to designate ELL students.” The term is predominantly used to refer to students in higher education. (NCATE, 2008). It usually refers to the comprehensive learning of English including listening, speaking, reading, writing, pronunciation, and grammar (Crandall & Sheppard, 2004).

English Language Learners (ELLs): This term is used in the United States to describe K-12 students (NCATE, 2008); however, the Ohio Department of Education (ODE) defines ELLs as “students whose native or home language is other than English, and whose current limitations in the ability to understand, speak, read or write in English inhibit their effective participation in a school’s educational program” (Ohio Department of Education, 2012).

International (ESL) students: These are students who enter the United States on a special visa to study intensive ESL at designated institutions, increasingly community colleges. Many study English prior to entering degree programs as full-time, fully matriculated students. In academic ESL programs at the community college, international and immigrant students may be in the same classes (Crandall & Sheppard, 2004).

1.5 Generation Students: “graduates of U.S. high schools who enter college while still learning English; may include refugees and permanent residents as well as naturalized and native born citizens of the U.S.” (NCATE, 2008). “These adults are non-native English speakers enrolled in postsecondary programs who have had much of their education in the United States and graduated from U.S. high schools but still need

additional English instruction, especially in writing. Their English language proficiency is very advanced, but they may still make significant errors. Their errors are different from those made by native English-speaking students typically enrolled in developmental education or freshman composition” (Crandall & Sheppard, 2004).

Puentedura’s SAMR model also uses the following terms to describe technology use and integration:

substitution: tech acts as a direct tool substitute, with no functional change.

augmentation: tech acts as a direct tool substitute, with functional improvement.

modification: tech allows for significant task redesign.

redefinition: tech allows for the creation of new tasks, previously inconceivable.

Summary

This first, introductory chapter presented a brief overview of my ESL/ELL background and experience with technology, a statement of the problem, the purpose of the study, the two research questions, a brief overview of the methodology, and the importance of the study. The chapter concluded with a list of terms and their definitions for readers who may be unfamiliar with this area of research. The second chapter provides a review of current research regarding educational technology use at the post-secondary level while Chapter III outlines the methodology that was used for this study. Chapter IV provides a comprehensive description of the results obtained from a technology survey that was administered to volunteer community college ESL instructors in the state of Ohio and six individual interviews. The qualitative data obtained from the interviews were analyzed into themes that represented the responses from the participants. The fifth and final chapter presents a summary and discussion of the results

and provides the reader with a discussion of the implications of the findings as well as suggestions for additional research.

CHAPTER II

The United States is a nation of immigrants. According to the 2010 American Community Survey (ACS) the estimated number of foreign born individuals in the United States is nearly 40 million or 13% of the total population with the largest groups coming from Latin America (53%) and Asia (28%) (Grieco et al., 2012). However, a more recent survey showed that trends have changed and Asians now account for 36% of all new immigrants while Hispanics account for 31% (Pew Research Center, 2012). States with the highest percentage of foreign born individuals in their populations as determined by the 2010 ACS were California (27 %), New York (22%), and New Jersey (21%) while the state of Ohio ranks relatively low with less than 5% (Grieco et al., 2012).

The United States also hosts numerous international students. According to the Institute of International Education (IEE) (2012), in the 2011-2012 academic year, the overall number of international students in the United States increased 5.7% to a record high of 764,495 students while new international student enrollment increased to 228,467 an increase of 6.5% over the previous year. The top places of origin of these international students included China (25.4%), India (13.1%), South Korea (9.5%) and Saudi Arabia (4.5%). The IEE (2012) also reported that there were 26,427 foreign students in the state of Ohio. This number represents an increase of 7% from 2011 data. Consequently, Ohio currently ranks eighth in the United States for numbers of foreign students. The top five places of origin for foreign students in Ohio include China (38.7%), India (14%), Saudi Arabia (7.7%), South Korea (6.7%) and Taiwan (2.7%)

(IEE, 2012). Despite the fact that these countries are typically non-English speaking countries, this data did not specify exactly how many of these students are in ESL programs as opposed to degree programs when they come to the United States or Ohio.

Nevertheless, due to immigration and the arrival of international students, the number of adults enrolled in English as a Second Language (ESL) programs has increased dramatically. ESL programs are designed to help language-minority adults who have a limited ability in speaking, reading, writing or understanding the English language. There are a variety of options for adults who wish to improve their English language skills; these include: community-based ESL programs, intensive English programs at a college or university, or evening and weekend courses at a community college.

ESL and foreign student populations are diverse and so are their language learning needs. For these reasons, educators need to focus on new interventions and approaches to teaching ESL. One approach that has the potential to improve the teaching and learning of ESL is the use of technology both in and out of today's modern language classroom. This literature review focused on the main types of technology that is currently being used with ESL students and summarize the benefits and challenges of using educational technology with this population.

Using Technology with ESL students

A majority of the literature used in this literature review came from a keyword search for English as a second language (ESL) and technology. Additionally, I drew from some of the second language learning literature because second language and ESL learner theory and methodology are closely related. Finally, I chose to include a few

articles relating to mainstream students, teachers, and technology because the information can be adapted for English language learners. Further, there are numerous articles which cover both K-12 education and post-secondary education and technology use with English language learners. I have included both levels despite my focus on community college ESL because much of the information contained in the K-12 literature can be adapted for adult learners. The ESL technology literature can be divided into three main categories: onsite learning including ESL software and blended uses including online technologies, and mobile technology.

Onsite Uses of Technology and ESL Software

The first way to incorporate instructional technology into the ESL classroom is through onsite uses, including ESL software. In a network brief of The Center for English Language and Literacy for Adults Network (CAELA) Moore (2009) defined an onsite use of technology as learning that takes place in the classroom or computer lab in a teacher-led whole group setting. She further explained that the technology serves as a supplement to the main curriculum and is used solely during class time. Some examples include computer assisted instruction (CAI) and computer –assisted language learning (CALL). In addition, specific software programs may be used within the classroom. Many current textbooks offer software programs which can be used to supplement textbooks. Similarly, there are many commercially available software packages that can be purchased and used with adult ELL students. A few popular examples include The New Oxford Picture Dictionary CD-ROM and Rosetta Stone. Waters (2007) discussed at length some of the specialized ESL software designed to help ESL students develop English language listening, speaking, and reading skills. Some examples include

Pearson's English Language Learning and Instruction System (ELLIS), Descriptive Language Arts Development, Pronunciation Power, Core Reading and Vocabulary Development CD-ROM Program and Inspiration Software.

Blended Uses of Technology

Another use of technology is blended uses. Moore (2009) described blended uses as technology that supplements course curriculum and is used both in and outside the classroom. Examples of blended uses in this review of the literature include online learning technology such as blogs, Facebook, podcasts, Web quests and Wikis, and mobile technology including iPod and iPod Touch, smart phones and iPad technologies.

Blogs. Blogs have been in existence for nearly 20 years and are becoming increasingly popular among language teachers because they provide an authentic and global venue in which learners can practice their language skills (Pinkman, 2005). Blogs also encourage interpersonal communication instead of impersonal communication with a computer. Pinkman (2005) argued that blogging should not replace face-to-face communication; however, it should be viewed as a valuable practice environment especially when the opportunity for real interaction with native speakers is limited or non-existent.

To date, there have been a limited number of studies done on the benefits of using blogs with ELL students in the language classroom (Blackstone, Spiri, & Naganuma, 2007; Lin, Lin & Hsu, 2011; Pinkman, 2005; Sun, 2010). Research has suggested that the main reasons instructors are beginning to use blogs in the ELL classroom is to encourage writing practice outside of the classroom, to develop learner autonomy, and to increase the learners' motivation to engage in meaningful written communication in

English (Blackstone et al., 2007; Pinkman, 2005; Sun, 2010). From a student perspective, the response to blog projects is generally favorable. Through the use of questionnaires and interviews, researchers have found that students have a favorable attitude towards blogging (Blackstone et al., 2007; Pinkman, 2005; Sun, 2010). In addition, students seemed highly motivated to give classmates written feedback on their posts and responded favorably to receiving comments on their posts (Blackstone et al., 2007). For this reason, Pinkman (2005) suggested that instructors consider a system of mandatory commenting or a partnering of learners to ensure that students are consistently receiving feedback on their blog. Finally, research has shown that students tend to spend more time writing both in and out of the classroom as a result of doing blogging activities (Blackstone et al., 2007; Pinkman, 2005; Sun, 2010)

Despite the benefits of using blogs in the ELL classroom, several drawbacks have also been noted in the literature. For example, critics argue that, due to the informal nature of blogs, they are not appropriate for academic work (Blackstone et al, 2007). This criticism can be overcome through the use of well-structured activities designed by the instructor. Another potential problem with using blogs in the classroom is the amount of time required to set up a successful classroom blogging project. This was true of the Sun (2010) study, where the blogging system was written in-house at the university in order to meet the specific needs of language learners. In addition, students also may need to be taught how to design their own blog if they have no prior experience with blogging. This may be the case with older, more mature adult learners. Student privacy concerns were also noted in the literature (Blackstone et al., 2007). They argued that because blogs are public and not private, a student who lacks confidence or has considerable

writing problems may be embarrassed by having others view mistakes. Students in the Pinkman (2005) study also cited concerns and frustrations with blogging. For example, some of the software was difficult to use. They also complained that blogging was too time-consuming and cited time constraints as a disadvantage of using blogs; therefore, they wished they could have had more class time to complete the assignments. For these reasons, Lin, Lin and Hsu (2011) suggested that because blogging is time and labor intensive for both the teacher and students, it may not be the best approach for promoting students' writing abilities.

Facebook. Blattner and Fiori (2009) suggested several benefits for using Facebook in the language classroom. For example, because many students already use Facebook, they tend to be highly motivated to use this online technology in an academic setting. Facebook is also easily accessible and low cost which is especially beneficial for older language learners and recent immigrants. One way to use Facebook for academic purposes is through the use of Groups (Blattner & Fiori, 2009). Groups allow language learners to connect in various ways. One of the most obvious is the ability to interact with native speakers of the language being studied. Additionally, students are exposed to authentic language, including colloquialisms, and information when reading wall posts or by reading discussion forums. This allows students to learn about the target language culture, an area where many textbooks fall short (Blattner & Fiori, 2009).

Podcasts. As defined in the literature, the word podcast has come from the combination of two words: iPod and broadcast (Rosell-Aguilar, 2007; Thorne & Payne, 2005). A podcast refers to any audio or video file that can be subscribed to and automatically downloaded onto a computer or digital media device via a really simple

syndication (RSS) feed (Abdous, Facer, & Yen, 2012; McGarr, 2009; O'Bryan & Hegelheimer, 2007; Walls et al., 2010). There have been a variety of different types of podcasts used in education. Walls et al. (2010) compared repetitive (recordings of lectures, slides and demonstrations) and supplemental (extra materials to extend classroom learning) podcasts. McGarr (2009) further subdivided podcasts into three categories along a continuum. First, substitutional podcasts were recordings used either in place of the classroom lecture or for the purpose of review. Second, supplementary podcasts provided additional material to assist learning. For example, summaries or syntheses of course material or additional materials were provided in order to enhance a student's understanding. Finally, the creative use of podcasts involved the creation of student generated content. On the substitutional end of the continuum, students were passive recipients of information while students became more active constructors of knowledge as they approached the creative end (McGarr, 2009). Researchers such as Lee, McLoughlin, and Chan (2008, p. 504) asserted that "the true potential of podcasting technology lies in its knowledge-creation value, and its use as a vehicle for disseminating learner-generated content."

