

TECHNOLOGY-ENHANCED CLASSROOM ENVIRONMENTS AND ENGLISH
LANGUAGE ACQUISITION AMONG NATIVE SPANISH-SPEAKING,
ENGLISH LANGUAGE LEARNERS IN THE PRESCHOOL
AND ELEMENTARY CLASSROOM

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This qualitative study addressed the question: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language? With the support of six school districts representing three different regions and 15 schools in Texas, this research investigated technology-enhanced learning environments and the influence of emerging technologies on language acquisition by focusing on classroom interactions and learner engagement in preschool and elementary settings. Forty-six teachers completed the self-identified online questionnaire and from that initial group of participants, 10 were chosen for the face-to-face semi-structured interviews. A two-cycle progressive refinement coding technique was used for the analysis of the teacher interviews. In Vivo coding was selected for the first-cycle coding methodology to study teacher perspectives using their direct language. For the second-cycle methodology, focus coding was chosen as a continuation of the analytical process examining the developing patterns resulting in the initial codes being grouped to form salient categories. This process of reanalyzing and reorganizing coded data led to the creation of four emergent themes and in the views of the teachers interviewed describes how emerging technologies influences English language acquisition. The four emergent themes identified were “engaging students for learning,” collaborating with others,” “developing and clarifying concepts,” and “creating authentic work.”

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CHAPTER 1

INTRODUCTION

There is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education.

Lau et al. v. Nichols et al., 1974

Background of the Study

Advancements in technology and subsequent applications in the classroom have dramatically changed instructional practices in many academic fields of study. Of particular interest among those educators working in the area of language development is the interaction of emerging technologies on language acquisition. From the practical perspective of language learning, what talents will be required of students to be successful in a technologically rich, problem solving-based society? This convergence of ideas has prompted many people in education to broaden their definition of literacy and refocus their thinking about how students can effectively acquire a language and apply those skills in today's 21st century world. With today's technology-enhanced classroom environments and the emerging technological innovations they bring, for many school districts the model of language instruction is experiencing a paradigm shift at a critical time (Jacobs, 2010).

Historically, educators have focused their attention on only the external features of language development including pronunciation, fluency, and grammar; often at the expense of overlooking the function language plays in complex thought processes (Bylund, 2011). According to Vygotsky (1986), the goal of language development is to provide a connection for the learner between thought and language serving as a cognitive and social tool for creating meaning from our experiences, in other words to think critically. Not surprisingly, the

development of instructional programs promoting critical thinking skills has long been a pursuit for educators within the bilingual educational community. Will the current proliferation of emerging technologies provide a means towards reaching this goal?

Although children learn to speak early in life in order to communicate basic needs, the application of words in academic situations occurs later and sociocultural activities such as those found in school settings play a major role in intellectual development (Vygotsky, 1986). According to Cummins (1981a), the successful acquisition of a second language is also a direct result of an individual's mastery of the primary language, in part because of the common features often found across languages. Studies have reported the positive influence on the academic development of English language skills for second language learners when provided long-term language instruction in their native language (Thomas & Collier, 2002). To attain an understanding of the influence emerging technological innovations have on English language acquisition among native Spanish-speaking English language learners (ELLs) this study explores this unique instructional environment from the point of view of preschool and elementary bilingual and ESL teachers.

In Texas public schools, students who do not speak English as their primary language and have a limited ability to read, speak, write, or understand English are identified as limited English proficient (LEP) and are eligible for either bilingual or English as a second language (ESL) programs (Texas Education Agency, 2011a). For many educators the designation *limited English proficient* has a negative connotation suggesting a deficiency and so the term *English language learner* is used frequently in its place (Ovando & Combs, 2012). In the interest of clarity, the expression English language learner or ELL will be used in this study.

To comprehend the number of children eligible for either instructional program, it is

important to recognize just how many ELLs are currently enrolled in schools throughout the United States and Texas. During the 2001-02 school year, approximately 43 % of all K-12 teachers in the United States reported working with ELLs, an increase of nearly 28 % from just ten years earlier (Helfrich & Bosh, 2011). In Texas, the number of students identified as ELLs grew from 570,603 to 831,812 (an increase of 45.8 %) between 2000-01 and 2010-11, while the number of students receiving bilingual or ESL program services increased by 56.4 % going from 509,968 to 797,683 students during that same period (Texas Education Agency, 2011b).

When examining all English language learners, Hispanics comprised the largest group enrolled in either a bilingual or English as a second language program in Texas with 723,473 in 2010-11, representing 90.7 % of the 797,683 total students receiving services (Texas Education Agency, 2011b). Hispanics also represented the largest numerical gain in total enrollment by any race/ethnic group during the 2009-10 and 2010-11 school years, rising by 81,316 students to 2,480,000 (Texas Education Agency, 2011b). As a point of comparison, total enrollment for all students reached 4,933,671 in 2010-11 for Texas public schools (Texas Education Agency, 2011b). Moreover, the Texas Education Agency (2011b) reports that Hispanics accounted for the largest percentage of students enrolled by race/ethnicity in the state at 50.3 % (2,480,000), followed by White students at 31.2 % (1,538,409), and African American students at 12.9 % (637, 722) for 2010-11. Perhaps the most revealing enrollment trend in Texas public schools is the state has reached a point where the majority of K-12 students now enrolled are from minority backgrounds (Cohen & Lotan, 2004).

Nationally, the student enrollment numbers for Hispanics in public schools have followed a similar pattern. Between 1998 and 2008, the number of Hispanic students grew in California, Texas, New York