Although language learning has been identified as one of the disciplines that would most likely benefit from the educational integration and use of podcasts, there have been mixed messages about those benefits (Abdous et al., 2012). First, researchers have disagreed about the effect that repetitive podcasts has on class attendance. Abdous et al. (2012) and Blaisdell (2006) have noted concerns about reduced attendance due to podcast use while Walls et al. (2010) reported that a decline in student attendance may only be an unfounded fear. Second, the literature showed a lack of consensus about

learning outcomes (grades) and educational podcast use (Abdous et al., 2012). Third, Walls et al., (2010) claimed that the popularity of MP3 players made podcasting a potentially effective educational tool among postsecondary students. They then refuted the claim by pointing out that students tended to use them mainly for entertainment purposes and more time may be required before students viewed them as a tool for studying and learning. Additional research confirmed that MP3 devices might not be a student's first choice when listening to podcasts. For example, Abdous et al. (2012) found that a higher percentage of students listened to podcasts on their desktops or laptops rather than on a mobile device or MP3 player. Additional limitations concerning the use of podcasts in education involved an increase in teacher workload to create podcasts (Blaisdell, 2006) and technical issues for those unfamiliar with podcasting (Menzies, 2005).

There were three main undisputed pedagogical benefits of podcasts noted in the literature. First, podcasts provided language learners with access to authentic materials such as music, newscasts, lectures, interviews, conversations, etc. which allowed learners to learn about the history, culture and politics of the target language country as well exposure to real-life speech including pronunciation, vocabulary, and grammar structures of the target language (O'Bryan & Hegelheiner, 2007; Rosell-Aguilar, 2007; Thorne & Payne, 2005). Second, the ability to download podcasts immediately and permanently gave students unhindered access to class materials (Walls et al., 2010). Students' ability to listen anytime and anywhere was unlimited which made podcasts a valuable revision tool (Abdous et al., 2012; McGarr, 2009). Third, due to the popularity of iPods and the amount of control it gave the student over their learning experience, researchers observed

an increase in student motivation and engagement. (O'Bryan & Hegelheiner, 2007; Rosell-Aguilar, 2007).

WebQuests. WebQuests were first developed in 1995 by Bernie Dodge and Tom March. The definition has undergone several changes since its inception. Dodge (1997) originally defined a WebQuest as “an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet.” March (2003) further explained:

a real WebQuest is a scaffolded learning structure that uses links to essential resources on the World Wide Web and an authentic task to motivate students' investigation of an open-ended question, development of individual expertise, and participation in a group process that transforms newly acquired information into a more sophisticated understanding. (p. 42)

More recently, a WebQuest has been defined as “web-based interdisciplinary learning units that foster collaborative problem solving as students work on a task, resulting in a cumulative project” (Sox & Rubenstein-Avila, 2009, p. 39). Additionally, most WebQuests follow a basic format. At a minimum, Dodge (1997) suggested that they contain the following parts:

1. An introduction that sets the stage and provides some background information.
2. A task that is doable and interesting.
3. A set of information sources needed to complete the task. Many (though not necessarily all) of the resources are embedded in the WebQuest document itself as anchors pointing to information on the World Wide Web. Information sources

- might include web documents, experts available via e-mail or real-time conferencing, searchable databases on the net, and books and other documents physically available in the learner's setting. Because pointers to resources are included, the learner is not left to wander through web space completely adrift.
4. A description of the process the learners should go through in accomplishing the task. The process should be broken out into clearly described steps.
 5. Some guidance on how to organize the information acquired. This can take the form of guiding questions, or directions to complete organizational frameworks such as timelines, concept maps, or cause-and-effect diagrams.
 6. A conclusion that brings closure to the quest, reminds the learners about what they've learned, and perhaps encourages them to extend the experience into other domains.

Maddux and Cummings (2007) insisted that WebQuests must be carefully designed and teachers must evaluate the content of each WebQuest to determine the appropriateness for the students they teach. This is particularly true for ELL students. Although Sox and Rubenstein-Avila (2009) found that the eight pre-existing, highly rated WebQuests they had studied were good, they believed that most required modifications in order to be suitable for ELLs. Specifically, these WebQuests lacked linguistic, multimedia, and organizational features that address the needs of ELLs; however, adapting or customizing these pre-existing WebQuests could be one solution. Dodge (2002) has developed a flowchart for adapting and enhancing existing WebQuests. One drawback is that the necessary adaptations can be time consuming and/or labor intensive. Nevertheless, Maddux and Cummings (2007) reasoned that WebQuests can be used

successfully as long as teachers are cognizant of students' individual differences when using them.

Wikis. As noted in the literature, the word wiki came from the Hawaiian word wikiwiki which means fast or quick; to hurry, to hasten (Coniam & Lee, 2008; Leung & Chu, 2009; Li, 2012; Mak & Coniam, 2008). A wiki refers to software that allows users to create, amend, or delete the content of web pages. In addition, users can insert multimedia content such as photos, sounds, and hyperlinks (Coniam & Lee, 2008). Before wikis were available, group collaboration on a document was more challenging due to the fact that there could be numerous variations of edits which were often done in isolation by group members. Documents had to be sent by email between group members and as Mak and Coniam (2008, p. 446) emphasized, "Coordinating edits so that everyone's work was equally represented was problematic in that different ideas were inserted in different ways and at different times." A wiki, which originated from the work of Leuf and Cunningham (see Leuf & Cunningham, 2001), allows group members to create and edit their collective work in a single wiki document to which all group members have equal access to the most recent version of the document (Mak & Coniam, 2008). In addition, the automatic revision history saves a before and after version of the document each time a change is made and retains all intermediate versions. As Mak and Coniam (2008) have noted, this can be a potentially valuable learning tool in that learners can see what errors were initially made and subsequently corrected.

Li (2012) pointed out that numerous wiki applications exist such as MediaWiki, PBworks, Wetpaint, XWiki, and Wikispaces; however, an overview of different wiki applications could be accessed from WikiMatrix (<http://www.wikimatrix.org/>). She also

identified the three functioning tabs in all wiki applications. The first tab, edit, allows users to make changes to or revise the page including text, images and hyperlinks. The second tab, history, shows the changes to the page through the color-coding of deleted and inserted text. Third, the discuss tab allows users to collaborate through messages about the page contents and revisions. Besides the tabs, the literature showed that wiki pages are divided into upper and lower sections (Mak & Coniam, 2008). The upper section contained the notification message sent to the wiki administrator each time changes are made and details about the author who made the changes while the lower section contained the text that is added to or deleted.

Four main advantages of using wikis in the language classroom have been reported in the literature. One frequently noted advantage has been the use of wikis for collaborative writing and learning (Coniam & Lee, 2008; Leung & Chu, 2009; Li, 2012; Mak & Coniam, 2008). Mak and Coniam (2008) pointed out that collaborative environments teach students how to work together and build a community, a novel concept, due to the fact that the majority of academic writing is done on an individual basis. In addition, they found that students produced substantially more text and there was a considerable amount of expanding, reorganizing, and correcting that took place within the collaborative environment of the wiki. Coniam and Lee (2008) claimed that students were more motivated to write because of the cooperation and brainstorming involved. Another advantage of using wikis in the language classroom is that students are actively constructing knowledge through their interactions with each other (Coniam & Lee, 2008; Yates, 2008). This tends to occur both through the addition and deletion of content on the wiki by the students and through the peer review process where students

are editing each other's work. A third advantage of wikis is that students can choose when learning occurs by choosing times that are convenient for them. Coniam and Lee (2008) found that many of the students involved in their wiki project chose to log in to the wiki after midnight. Finally, they are relatively easy to use as long as both teachers and students know how to use a word processor and an Internet browser (Coniam & Lee, 2008). There were two benefits for educators mentioned in the literature. First, although the initial setup and planning process for wikis do require a certain amount of time, they are not overly time consuming for the teacher to administrate. Second, wikis can produce a range of statistics on students' activities and on the type of editing they have done in the wiki; therefore, teachers can keep track of students' learning outside of class time (Coniam & Lee, 2008; Leung & Chu, 2009).

Despite the benefits of wikis noted in the literature, some researchers also noted potential challenges to be considered before using a wiki in the language classroom (Coniam & Lee, 2008; Li, 2012; Mak & Coniam, 2008; McPherson, 2006). Before implementing wiki technology in the language classroom, teachers should first ensure that their students have access to the necessary technology including computers and a reliable internet connection (Coniam & Lee, 2008). Second, teachers need to consider the language level of the students. As noted by Coniam and Lee (2008) the students' language level does not exclude them from being able to use a wiki; instead, learning tasks need to be adjusted for their ability level. In particular, Li (2012) highlighted the importance of well-designed writing tasks. Researchers also emphasized that students need to be adequately prepared before using a wiki. Teachers need to introduce the wiki and teach students how to use it (Coniam & Lee, 2008; Leung & Chu, 2009; Mak &

Coniam, 2008). In addition, McPherson (2006) suggested that students need be taught how to negotiate, collaborate, and cooperate with one another as well as how to be respectful of others' work and thoughts. As noted in the literature, the cultural backgrounds of students must be considered before implementing a wiki project. For example, Mak and Coniam (2008, p. 452) found that "Hong Kong students rarely comment on or 'expose' their classmates' mistakes as they do not wish them to lose face." Privacy concerns were also reported in the literature. Because wikis are open resources and can be altered and commented on by anyone in the world, a closed, password protected system may be beneficial (Coniam & Lee, 2008; Mak & Coniam, 2008). Finally, unequal contributions to the wiki by students can be another challenge. Both Coniam and Lee (2008) and Mak and Coniam (2008) found that the amount of contributions can vary substantially among students, which can lead to student complaints (Coniam & Lee, 2008; Li, 2012).

Mobile Technology. Mobile technology, including MP3 technology such as the iPod and iPod Touch, Smart Phone technology, and the iPad is the latest frontier being explored by educators and researchers for use in the classroom. "While there is much discussion and excitement on the benefits of using mobile devices to support learning in the literature, there is a need of research providing evidence specifically for the ELL student population" (Liu et al, in press, no page number). One popular form of mobile technology that has been discussed in the literature is the iPod and iPod Touch (Banister, 2010; Liu, Wivagg, Maradiegue, & Navarrete, in press; Patten & Craig, 2007), the smart phone (Cochrane & Bateman, 2010; Sandberg, Maris, & de Geus, 2011), and the iPad (Demski, 2011; Meurant, 2011).

Ipod and Ipod Touch. According to the literature, one of the main reasons educators chose to use the iPod or iPod Touch in the classroom was because of the multimedia capabilities of the device. Among the capabilities noted in the literature are the ability to manage and display images as well as play both audio and video files, internet access through Safari allows the user to access most world wide web (WWW) content including but not limited to podcasts, audiobooks, and video clips, recording features through the use of headphones and microphones, and customizable applications, also known as apps (Banister, 2010). Patten and Craig (2007) wrote specifically about the ways teachers are using the devices in their classroom. Teachers are using the device to create their own podcasts for student use or having students create podcasts to share with others. Other uses include using the iPod or iPod Touch as a language lab where students can record vocabulary, conduct question and answer conversations, check their pronunciation, or store language exercises for later replay.

Numerous other benefits were also noted in the literature. Banister (2010) emphasized the low cost of the devices, especially when compared with classroom laptop carts or computer labs. She also mentioned the portability, durability and customizability of the device. Liu, Wivagg, Maradiegue, and Navarrete (in press) reported five technological and pedagogical affordances the device offered to ELL students: connection to home, content learning, extended learning time, language learning, and accommodation of students' needs. Students mentioned in research studies reported the ability to control their own learning experience, the intimacy and privacy of the experience and the ability to interact with advanced technology as the most compelling reasons they enjoyed using the iPod in a classroom setting (Patten & Craig, 2007).

Nevertheless, despite the numerous benefits of iPods cited in the literature, there were several challenges that were noted in the studies. First, both educators and students need to embrace the iPod as a learning tool instead of just an entertainment device (Banister, 2010; Liu et al., in press). Because the iPod was not originally intended for educational use, time is cited in the literature as another potential challenge when integrating the iPod into the curriculum. Educators will need to devote substantial time to locate applications that are relevant to the content area being taught (Banister, 2010). Additional time may also be spent on assessments such as monitoring student work and listening to student recordings created on the iPod (Liu et al., in press). Considerable time may also be required for device maintenance such as tracking the devices, charging and updating them, and synching content (Liu et al., in press). Technical issues were another challenge cited in the literature. As with any new technology, there is often a learning curve for both educators and students (Patten & Craig, 2007). Institutions may also be a source of technical difficulties (Liu et al., in press). The wireless infrastructure may be insufficient to support an increased number of devices. Similarly, students may experience challenges because they do not have internet access at home and are sometimes forced to seek access in public hotspots. While iPods are a cheaper technology option, there were potential cost issues cited by researchers. For example, institutions may not be able to afford enough iPods for all their students. In addition, costs related to theft, loss and unintentional damage may occur due to the iPod's small size, portability and social value (Liu et al., in press). Finally, potentially costly technical support and compensation for instructional technologists were also noted in the literature.

Smart Phones. Cell phone and specifically smart phone ownership has increased dramatically in recent years. Interestingly, according to Hill (2009, p. 23), “the accessibility of these devices appeared to cross all income levels, thereby making it a cheaper technological option than individual computer ownership.” Therefore, even educational institutions with funding issues or students of low socioeconomic status can integrate technology at a relatively low cost. Such institutions might consider adopting a bring your own device (BYOD) or bring your own technology (BYOT) program in which most students supply their own device and the institution provides devices only for those who cannot afford to do so. Another benefit of this low cost technology option is that it appears to level the playing field by addressing the digital divide, that is to say, the gap between those who have access to the Internet and those who do not (Hill, 2009).

Nevertheless, the literature suggested that smart phones may not be the first choice among students and educational institutions. Stockwell (2007) reported that when given a choice between a personal computer (PC) and a mobile phone platform, university-level English as Foreign Language (EFL) students in this small-scale study clearly preferred the PC platform for learning vocabulary. Among the reasons cited include the small screen size and cost involved with using a mobile phone to access the Internet. Nevertheless, as smartphone technology improves and screen sizes increase and flat rate data packages become more common, these arguments may become a moot point. In contrast, the mobile phone platform was preferable when students did not have easy access to a computer or wanted the ability to study anytime or anywhere. Therefore, Stockwell (2007) emphasized the importance of providing choices for student learners. In addition, many educational institutions discourage or outright ban the use of mobile

phone and smart phone technology in the classroom. According to a study conducted by Common Sense Media Group (2011), 69% of all schools prohibit the use of cell phones during the school day. Nevertheless, this does not keep cell phones out of school. Students continue to bring them to school and use them.

Two studies conducted outside of the United States, showed that mobile phones and smartphones can enhance student learning both in and out of the classroom. The first study by Sandberg, Maris, and de Geus (2011) was conducted in the Netherlands with fifth grade students who were learning English. Results from the study indicated that the use of mobile learning technology itself does not necessarily improve learning. Instead, it is the students' motivation to spend extra time using the technology outside of class that makes the difference. Therefore, these researchers concluded that formal school learning can be augmented by learning in an informal context outside of school (Sandberg, Maris, & de Geus, 2011).

Another study conducted by Cochrane and Bateman (2010) examined the benefits of using mobile Web 2.0 and wireless mobile devices (WMDs) including Third Generation (3G) smartphones in various educational contexts at the university level. Course lecturers who participated in the study were instructed in and shared strategies for how to use Web 2.0 technologies for their course, and then implemented them with volunteering students from their courses. Three specific benefits were noted as a result of this study. First was the use of the built-in microphone included on most models of smartphones. Students can record audio, including speech or sounds, and upload it for use in audio blogs or podcasts or any other Web 2.0 site that supports audio. Second, the built-in camera feature, capable of capturing still images and video, was cited as useful

for recording events, interviews, and reflections which can later be shared on sites such as YouTube. Finally, students could practice various communication skills via smartphone by using a micro blogging site such as Twitter or social networking sites such as Vox or Ning, which support direct uploads from mobile devices and provide small-screen formatted versions of their sites for mobile viewing (Cochrane & Bateman, 2010). Cochrane and Bateman (2011) acknowledge that integrating these technologies takes a considerable amount of time and requires a paradigm shift on the part of instructors. Likewise, students also required time to learn to use these technologies for educational purposes. Therefore, a carefully planned and scaffolded approach is required when integrating smartphone and Web 2.0 technologies.

Tablet Technology/iPad. To date, there has been a dearth of research studies on tablet technology such as the iPad and ESL or second language acquisition. However, Meurant (2010) argued that ubiquitous language learning is possible when students are provided, on enrollment, with a Wi-Fi 3G enabled iPad on which providers installed, maintained and updated E-texts, and content creation and consumption apps. He noted 12 advantages to using the the iPad in the ESL classroom including simplicity of use, portability, ability to make use of E-texts, networking and collaborating opportunities, affordability of applications which are ideally pre-installed prior to student use, and a reduced risk of security problems such as malware and viruses. He further underscored the superiority of the iPad by noting the limitations of fixed computer labs and smart phones.

The numerous Applications (apps) are often touted as the iPad's main feature. The App Store available on iPad features education collections including a section on

ESL which currently offers 46 apps (free or low cost) for reading, vocabulary and grammar, speaking and listening, and dictionaries. Demski (2011) also noted several apps that are particularly useful for ELL students such as Dictionary.com Dictionary and Thesaurus, iTranslate, Keynote, Kindle e-reader, and StoryKit. However, Meurant (2011) addressed a gap in current app offerings by proposing a yet unrealized iPad app. This app would allow an ESL student to enter a base verb and choose various display options such as the verb in various tenses (simple, continuous, perfect continuous, and perfect), voices (active or passive), or mood of the verb (declarative, interrogative, imperative, or subjunctive). In addition, a dictionary could be added to display the meaning. Further choices could include the desired number, person, or gender in which to display the verb.

Summary

This literature review began with a summary of the immigrant and international student populations of the United States. These primarily non-English speaking populations contribute to the increasing number of adults enrolled in ESL programs throughout the United States. The research suggests that technology may be one way to improve these programs. The next section examined the various ways technology is currently being incorporated into post-secondary ESL programs in the United States and around the world. Numerous benefits and drawbacks of each type of technology were also reviewed. The next chapter provides an overview of the research questions that guided this study and the methodology used.

CHAPTER III

Introduction

This exploratory study using quantitative and qualitative data was done to determine what educational technology is currently being used by community college English as a Second Language (ESL) instructors in the state of Ohio and at what level, according to the substitution, augmentation, modification, redefinition (SAMR) model, the technology was being integrated in ESL community college classrooms in Ohio. Data were initially collected using a survey and subsequently confirmed through one-on-one interviews. This chapter outlines the research methodology used in this study to answer these research questions.

Research Questions

The overall purpose of this study was to better understand what educational technology was being used in Ohio's community college ESL classrooms and to what degree. There were two basic research questions addressed in this study:

Research Question 1. What educational technology is currently being used by ESL instructors at the community college level in Ohio?

Research Question 2. How is technology currently being used in ESL classrooms by community college instructors?

Design

Because this study involved instructors' use of technology, it seemed logical to use technology to obtain my data rather than traditional mail or telephone procedures. According to Greenlaw and Brown-Welty (2009), the Internet is increasingly being used for research purposes and is quickly becoming the leading method of surveying individuals. Therefore, the methodology selected for this multiple case study was a survey research design. Specifically, I used a cross-sectional survey design which provided quantitative demographic data as well as data about current practices regarding technology use and/or integration by ESL instructors at Ohio community colleges. Qualitative one-on-one interviews using open-ended questions served two purposes in this study. First, they confirmed the data gathered in the survey. Second, they provided additional data related to the perceived advantages and disadvantages of using technology in the ESL community college classroom and revealed areas for potential growth in this setting.

Survey methodology was selected because it is an inexpensive, quick, and convenient way to collect data (Hunter, 2012). A survey approach expedites contact of participants located over a large geographical area, such as Ohio's community college instructors. After much consideration, I elected to disseminate the survey via email; however, some paper copies were used with local survey respondents. There are numerous advantages and disadvantages to online surveys for researchers. Advantages include lower costs, quicker dissemination and response times, immediate access to data in electronic form, reduction of data-entry errors, ability to download data into a variety of formats compatible with SPSS, increased pool of study participants, and the ability to

easily send reminder emails to non-respondents (Alessi & Martin, 2010; Hunter, 2012). However, some disadvantages exist. These include lower response rates, questionable representativeness of the general population because not all potential respondents may be computer-literate, inability to control responding population because the survey may be passed on to others, and the possibility of multiple submissions by the same respondent (Hunter, 2012; Reitz & Anderson, 2013). There are also advantages and disadvantages for survey respondents. Advantages include minimal effort required to access and send the survey and the ability to access the survey at a convenient time and place (Hunter, 2012). Additionally, some studies cited online anonymity as an advantage because it may produce more honest answers and lower the likelihood of giving socially accepted responses (Heiervang & Goodman, 2011; Hunter, 2012). Additional disadvantages include technophobia and the lack of technical skills needed to complete an online survey (Hunter, 2012).

In order to overcome reported disadvantages of online surveys, researchers have suggested several possible solutions. Greenlaw and Brown-Welty (2009) found that a mixed mode design in which both web-based and paper-based surveys are utilized yielded the most responses from study participants. Hunter (2012) has also suggested several possibilities. In order to maximize response rates and minimize response bias, researchers should carefully target survey recipients and explain why they have been chosen and the value of their response. When possible, potential participants should be contacted in-person and in advance of survey distribution. In addition, the researcher can use alternative contact strategies such as posters, pre-notice, and newsletter articles to increase knowledge of and interest in the survey. The use of snowballing can be used but

care should be taken to ensure that respondents meet inclusion criteria. Finally, the researcher should ensure that accessing the survey is as simple and convenient as possible. In order to improve data quality, the survey should be clear and easy to read without unneeded graphics or pop-ups. The response box for any open-ended questions should be as large as the anticipated response length. A final suggestion regarding question position was also given. In order to limit partial response rate, demographic questions should appear at the end of the survey.

In order to increase the credibility of research findings, Merriam (2009) suggests using multiple methods of data collection. In this study, survey respondents were invited to participate in a follow-up focus group interview. A main benefit to conducting a focus group interview is the interaction that occurs among those interviewed; however, the researcher should ensure that no one individual dominates the conversation thereby skewing the data (Creswell, 2008). Unfortunately, due to the geographic distances and the varied teaching schedules of the volunteers, a mutually agreeable time and location was not possible. Instead, the researcher chose to conduct one-on-one interviews. This turned out to be an advantage because as Creswell (2008) observed, interviews tend to have overall high response rates due to the fact that they are scheduled in advance and most participants feel obligated to complete them.

Sample

Currently in the state of Ohio, there are 23 community and technical colleges; however, not all of these colleges offer ESL courses. For the purposes of this study, only campuses with ESL programs were selected. One of these colleges has multiple

campuses so all campuses were invited to participate. To protect anonymity, the nine community college campuses with ESL programs in Ohio will be referred to using the pseudonyms: Campus 1, 2, 3, 4, 5, 6, 7, 8, 9. Once the campuses were identified, ESL instructors from six of Ohio's community colleges were invited to participate in this study. In an effort to get the most responses possible, the entire population was used as the sample. This provided a representative sample of all full-time, part-time, and adjunct faculty from all community college campuses with ESL programs. It is important to note that there is no typical community college ESL instructor. Although all community college ESL instructors have a minimum of a Master's Degree in ESL or a related field, that is where the similarities end. For example, not all ESL instructors are native English speakers. Moreover, community college ESL instructors come from a variety of personal and professional backgrounds and have varying amounts of teaching experience in ESL and/or other fields.

Procedures

As per university policy, prior to beginning this research study, a Human Subjects Review Board (HSRB) application was submitted in 2013. Approval to conduct the study was granted (see Appendix A), the committee was convened, and the research began.

After the community colleges that offered ESL programs in Ohio were identified and verified, I contacted the department chairs at each community college campus by phone or email. I explained the purpose of the study and requested assistance in distributing the survey instruments to ESL faculty at each campus. In order to keep

faculty members' emails private, all department chairs instructed me to send them the survey and they would distribute it to their faculty members via email.

The survey instrument (see Appendix B), which consisted of several parts, included the following: a letter of introduction, a demographic survey, a guidance sheet for completing the technology survey, a SAMR flowchart, the technology survey, and a copy of the focus group questions. The demographics survey, labeled part B, consisted of four questions that asked respondents to provide information regarding their gender, years of experience teaching community college ESL, employment status, and campus(es) where they taught ESL. The technology survey, labeled part E, required survey respondents to complete an Excel spreadsheet to indicate what technology the instructor currently uses in his or her ESL course, how it is used according to the substitution, augmentation, modification, redefinition (SAMR) model, who is using the technology, and where it is being used. The results from parts B and E were analyzed and the data was summarized using tables. Additional surveys were distributed during the Summer and Fall semesters of 2014.

After survey data collection was completed in the early fall of 2014, I contacted the eight survey respondents who indicated a willingness to participate in the focus group interviews by email and phone. Two did not return my calls or emails. After contacting the remaining six, it became quickly apparent that the geographic distance and the varied teaching schedules of the ESL instructors would make conducting a focus group interview impossible. As a result, individual one-on-one interviews were scheduled with each participant. Before each interview, informed consent form were signed by the participant and researcher (See Appendix C). A copy of the interview protocol can be

found in Appendix D. All interviews were transcribed and analyzed for common themes. Member checking of interviews was done to ensure accuracy.

Analysis of Data

I calculated descriptive statistics on the survey data and created tables for their presentation. If any information was unclear on the survey, the respondent was contacted and interviewed to obtain needed information. Participants in the one-on-one interviews were asked the same qualitative questions, using a semi-structured format. I prepared transcripts of the interview data and analyzed them for themes that would help answer the research questions.

Limitations

There are three main limitations in this study. First, the results may not be generalizable outside the state of Ohio. This study is only a snapshot of current technology practices by ESL instructors in community colleges in Ohio. This study is also dependent upon the respondents completing the surveys accurately and honestly. Some respondents may have over-estimated their technology use or incorrectly identified their level of technology integration according to the SAMR model. Finally, the low response rate to the survey may not accurately reflect the actual use and integration of technology in Ohio's community college ESL programs.

Summary

This chapter presented the methods used to study current technology use and/or integration practices of community college ESL instructors in Ohio. A quantitative

survey was given to all ESL community college instructors. A survey research design and quantitative methodologies were used to analyze survey and interview data. The SAMR model was used to identify the level of technology integration for each ESL instructor. Chapter IV presents the statistical results and analysis of these data and Chapter V discusses conclusions and further recommendations for research.

CHAPTER IV

Introduction

As stated in Chapter I, the purpose of this study was to explore what educational technology is currently being used by instructors in ESL classrooms at the community college level. This chapter presents the results of the survey given to ESL community college instructors. It includes the demographic data collected from the survey as well as data regarding what technology is currently being used by community college ESL instructors, at what level of the SAMR model each of these technologies are being used, who is using the technology, and where. In addition, findings from the qualitative one-to-one interviews that were conducted will be presented.

Characteristics of the Sample

The sample consisted of 86 ESL instructors who worked in nine community college campuses in Ohio. Initial contact was made by contacting the department chair at each community college campus by phone. During these phone conversations, the researcher introduced the study and asked the department chair to distribute the survey to their ESL faculty members. All department chairs were receptive to participating in the study. However, several department chairs cited concerns that there might be a low response rate due to their respective faculty's busy teaching schedules. For this reason, the surveys were distributed during two academic terms: Spring 2014 and Fall 2014. In addition, due to privacy concerns, department heads would not release email addresses of their faculty members. Instead, the survey documents were sent to the department chair who then forwarded them to the faculty members at their campus. Additional survey

responses were obtained through the researcher's affiliations with ESL related committees and Ohio TESOL.

Sixteen Community College ESL instructors responded to the survey for a response rate of 18.6%. The survey response rate might have been higher; however, many potential survey respondents stated that they "did not use technology" or "were not good with technology" and did not want to fill out a survey. Despite reassurances that they could still complete the survey, even if they only used email or a word processing program to teach their community college ESL class, none of those potential participants chose to return a survey.

Demographics of the Participants

In Part B of the survey documents, respondents were asked to complete four demographic questions regarding their gender, years of experience teaching ESL students at the community college level, employment status, and the institution at which the respondent currently worked. Table 1 summarizes the data collected from each participant. As seen in Table 1, the majority of respondents were female. Only 12.5% identified themselves as male. Just over half of the survey respondents self-identified as either the least experienced, with between zero through five years of experience in teaching community college level ESL students, or the most experienced, with 21 or more years of experience in teaching community college level ESL students. 43% of respondents could be described as mid-career ESL instructors with between six through twenty years of experience. Half of the respondents reported that they were employed as adjunct faculty at their institution. The rest were mainly full-time instructors, with only one respondent self-identifying as part-time. Out of the nine campuses with ESL

programs that were invited to take part in the survey, only seven campuses returned survey responses despite repeated attempts to encourage participation in the study. The greatest number of responses came from Campuses Four and Five, probably due to the fact I was a former adjunct instructor at these campuses.

Table 1

Demographics of participants: Gender, Experience, Employment Status, and Number of Survey Responses by Institution

Variable	<i>f</i>	%
Gender (<i>n</i> =16)		
Female	14	87.5%
Male	2	12.5%
Years of Experience (<i>n</i> =16)		
0-5 years	5	31.2%
6-10 years	2	12.5%
11-15 years	3	18.8%
16-20 years	2	12.5%
21+ years	4	25%
Employment Status (<i>n</i> =16)		
Adjunct faculty	8	50%
Full-time faculty	7	43.8%
Part time faculty	1	6.3%

Survey Responses by Institution ($n=16$)

Campus 1	0	0%
Campus 2	3	18.8%
Campus 3	1	6.3%
Campus 4	3	18.8%
Campus 5	6	37.5%
Campus 6	1	6.3%
Campus 7	1	6.3%
Campus 8	1	6.3%
Campus 9	0	0%

Note: Percentages may not equal 100% due to rounding.

Interviews

Out of the 16 survey respondents, eight stated that they would be willing to participate in a focus group interview. The purpose of the focus group interview was to clarify and expand upon the data collected on the survey documents. Unfortunately, due to the geographic distances, as well as the conflicting teaching schedules of the participants, a focus group interview was not possible. Even though technologies such as Go To Meeting and Web Ex could have mitigated these circumstances, a common time could not be established to conduct the focus group interview. Instead, one-on-one interviews were conducted during a two-week period in November 2014. Interviews were set up and conducted at a mutually convenient time and place for the respondent and the researcher. Respondents A, B and F were interviewed face-to-face at their

institution. Respondent C was interviewed by telephone due to geographical distance. Respondents D and E were interviewed separately while at the November 2014 Ohio TESOL conference. Prior to each interview, an informed consent form (See Appendix C) was obtained from each participant. A copy was retained by the researcher and a copy was given to the participant. All interviews were recorded using a Sony Digital IC Recorder and later transcribed using Dragon Naturally Speaking 11.5 dictation software. Due to the imperfect nature of the software, the researcher consequently verified and corrected the transcription as needed.

Research Questions

This study has been designed to investigate how technology is being used and integrated into community college ESL courses by community college ESL instructors in Ohio. Given the purpose, two specific research questions guided this investigation:

- 1) What educational technology is currently being used by ESL instructors at the community college level in Ohio?
- 2) How is technology currently being used in ESL classrooms by community college instructors?

Research Question One

Research question one asked: What educational technology is currently being used by ESL instructors at the community college level in Ohio? To answer this question, data were gathered through a technology survey and from question one of the one-to-one interview. Through the analysis of instructor reported quantitative and qualitative data, a snapshot of instructional practices was ascertained.

Part E of the survey was designed to determine what technology was currently being used by community college instructors in their ESL courses. Table 2 summarizes the 29 different types of technology as reported by Ohio's participating community college ESL instructors. Because one ESL instructor completed only the demographic questions, the total number of Ohio community college ESL instructors that responded to the technology section of the survey was 15. As shown by Table 2, the majority of ESL instructors in Ohio's community colleges use email, word processing programs, presentation software such as PowerPoint or Keynote, ESL and non-ESL specific websites, as well as text book software and websites to teach their ESL courses. No community college ESL course instructors reported using web quests, non-ESL apps, or iPods to teach their course.

Table 2

Technology used by community college ESL instructors in their ESL courses.

Variable	<i>f</i>	%
Email (<i>n</i> =15)	14	93%
Word processing (<i>n</i> =15)	14	93%
ESL specific websites (<i>n</i> =15)	12	80%
Non-ESL specific websites (<i>n</i> =15)	10	67%
PowerPoint/Keynote (<i>n</i> =15)	10	67%
Textbook software (<i>n</i> =15)	10	67%
Textbook website (<i>n</i> =15)	8	53%
Google (other)(<i>n</i> =15)	5	33%
Interactive whiteboard (<i>n</i> =15)	4	27%

Blackboard (<i>n</i> =15)	2	13%
Blog (<i>n</i> =15)	2	13%
Google Drive (<i>n</i> =15)	2	13%
Podcast (<i>n</i> =15)	2	13%
Social network site (<i>n</i> =15)	2	13%
Tablet/E-reader (<i>n</i> =15)	2	13%
YouTube (<i>n</i> =15)	2	13%
Adobe Presenter (<i>n</i> =15)	1	7%
Audacity (<i>n</i> =15)	1	7%
Document camera (<i>n</i> =15)	1	7%
ESL app(s) (<i>n</i> =15)	1	7%
Google Voice (<i>n</i> =15)	1	7%
i-clickers (<i>n</i> =15)	1	7%
Mobile phone/smart phone (<i>n</i> =15)	1	7%
Quizlet (<i>n</i> =15)	1	7%
Schoolnotes.com (<i>n</i> =15)	1	7%
Soft Chalk (<i>n</i> =15)	1	7%
Sony Soloist (<i>n</i> =15)	1	7%
Sony Virtuoso Major (<i>n</i> =15)	1	7%
Voice Thread (<i>n</i> =15)	1	7%
Wiki (<i>n</i> =15)	1	7%
Wikipedia (<i>n</i> =15)	1	7%

Survey respondents were encouraged to name and describe the specific types of technology they used to teach their community college ESL course(s). Not all respondents did so. However, additional data were collected by those who chose to explain in the comments section of the technology survey. One instructor reported using word processing so that students could type their essays. PowerPoint/Keynote was used for timed pronunciation tests as well as for student presentations. Examples of ESL specific websites included Dave's ESL café, Randall's ESL Cyber Listening Lab, ManyThings.org, Sounds of Speech (UIowa), and Sounds of English. Examples of non-ESL specific websites included NPR and Google (search engine). In addition, one instructor used unnamed websites to present news items to students. The same instructor stated that she used music videos on YouTube as examples of specific grammar structures and Quizlet so that students could make flashcards. Textbook software included Focus on Grammar and Northstar Listening and Speaking CDs. Textbook websites being used to teach ESL courses included Azar's Fundamentals of Grammar and Essential Academic Vocabulary. According to this survey, tablet technology was rarely used in the community college ESL classroom; however, one instructor did report that she used an iPad to show a five minute clip using Netflix as well as the Clear Speech app. A document camera was used by the instructor to present lessons and by students to present their work to the class. Adobe Presenter was used for online spelling lists. Recording programs and websites used in Ohio's community college ESL classroom included Audacity, Sony Soloist, Sony Virtuoso Major, and Voice Thread.

In order to confirm these findings, as well as to gain additional information on the technology being used in Ohio's community college ESL classrooms, question one of the

one-to-one interview asked: How are you using technology with ESL students in your class? The most common answer to this question was the learning management system, Blackboard; however, it is used differently by each instructor who mentioned it. For example, one way in which respondent A uses Blackboard is as a paper saving measure: “I hand out, very, very few worksheets...” and “...I won’t hand out a syllabus.”

Blackboard is also very practical for this instructor because many of her students do not have printers at home. Blackboard solves this problem because students can post assignments online and avoid having to turn in a paper copy. Respondent A also uses Blackboard to post practice exercises for students to complete as well as having students post their completed assignments on the site. For example, Sony audio recording software and Vocaroo are used to record student speaking assignments in Respondent A’s class and then turned in on the Blackboard site. Finally, Respondent A uses Blackboard to post grades. Respondent E stated that she uses Blackboard in a different way: to post supplementary class materials for students. Respondent F mainly used Blackboard so that students could take their mid-term online. “I did the quiz in Blackboard so they could just go in there and open it up and take the test. It was scored immediately and put in Grade Center.” However, she prefers to use Respondus in lieu of Blackboard. “It’s a lot easier to use than the testing program in Blackboard. The one in Blackboard is really tedious. But if you do it in Respondus, it’s so easy and you just send it to your Blackboard and it is there.”

Games are another popular way community college ESL instructors incorporate technology into their ESL classrooms. Respondent E likes to use premade games on websites because they are easy to find and use in the ESL classroom. “You don’t have to

reinvent the wheel. You can find things that are already out there,” she explained. Her students really like games so she sometimes gives them games to do at home. Similarly, Respondent F uses premade online interactive games such as Wheel of Fortune and \$10,000 Pyramid with her ESL students during class to introduce friendly competition into her classroom. “It is something you can do as a lighthearted review to make it fun and interesting.” Respondent C uses games in a different way in his ESL classroom. He integrates a game called “Gone Home” an interactive exploration simulator, as a gateway to descriptive writing. “We used to write about your bedroom or your kitchen, or something like that. So instead, their first assignment is in the game. They just walk around the house, get familiar with the house and then they pick a room in the house and describe it.” Similarly, when it comes time to do a character essay or a biographical essay, students pick a character from the game. “So it’s just a more interactive way, I guess, to do a writing assignment.”

Community College computer labs were another cited technology resource by the ESL instructors interviewed, especially by those instructors who teach ESL writing. For example, students in Respondent F’s ESL class spend time during class to type journal entries which then become part of a writing portfolio. They also used community college computer labs to write a letter to the editor on a topic of interest to them. These letters were submitted online to the editor and a few of those students had their writing printed in the local paper. However, computer labs are not always available at convenient times or locations. Respondent D works around this by allowing students to bring laptops or tablets to his class. Students are occasionally given “lab time” to finish writing assignments or to begin ones that are due later in the week.

Another common use of technology in the community college ESL classroom is the integration of a projection device which may or may not include online resources. One example is the use of Smart Boards. Respondent C uses his Smart Board to watch TED Talks in his speaking and listening course while Respondent D uses his as a projector to display his daily agenda and assignments and to model writing by typing in Microsoft Word in front of the entire class. Additionally, both Respondents E and F mentioned using YouTube videos in class via a projection device. Respondent F elaborated that she usually starts class with a YouTube video to either introduce or reinforce the topic of the day because “it makes it more real than just reading it from a book.” Finally, Respondent F noted that she often uses a projector to display Word documents. She types examples of student writing errors, projects them onto a screen, and works with the students to correct the errors.

Additional examples of technology use in the community college ESL classroom include online resources such as Google Docs and websites. Respondent C shared that since his community college used Gmail for email accounts, he chose to do everything with Google Docs because it is easier. Through Google Docs, students share their writing assignments and the instructor can make comments on student work online. Students can see the comments right away and student and instructor can even have chats while they are writing. Websites were also cited as a way to enhance classroom instruction. Respondent B noted that she used websites so students could “dig deeper” into classroom topics. Respondents A, B and D stated that websites were useful for practice drills both in and out of the classroom setting. They could also be used for

additional practice or enrichment. One example of a free ESL website noted by Respondent D was eleaston.com.

The final source of technology noted by ESL instructors were textbook resources. Respondent E shared that many of the textbooks that her community college uses have CDs with nice activities. Respondent F enjoys using the Focus on Grammar program because it is a way to “do some different kind of learning rather than just sitting and listening;” however, she does not regularly have access to a room with computers.

Table 3 summarizes who is using the technology in the community college ESL classroom: the instructor only, students only, or both instructor and students. Community college ESL instructors reported 31 total types of technology that are being used to teach ESL courses. Nearly half (45%) of the 31 reported types of technology are being used by both the instructor and students. Another 13% are predominantly used by both accounting for just over half (58%) of the total types of technology. Only five types of technology (16%) are used only by students and four types (13%) are used only by the instructor. The remaining 10% are used in various combinations of instructor only, student only, and both.

Table 3

Teacher reported explanation of who uses technology in the community college ESL classroom.

Variable	instructor	students	both
Adobe Presenter ($n=1$)	0	0	1
Audacity ($n=1$)	1	0	0
Blackboard ($n=2$)	0	0	2
Blog ($n=2$)	0	0	2

Document camera ($n=1$)	0	0	1
Email ($n=14$)	0	0	14
ESL app(s) ($n=1$)	0	1	0
ESL specific websites ($n=12$)	2	2	8
Google Drive ($n=2$)	0	0	2
Google (other)($n=5$)	0	1	4
Google Voice ($n=1$)	0	0	1
i-clickers ($n=1$)	0	1	0
Interactive whiteboard ($n=4$)	2	0	2
Mobile phone/smart phone ($n=1$)	0	0	1
Non-ESL specific websites ($n=10$)	2	0	8
Podcast ($n=2$)	0	0	2
PowerPoint/Keynote ($n=10$)	4	0	6
Quizlet ($n=1$)	0	1	0
Schoolnotes.com ($n=1$)	0	0	1
Social network site ($n=2$)	0	0	2
Soft Chalk ($n=1$)	1	0	0
Sony Soloist ($n=1$)	0	1	0
Sony Virtuoso Major ($n=1$)	0	0	1
Tablet/E-reader ($n=2$)	2	0	0
Textbook software ($n=10$)	3	3	4
Textbook website ($n=8$)	1	2	5
Wiki ($n=1$)	0	1	0

Wikipedia ($n=1$)	1	0	0
Word processing ($n=14$)	2	1	11
Voice Thread ($n=1$)	0	0	1
YouTube ($n=2$)	0	0	2

Table 4 summarizes community college ESL instructors' explanation of where technology is being used in the ESL classroom, outside of the ESL classroom, or in both places. There were 10 types of technology that community college ESL instructors reported as being used in class only. These included Blackboard, wikis, Wikipedia, recording software/websites, college owned equipment such as a document camera and i-Clickers, and an instructor owned iPad and apps. Eight forms of technology were reported as being used both in and out of the ESL classroom: Soft Chalk, Schoolnotes.com, Quizlet, Podcastss, Google Voice and Drive, blogs. Presenter. Only two forms of technology were reported to be used outside class only: Audacity and a mobile phone/Smart phone. Word processing programs, textbook software and websites and Google (other) were used predominantly both in and out of class but were reported as used in class only and rarely out of class. The interactive whiteboard was predominantly used in class. All other forms of technology such as Email, ESL specific and non-specific websites, Power point, social networking sites and YouTube had responses in two or more categories.

Table 4

Instructor reported explanation of where technology is used.

Variable	in class	outside class	both
Adobe Presenter ($n=1$)	0	0	1

Audacity (<i>n</i> =1)	0	1	0
Blackboard (<i>n</i> =2)	2	0	0
Blog (<i>n</i> =2)	0	0	2
Document camera (<i>n</i> =1)	1	0	0
Email (<i>n</i> =14)	0	7	7
ESL app(s) (<i>n</i> =1)	1	0	0
ESL specific websites (<i>n</i> =12)	4	2	6
Google Drive (<i>n</i> =2)	0	0	2
Google (other)(<i>n</i> =5)	1	1	3
Google Voice (<i>n</i> =1)	0	0	1
i-clickers (<i>n</i> =1)	1	0	0
Interactive whiteboard (<i>n</i> =4)	3	0	1
Mobile phone/smart phone (<i>n</i> =1)	0	1	0
Non-ESL specific websites (<i>n</i> =10)	4	1	5
Podcast (<i>n</i> =2)	0	0	2
PowerPoint/Keynote (<i>n</i> =10)	6	0	4
Quizlet (<i>n</i> =1)	0	0	1
Schoolnotes.com (<i>n</i> =1)	0	0	1
Social network site (<i>n</i> =2)	0	1	1
Soft Chalk (<i>n</i> =1)	0	0	1
Sony Soloist (<i>n</i> =1)	1	0	0
Sony Virtuoso Major (<i>n</i> =1)	1	0	0
Tablet/E-reader (<i>n</i> =2)	2	0	0

Textbook software ($n=10$)	2	0	8
Textbook website ($n=8$)	1	0	8
Voice Thread ($n=1$)	1	0	0
wiki ($n=1$)	1	0	0
Wikipedia ($n=1$)	1	0	0
Word processing ($n=14$)	1	1	12
YouTube ($n=2$)	1	0	1

Perceived Benefits of Using Technology

Question two of the one-to-one interview asked participants what benefits they have discovered as a result of using technology in the community college ESL classroom. Two major themes emerged including increased efficiency and student motivation and engagement. Participants A, B, C and E elaborated on how technology makes their community college ESL classroom more efficient. According to Participant C, technology makes his ESL classroom more efficient because he does not have to handle physical papers anymore because student assignments are collected online through Google Docs. Because the work is online, there is less clutter and less fear of losing student assignments. In addition, he is also able to give students immediate feedback on their writing by using Google Docs. He can interact with them as they are writing instead of waiting for them to turn in a draft of their work. Conversely, Participant A noted that technology such as Blackboard, allows students to access homework assignments from home so that they are able to come to class prepared after an absence. They no longer have to wait until they come back to find out what they missed or rely on someone else for the homework. She also remarked that grammar software can be used by students to

practice grammar difficulties without the instructor having to create interactive activities. Finally, technology also helps her be more efficient in her speaking and listening classes. With larger classes, she was not able to listen to individual students speak on numerous topics. With technology, students can record at the same time. “Within less than a half hour, I can have every student recorded.” Participant B explained that through translation tools on the Internet, her students can have instant access to translations of words and concepts thus freeing her to teach content instead of explain vocabulary. Participant E reported that she no longer has to create activities over and over again due to the availability of online resources.

Both participants E and F discussed improved student motivation and engagement of their ESL students due to their use of technology. Participant F, who teaches some evening ESL classes, remarked that the technology helps her students stay engaged, especially those who have worked all day and are tired when they come to class. “It’s not so tedious just listening to me or just reading from a book. It gives the class more variety in the way they are getting information.” Participant E shared that she is able to show her students real-life examples of how grammatical structures are used through the use of YouTube music videos. “For example, the other day, I taught unreal conditional and we used Beyoncé’s ‘If I Were a Boy...’ and they (the students) thought oh, we really do use it in real life...”

Perceived Problems Encountered With Technology

Question three of the interview questions asked participants to discuss problems that they have encountered in using technology with their community college ESL students. The main theme that emerged was the unreliability of technology. Five out of

the six instructors interviewed cited unreliable technology as a barrier to successful technology use in the community college ESL classroom. Unreliable technology could be further subdivided into two types of issues: problems with hardware or Internet connectivity. Participants A, B, D, and F cited various hardware problems that interfered with successful technology use. Participant B noted that her personal device, an iPad, would not work with the college's equipment which hindered her ability to use the technology in her ESL classroom. Participant F expressed frustration with getting her community college's computers to play sound from a YouTube video she was trying to show her class. She explained "And it was really exasperating. And I kept trying everything... One minute it is working then the next minute, when you go to play it and it's not!" She also encountered problems with saving students' work at her community college. Students were not allowed to save work on college computers and did not have a flash drive so she had to assist students in emailing their work to themselves. Participant A noted problems with getting her students to purchase the correct microphone and headphones for her class. Most students had headphones with only one plug that were compatible with tablets and phones. These did not work with the computers at her institution which required a device with two plugs. Finally, participant D noted that the entire college system was unpredictable at his institution. "Suddenly everything just went down," he explained. This forced him to always have a plan B anytime he planned to use technology during his lesson. Finally, both participants B and D discussed problems with the Internet connection at their institutions. Participant B noted that the system at her institution cannot always handle all the computer/Internet traffic. Participant C further noted that because of the rural location of his community college, he barely has cell

phone access and the Internet often goes down. When asked how and if he overcame this problem he stated, “Yeah, we get through the class but we just use the Internet so much that you can’t really... it’s hard to overcome not having Internet.”

Another problem encountered by community college ESL instructors when attempting to use technology was time. The main complaint of these instructors was the amount of class time that was lost due to malfunctioning technology or Internet non-connectivity. However, this was not the only time-related complaint. Instructor E felt that due to her teaching load and college-related responsibilities, she did not have enough time to figure out how to increase her use of technology in her ESL classroom. Nevertheless, she expressed optimism that this situation would change in the near future: “I’m hoping next semester, I don’t have as heavy a schedule. I’m hoping I can actually sit down and develop more activities...”

The final theme to emerge from this question involved student-related issues with technology. Although many ESL students have experience in using technology, this does not mean that they know how to use it appropriately in the classroom. Participant A noted that “these are all students that are far better with Facebook and Skype and all these other things, but when we come to do it in the classroom, somehow technology does not apply anymore.” Similarly, participant B remarked that technology can sometimes be a distraction for students in her class. For example, she noted that students were sometimes engaged in off-task behavior such as checking email. However, both participants A and D pointed out that not all ESL students are tech savvy. Participant D shared that he often had to teach the technology along with his course content. In addition, his institution had even set up a special technology class to teach students how to use the technology they

will need in college level courses. On the other extreme, Participant A shared that she had a student drop her class because she used technology.

Technology Utopia

Question four sought to uncover what community college ESL instructors would ideally like to do with technology in their ESL classrooms barring any kind of financial constraints. An analysis of the data demonstrated that community college ESL instructors varied in their responses to this question, depending on the current status of technology at their particular college. On one end of the spectrum, some instructors yearn for basic technology. At the most basic level, Participant C, who teaches in a rural area, wanted reliable Internet service. Similarly, Participant B desired universal wi-fi access, not only in the community college classroom but also in the community as well. She stated, “I would love to work in a community where the community itself has free wi-fi... the learning would be incredible because then they (the students) have the access.”

Besides reliable access to the Internet, the data showed that some community college ESL instructors lacked the equipment they desired. Participant E compared her college’s technology equipment to what she perceived was available at the K-12 level: “I do wish they could all have access to a laptop or an iPad as they are doing in so many schools.” Participant F also desired regular access to computers at every class session. Her assigned classroom does not have computers although she can reserve a lab for her students to use. Participant C saw language possibilities through playing games in his ESL classroom. Researchers such as Hahn and Bartel (2014, p. 197) describe gaming as

“an innovative, active teaching strategy that can engage and motivate students, encourage critical thinking, and stimulate learning.” Participant C envisioned an ESL class where students had a game system like PlayStation 4 and games such as the Sims or Minecraft through which they could learn and practice language. He also visualized an ESL classroom with multiple projectors and Google Maps in which students could experience a 360 degree view of various locations around the world. Finally, Participant D contemplated using television to improve his students’ language skills. He would like to see his college create a television station so that he could have his ESL students produce shows and create programs that could be viewed in the community.

Finally the data collected from the interviews showed that community college ESL instructors would like to use technology to transform the way they teach and assess their ESL students. One example is the use of online textbooks and materials. Participant A was dissatisfied with the current practice of requiring students to purchase print textbooks produced by commercial institutions. One problem she noted was the expense involved. To remedy this, she would like to see more online textbooks in which students pay only for an access code. Researchers such as Evans and Willinsky (2013) noted many additional potential benefits of using online course materials including the ability to search the text and highlight and annotate as well as providing links to related content and additional relevant resources. Participant A also complained about irrelevant and unusable material for her course in commercially produced text books. “I don’t think as adjunct faculty, or even full-time, that I should be expected to create a whole section of a class.” One suggestion she offered was to have an online repository of instructor developed materials for use in ESL community college courses. Community college ESL

instructors such as Participant D hoped to incorporate more online resources such as blogs, Twitter, and Facebook for ESL writing practice. Participant F wished for a teacher editing resource in which she could drag and drop comments to correct her students' writing instead of having to manually write comments on students' papers.

Research Question Two

Research question two asked: How is technology currently being used in ESL classrooms by community college instructors? To answer this question, survey respondents were asked to indicate for each type of technology used, where their use would fall on Dr. Ruben Puentedura's SAMR model framework. Respondents were provided with two references to facilitate completion of this portion of the technology survey: a SAMR flowchart (see Appendix B) and a link to a YouTube video recorded by Dr. Puentedura in which he explains the SAMR model (retrieved from http://www.youtube.com/watch?v=_QOsz4AaZ2k). Table 5 summarizes the instructors' self-analysis of where their use of each technology falls on the SAMR model.

Table 5

*Instructor reported explanation of how technology is used in ESL classrooms**

Variable	substitution	augmentation	modification	redefinition
Adobe Presenter (<i>n</i> =1)	0	1	0	0
Audacity (<i>n</i> =1)	0	1	0	0
Blackboard (<i>n</i> =2)	1	2	1	0
Blog (<i>n</i> =2)	0	1	0	1
Document camera (<i>n</i> =1)	0	1	0	0
Email (<i>n</i> =14)	9	5	0	1

ESL app(s) ($n=1$)	0	1	0	0
ESL specific websites ($n=12$)	0	11	2	2
Google Drive ($n=2$)	1	1	1	0
Google (other)($n=5$)	2	4	1	0
Google Voice ($n=1$)	0	1	0	0
i-clickers ($n=1$)	0	1	0	0
Interactive whiteboard ($n=4$)	0	4	0	0
Mobile phone/smart phone ($n=1$)	0	1	0	0
Non-ESL specific websites ($n=10$)	1	8	3	1
Podcast ($n=2$)	0	2	0	0
PowerPoint/Keynote ($n=10$)	2	7	1	2
Quizlet ($n=1$)	1	1	0	0
Social network site ($n=2$)	1	2	1	0
Soft Chalk ($n=1$)	1	0	0	0
Sony Soloist ($n=1$)	0	1	0	0
Sony Virtuoso Major ($n=1$)	0	1	0	0
Tablet/E-reader ($n=2$)	0	1	1	0
Textbook software ($n=10$)	2	7	1	0
Textbook website ($n=8$)	3	5	1	0
Voice Thread ($n=1$)	0	1	0	0
Wiki ($n=1$)	1	1	2	0
Wikipedia ($n=1$)	0	1	0	0
Word processing ($n=14$)	8	5	3	0

YouTube ($n=2$)	0	1	0	0
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*Some respondents chose more than one level of the SAMR model to describe how they use technology in the community college ESL classroom.

Conclusion

This chapter provided a comprehensive description of the results obtained from a technology survey that was administered to volunteer community college ESL instructors in the state of Ohio and six individual interviews. The qualitative data obtained from the interviews were analyzed into themes that represented the responses from the participants. The next chapter will present a summary and discussion of the results and provide the reader with a discussion of the implications of the findings as well as suggestions for additional research.

CHAPTER V

Introduction

This chapter begins with a brief review of the methodology used, including the research questions that framed the study. A summary of the results, discussion, limitations of the study, as well as recommendations for ESL professionals and for further study will also be addressed.

Review of the Methodology

This exploratory study, using both qualitative and quantitative data, was done to determine what kinds of technology were being used in Ohio's community college English as a Second Language (ESL) courses and at what level of Puentedura's Substitution Augmentation Modification Redefinition (SAMR) model this technology was being used.

The following research questions were analyzed:

1. What educational technology is currently being used by ESL instructors at the community college level in Ohio?
2. How is technology currently being used in ESL classrooms by community college instructors?

There were nine community college campuses in Ohio that offer ESL courses. Four of those campuses are located in southern Ohio and five are located in northern Ohio. The majority of those community colleges included in this study are located in urban areas while only one campus is located in a rural area.

A two-part survey and one-on-one interviews were used to collect data. The survey was created using Microsoft Word and Excel and consisted of two parts. The first part was used to collect demographic quantitative data about each community college instructor. The second part was used to collect quantitative data regarding each instructor's technology use during the past year and self-reported data on which level of the SAMR model each instructor used each type of technology. A copy of the survey is in Appendix B. Follow up one-on-one interviews were conducted to collect qualitative data about the ESL instructor's experience with using technology in the ESL classroom. A copy of the interview questions is located in Appendix D. I contacted the department head at each of the nine community college campuses to explain the nature of the study and to gain permission to forward the survey to the ESL faculty at each campus. Participants were informed of the purpose of the survey through a letter of introduction. Participants were also asked to sign an informed consent letter before participating in the one-on-one interviews. HSRB approvals were obtained through Ashland University.

The majority of participants were asked to fill out the survey via email while three participants were asked in person. The data were analyzed using descriptive statistics. Instructors who agreed to participate in the one-on-one interviews were contacted by email or phone and a mutually convenient time and place was agreed upon to complete the interviews. All interviews were recorded and transcribed. I analyzed the data for common themes.

16 out of 86 Community College ESL instructors responded to the survey for a response rate of 18.6%. Out of eight instructors who expressed an interest in participating in the one-on-one interviews, six were interviewed.

Summary of Results

The reason an exploratory study was used was due to the fact that there has been very little research done on technology use by community college ESL instructors. The literature is plentiful on technology use by four-year university ESL instructors and even more so for non-ESL elementary and secondary educators. This study is an attempt to contribute to the community college ESL literature.

Demographics

Demographic information regarding study participants can be found in Table 1. Analysis of the data showed that the majority of survey respondents were female and there was a fairly even distribution of respondents who self-identified as either adjunct faculty or full-time faculty. Most of the survey respondents (9 out of 16) tended to be either newer to the field, with five or less years of community college ESL teaching experience or most experienced, with 21 or more years of ESL teaching experience. The rest ranged from six to 20 years of community college ESL teaching experience. The majority of respondents are instructors at campuses with which I was previously affiliated. Two out of the nine campuses invited to take part in the study did not participate.

Technology

Analysis of Table 2 revealed that Ohio's community college ESL instructors are using a variety of technology to teach their ESL courses. The most frequently mentioned forms of technology used in Ohio's community college ESL classrooms included email and word processing. Various websites, presentation software, and textbook software were additional popular choices by the majority of ESL instructors. Although many other

types of technology were mentioned on the survey, only small numbers of instructors reported using them in their ESL courses.

Tables 3 and 4 presented data regarding who is using technology in the community college ESL classroom and where. Based on the analyzed data, the majority of technology is being used by both the instructor and the students in Ohio's community college ESL classrooms. Logically, there are certain types of technology that, due to their nature, tend to be used by only the instructor or only the student. An example of instructor only technology identified in this study included presentation software and devices. Meanwhile, students tended to use technology such as recording programs/software, iClickers, and websites such as Quizlet. The data also showed that certain types of technology tended to dictate where it is primarily used. Technology such as document cameras, iClickers, interactive whiteboards, and some presentation and recording software were used exclusively in class. The remaining identified technology tended to be used both in and out of class.

Based on data gathered from the technology survey, the majority of technology being used in Ohio's community college ESL is used at the two lowest levels of the SAMR model: substitution and augmentation. Very few ESL instructors reported technology use at the modification or redefinition levels.

Discussion

This study expands the limited current research in technology integration in community college ESL programs. The findings in this study confirm similar findings in previous studies that indicate while some technology is being used, many current and

emerging forms of technology are not being adopted by all adult ESL instructors (Fuchs & Akbar, 2013; Lotherington & Jenson, 2011; Warschauer & Law, 2010). This research study established a starting point for understanding what technology is currently being used in Ohio's community college ESL programs and how it is being used in this context.

Research Question One

The responses from the technology survey and question one from the one-on-one interview questions were analyzed to address research question one: What educational technology is currently being used by ESL instructors at the community college level in Ohio? The majority of respondents are using what Moore (2009) referred to as onsite uses of technology, in their courses. Onsite uses entail learning that takes place in the classroom or computer lab in a teacher-led whole group setting which serves to supplement the main curriculum. In this study, the onsite uses that survey respondents reported using included word processing programs, presentation software, websites (ESL and non-ESL related), and textbook related websites and software, interactive whiteboards, iClickers and a document camera. Although these are all acceptable and appropriate uses of educational technology in community college ESL courses, I had hoped to see some more innovative uses of technology reported during this study based on my review of the literature in Chapter II.

Analysis of the survey and one-on-one interview data confirmed that only a few community college ESL instructors are using in their courses what Warschauer and Liaw (2010) refer to as online collaborative writing tools. Examples include weblogs or blogs, wikis, and Google Docs. Numerous researchers (Blackstone, Spiri, & Naganuma, 2007; Lin, Lin and Hsu, 2011; Pinkman, 2005; Sun, 2010; Warschauer & Liaw, 2010) have

reported on the use of blogs in the ESL classroom yet only two survey respondents out of 15 indicated using blogs in their community college ESL courses. Similarly, only two survey respondents reported using either a wiki or Wikipedia. The one-on-one interview uncovered only one example of a community college ESL instructor using Google Docs. Based on the data from this study, online collaborative writing tools remain a largely untapped and underutilized resource in the community college ESL classroom.

Another largely untouched area in technology in community college ESL classrooms is online networking. Online networking includes the use of virtual environments and social networking sites (Warschauer & Liaw, 2010). During the one-on-one interviews, participant C discussed at length his use of *Gone Home*, a first-person interactive story adventure game, to encourage writing in his ESL course. Although this game does take place in a virtual environment, it lacks the interactivity of other virtual environments such as *Second Life* or *the Sims*. This same participant did express a desire to use the *Sims* and *Minecraft*, but as of the time of the interview, he had not. Finally, two survey respondents reported using a social network site but did not elaborate on which sites were used.

The use of multimodal communication (Warschauer & Liaw, 2010), including podcasting, YouTube, Audacity, Sony Soloist and Virtuoso Major, Vocaroo, and Voicethread was reported by a small number of community college ESL instructors that were surveyed or interviewed during this study. However, it appears that the vast majority of these technologies were used to either present audio and/or audiovisual materials to students or to have students create audio files for their teacher. Instructors who participated in this study did not indicate that their students shared their work with a

larger or more global audience. This would indicate an area for future growth when using these types of technologies.

One-to-one computing and mobile computing were mentioned but used by only a few survey participants and one-on-one interview participants in the community college ESL classroom. Two survey respondents reported using smart phones but did not elaborate on their use. During the one-on-one interview, participant D reported that he allowed his students to use tablets or laptops during class during what he referred to as “lab time” to finish or begin new assignments. Participant E noted that she and her students could sometimes have access to laptops and iPads but not on a regular basis. Participant B complained that while she wanted to use her personal iPad in class, it did not always work with her community college’s equipment.

Research Question Two

In order to answer research question two: How is technology currently being used in ESL classrooms by community college instructors? Part two of the technology survey was analyzed to determine at what level of the SAMR model each type of technology is currently being used. Table five summarized the data that was collected during this study. Analysis of the data revealed that community college ESL instructors most often used technology at the augmentation level followed by the substitution level. At both of these levels, the instructors and students are using new technology tools to replace older or non-technology tools with little or no functional improvement. This suggests that the majority of technology used in Ohio’s community college ESL courses may not be being used to its full potential. However, there was some data to show that a limited amount of technology is being used at the modification or redefinition levels. It is

at these two levels that a transformation of student learning occurs. Tasks and activities that previously were impossible or inconceivable are now possible through technology; blogs being a prime example. Ohio's community college ESL instructors are just beginning to realize the potential of technology.

Limitations of the Study

This research was limited to community college ESL programs in Ohio. The overall intent of the study was to investigate what types of technology Ohio's community college ESL instructors are currently using to teach their ESL courses and to determine at what level of the SAMR model the identified technology is being used. The results of this study were not intended for generalization to other populations.

A further limitation of the study was the small number respondents to the survey and participants in the one-to-one interviews. Of the nine community college campuses that offer ESL courses in Ohio, two campuses did not return surveys or participate in the interviews. Ideally, all nine campuses would have contributed data to the research study. The small numbers of community college ESL instructors involved in the sample and the voluntary nature of sample posed additional limitations. Only 16 community college ESL instructors chose to complete and return surveys. One unanticipated reason for such a low response rate can be attributed to the instructors' perceived non-use of technology. Despite reassurances from the researcher that technology use was not a prerequisite for completing a survey, many potential respondents refused to fill out any portion of the survey. Furthermore, based on conversations with potential survey respondents, it seemed that some instructors were reluctant to admit to not using technology in their courses and consequently did not complete the survey. An additional reason cited by

some community college ESL instructors for non-completion of the survey was time constraints due to teaching load or other responsibilities at their respective community college campus. Participation in the one-to-one interviews was also smaller than anticipated. Out of the 16 survey respondents, eight expressed an interest in taking part in the one-on-one interviews. Out of these eight, only six were interviewed. Additional data may have been gathered if all eight had participated.

Although the survey respondents were provided with reference materials such as a SAMR flowchart and a YouTube presentation on the SAMR model, they may not have accurately described at which level they were using each type of technology. In addition, some respondents indicated that they used a particular type of technology at more than one level. This was an unanticipated result.

Recommendations for ESL Professionals

Taking into account the low response rate to the survey, it could be surmised that few of Ohio's community college ESL instructors are using technology in their courses. Those who do appear to be using technology congruent with Moore's (2009) description of onsite uses as well as at the two lowest level of the SAMR model. Consequently, Ohio's community college ESL instructors may benefit from professional development designed to:

- address fears in using technology in ESL courses
- explain the benefits of using technology in ESL courses
- introduce them to new forms of technology and their potential uses

- provide examples of how to use technology in their ESL courses at each level of the SAMR model

Recommendations for Future Research

An underlying assumption in this study was that technology, when used in the right way, can enhance ESL instruction. Future research should be conducted to determine whether or not technology use by community college ESL instructors improves English language acquisition and in what ways. Similarly, more research is needed to determine the effect technology use has, if any, on English language acquisition at each of the four levels of the SAMR model.

In order to address some of the limitations of the current study, I would recommend a replication of the study with modifications. First, in an attempt to address the issue of low survey response rate, I would suggest site visits before administering the survey to the desired population. Campus visits would allow the researcher to present the study and generate interest in study participation. Potential survey respondents may have been more likely to complete a survey after personal contact with the researcher as opposed to the introductory letter they received during this study. Another possible benefit of campus visits is that it would allow potential participants to ask questions about how to complete the more difficult sections of the survey, specifically, the SAMR levels. This might have either eliminated or helped to explain why some respondents checked more than one SAMR level for each type of technology used.

The current study was limited to the identification of technology being used in Ohio's community college ESL courses, where it is used, by whom, and at what level on

the SAMR model. Future studies could expand on this data through the examination of community college ESL instructor's lesson plans and/or lesson observations. Such studies could lead to a more detailed and deeper understanding of how technology is currently being used in this context. Furthermore, the current study assumed that the respondent accurately described at which level of the SAMR model each type of technology was being used. Lesson plans and observations could be useful tools to confirm the accuracy of each respondent's response to this part of the survey.

As a result of conducting this research study, I found that many community college ESL instructors fell into one of two camps: pro-technology or anti-technology. Future studies may examine instructors' attitudes towards technology and how it influences their choices on whether or not to use technology in their ESL course. Additionally, exploring what role, if any, professional development (PD) plays in influencing how much and what kinds of technology are used in community college ESL courses could shed light on how technology PD could be improved in the future. This study revealed that many community college ESL instructors do not routinely use technology in their courses. Future researchers may want to discover the reasons why these instructors make this choice and what factors, if any, could convince them to begin using technology in their ESL courses.

Finally, because technology is becoming ubiquitous at all levels of education, it seems unlikely that technology will disappear from the educational landscape. Since this particular study used a cross-sectional survey design, a similar study that uses a longitudinal design is suggested to examine any growth of technology use in Ohio's community college ESL programs.

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APPENDIX A
HUMAN SUBJECT REVIEW BOARD APPROVAL



TO: Kristine Dobransky and Dr. Harold Wilson
FROM: Carol Reece, HSRB Chair
DATE: February 26, 2014
SUBJECT: Human Subjects Review Board Approval
PROJECT TITLE: Current Technology Use and Integration of Community College ESL Instructors in Ohio
HSRB APPROVAL CODE: 01-10-14-#068

The Human Subjects Review Board has approved the research proposal you submitted. You may proceed with the project.

The primary function of the HSRB is to ensure protection of human research subjects. As a result of this mandate, we ask that you pay close attention to the fundamental ethical principles of autonomy, justice, and beneficence when establishing your research proposal. These ethical principles pertain specifically to the issues of informed consent, fair selection of subjects, and risk/benefit considerations.

If you have any questions, please contact me.

Sincerely,

Carol Reece, DNP, APRN-CPNP
Phone: 419-521-6877
E-mail: creece1@ashland.edu

**HUMAN SUBJECTS REVIEW BOARD
PART I
APPLICATION FOR APPROVAL TO USE HUMAN SUBJECTS IN RESEARCH**

Return the original copy of the typewritten application including Parts II and III to:
Dean of the Graduate School
100 Founders Hall
Ashland University
Ashland, Ohio 44805

PRINCIPAL INVESTIGATOR: Kristine A. Dobransky

DEPARTMENT: Doctoral program in Leadership Studies

ADDRESS: 6616 Fox Hollow Ct EMAIL: Kdobrans@ashland.edu

CITY: Middleburg Heights STATE: OH ZIP: 44130 PHONE (440) 268-8241

CO-INVESTIGATOR(S): N/A

PROJECT TITLE: Current Technology Use and Integration of Community College ESL instructors in Ohio

BEGINNING DATE OF RESEARCH (MONTH/YEAR) January 2014

ANTICIPATED ENDING DATE OF RESEARCH (MONTH/YEAR) May 2014

TYPE OF PROJECT

☐ **FACULTY RESEARCH:**

EXTERNALLY FUNDED YES _____ AGENCY _____
NO _____

☒ **STUDENT DIRECTED RESEARCH:**

ADVISOR: Dr. Harold Wilson

THESIS _____ DISSERTATION ☒ COURSE REQUIREMENT _____
COURSE # _____ PRACTICUM _____ OTHER (Please Specify) _____

I agree to follow the procedures outlined in this summary description and any attachments to ensure that the rights and welfare of human subjects in my project are properly protected. I understand that no contact may be initiated with subjects until I have received approval of these procedures from the HSRB and complied with any required modifications in connection with that approval.

Kristine A. Dobransky Date 1/1/14
(Signature of Principal Investigator)

APPROVAL OF FACULTY ADVISOR: Required for all students

Harold E. Wilson Date 3 Jan 14
(Signature of Advisor)

PRINTED NAME OF ADVISOR Harold E. Wilson, PhD

ADDRESS/AFFILIATION Department of Leadership Studies, Ashland Univ

CITY Ashland STATE OH ZIP 44805

PHONE (419) 289-5339 E-MAIL h.wilson@ashland.edu FAX ()

APPENDIX B
SURVEY DOCUMENTS

Community College ESL Instructors and Their Educational Technology Use/Integration
Letter of Introduction

Thank you for taking time to respond to this survey. The purpose of this survey is to learn about your educational technology use/integration while teaching community college ESL students.

For the purposes of this survey, educational technology can mean any of the following, *but is not necessarily limited to*: Email, Microsoft Word (or similar), Powerpoint/Keynote, ESL specific websites, non-ESL specific websites, textbook software and/or websites, blogs, podcasts, video and/or audio recording technologies, wikis, webquests, apps (ESL or non-ESL specific), Google Voice/Drive(Docs), social networking sites (Facebook, Edmodo, etc.), interactive whiteboard or similar technology, as well as mobile technology such as tablets/E-readers, mobile phones, iPods, and digital cameras.

This survey has two parts. First, you will be asked to complete four (4) demographic questions and respond to an invitation to participate in a focus group interview. Next, you will use an Excel spreadsheet to indicate the specific type(s) of technology that you use in your community college ESL classes and how you use them (if applicable). Directions and guidance are given for each part of the survey.

By completing and returning the survey, you are consenting to participate in a research study involving ESL community college instructors' use and/or integration of technology in their ESL classrooms. Your responses will be kept confidential at all times. Emailed survey responses will be kept on a password protected computer accessible only to the researcher. Paper surveys will be kept in a locked cabinet. All information will be destroyed at the end of the study.

If you decide at any time that you no longer want to participate in this study, you may contact the researcher or my advisor (see phone numbers and address below) and your information will not be used.

Please complete the demographic questions and Excel spreadsheet survey and return the forms to the researcher, Kristine Dobransky, by October 15, 2014. You may send responses electronically by saving your responses and emailing them to Kristine Dobransky at kdobrans@ashland.edu or if you prefer, you may print out your survey forms and mail them to:

Kristine Dobransky
6616 Fox Hollow Ct.
Cleveland, OH 44130

.....

If you have any questions about completing this survey, please call Kristine at 440-821-0482 or my advisor Dr. Harold E. Wilson at 419 289- 5339. Thank you in advance for your participation.

.....

Part I: Demographic Questions and Focus Group Interview Invitation

Please complete this form even if you do not currently use technology in your community college ESL classroom. Place an X in the appropriate boxes by clicking on the box.

1. Gender: Are you... ☐ male ☐ female
2. Experience: How long (total years) have you been teaching ESL students **at the community college level?**
- ☐ 0-5 years ☐ 6-10 years ☐ 11-15 years ☐ 16-20 years ☐ 21+ years
3. Employment status: Which best describes your current employment status at your community college(s)?
- ☐ full-time ☐ part-time ☐ adjunct
4. Institution(s): Where are you currently teaching during the Fall 2014 semester? (Check all that apply).
- ☐ Cincinnati State Technical and Community College
 - ☐ Columbus State Community College
 - ☐ Cuyahoga Community College (East)
 - ☐ Cuyahoga Community College (Metro)
 - ☐ Cuyahoga Community College (West)
 - ☐ Cuyahoga Community College (Westshore)
 - ☐ Hocking College
 - ☐ Lorain County Community College
 - ☐ Sinclair Community College

Optional: Would you be willing to participate in a focus group interview? The purpose of the focus group interview is to further clarify survey responses and to offer you a chance to further explain how you use technology in your community college ESL course as well as your successes and challenges.

If you are willing to participate in a focus group interview, please leave your name and phone number and best time to contact you. Please click on the text box and enter your information. Otherwise, leave this section blank.

Name: [Click here to enter text.](#)

Phone: [Click here to enter text.](#)

best time(s) to contact me: [Click here to enter text.](#)

Instructions and Guidance for Completing Part II of the Survey (Excel spreadsheet)

***If you DO NOT currently use technology in your community college ESL classroom, please respond by writing “I do not currently use technology” in the first comment box. You have completed the survey. Please save and email/mail parts 1 and 2 of the survey to the researcher.**

If you DO currently use technology in your community college ESL classroom, please complete 1-4 below. Save your responses and email/mail parts 1 and 2 of the survey to the researcher.

1. In the column labeled **technology used** place an X in the box for each type of technology you have used to teach your community college ESL class within the past 12 months. Please check all that apply. If you do not see the specific type of technology you use, please add it at the bottom of the list in the **other** section.

- Please be as specific as possible. For example, if you use a specific website, app, textbook resource, podcast, etc. Please name it by entering it in the comments section.

For each type of technology you selected, please mark an X the following information:

2. In order to complete the section **why used**, refer to the included chart: SAMR: For Purposeful use of educational technology. If you still are not sure how you are using a particular form of technology, you can contact the researcher for help at 440-821-0482 OR you can watch the following YouTube video which further explains the SAMR model:

http://www.youtube.com/watch?v=_QOsz4AaZ2k SAMR model as described by Dr Puentedura (4:07)

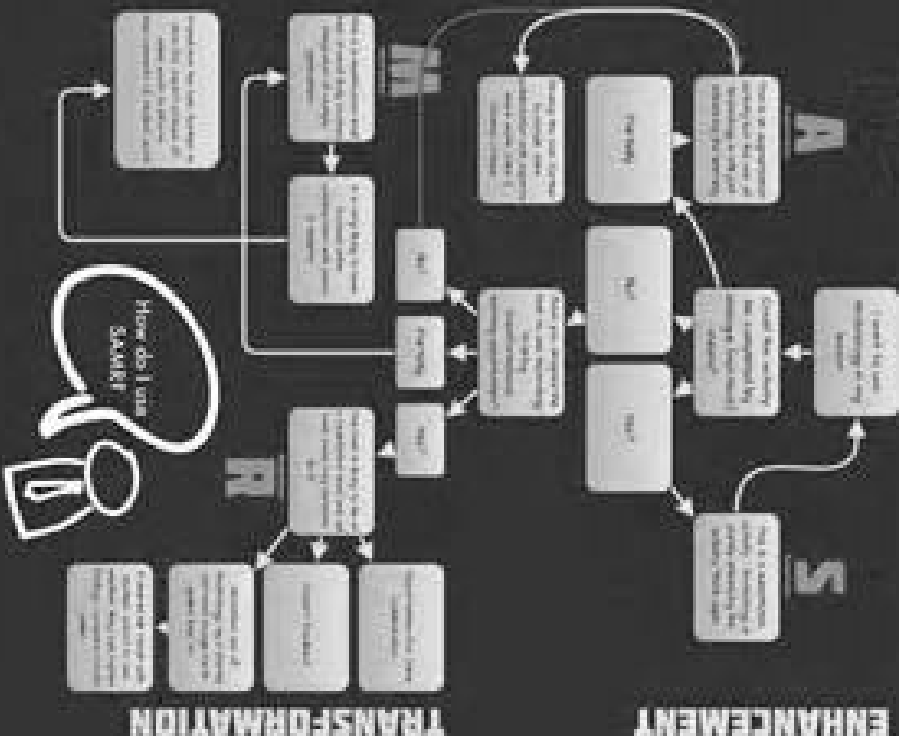
3. Describe who is using the technology by placing an X in the appropriate box

4. Please indicate where the technology is primarily used for your class(es) by placing an X in the appropriate box.

If you feel the need to give further information, you can add comments or attach an additional page with your explanation.



SAMR For purposeful use of educational technology



AAAS is a great framework for thinking about technology and how it can best be used in a teaching environment to bring about meaningful learning opportunities that wouldn't have been possible without the technology.

**Without a
Subliminal**

Dr Ruben Puentedura's model



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The authors thank the following people for their assistance in the collection of data: J. A. B. de Gooijer, M. C. van der Wal, H. J. van den Broek, and W. J. van den Brink.

1. technology used	2. Why used:	3. Who uses it?	4. Where used?
	substitution	instructor	in class
	augmentation	students	out of class
	modification	both	both
	redefinition		

comments:

email
 word processing
 Powerpoint/Keynote
 ESL specific website
 Non-ESL specific website
 textbook software
 textbook website
 blog
 podcast
 wiki
 webquest
 ESL app(s)
 non-ESL app(s)
 Google Voice
 Google Drive
 Google (other)
 social network site
 interactive whiteboard
 tablet/E-reader
 mobile phone/smart phone
 iPod
 other: (please list)
 a
 b
 c
 d

APPENDIX C
INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Informed Consent to Participate in a Research Study

“Current Technology Usage and Integration by Community College ESL instructors in Ohio”

A. PURPOSE AND BACKGROUND

Ms. Kristine Dobransky, principle investigator, is conducting this research study to determine what educational technology is currently being used by community college ESL instructors in Ohio and in what ways the technology is being used. You are being asked to participate in this focus group interview because you are an ESL community college instructor. Potential areas of professional development may be identified as a result of this study.

B. PROCEDURES

If you agree to be in the study, the following will occur:

1. You will participate in a focus group interview which will last approximately 1 half hour.
2. You will answer four (4) main questions (attached)
3. You will be asked to provide your name and contact information in case follow up questions are required. This is strictly voluntary.
4. All information that could potentially lead to your identification will be changed or modified in the final paper.

C. RISKS/DISCOMFORTS

There is no physical risk to participants in the study. There is a moderate privacy risk to the participant since demographic information will be obtained from the participants.

A list of participants will be kept on a password protected computer and any paper copies will be kept in a locked filing cabinet accessible only to the researcher.

References made to participants and their institutions within the researcher's final paper(s) will utilize pseudonyms.

Please note that the researcher will keep information about you as confidential as possible, but complete confidentiality cannot be guaranteed. On extremely rare occasions, a court has subpoenaed research records.

D. BENEFITS

There will be no direct benefit to you from participating in this study. However, the information that you provide may help improve professional development in educational technology.

E. COSTS

There will be no costs to you as a result of taking part in this study.

F. PAYMENT

There is no payment associated with taking part in this study.

G. QUESTIONS

If research-related injury occurs, or if you have questions about the research, please first contact Ms. Kristine Dobransky at 440-821-0482. If for some reason you do not wish to do this, you may contact the Human Subjects Review Board, which is concerned with the protection of volunteers in research projects, by calling 419-521-6877 between 8:00 and 5:00, Monday through Friday.

H. CONSENT

You will be given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to be in this study, or to withdraw from it at any point. Your decision as to whether or not to participate in this study will have no influence on your present or future status as an ESL instructor at your institution.

If you agree to participate, you should sign below.

Date

Signature of Study Participant

Date

Signature of Person Obtaining Consent

APPENDIX D
FOCUS GROUP/ONE-ON-ONE INTERVIEW QUESTIONS

Focus group interview/One-on-One Interview

Thank you for agreeing to participate in this focus interview in which we will discuss technology use in your ESL classroom at the community college level. Please read the questions in advance and come prepared to discuss the following four questions. Feel free to make notes on the back of the page.

Please note: This discussion will be audiotaped and transcribed after the interview. All information will be kept confidential and stored in a locked cabinet. The audiotape and transcriptions will be destroyed at the end of the study.

1. How are you using technology with ESL students in your class?

2. What advantages have you discovered as a result of using technology in the ESL classroom?

3. What problems have you encountered? Were you able to overcome them?

4. Keeping in mind the financial constraints at community college and financial conditions of the students involved, ideally, what would you like to be doing with technology in your ESL classroom?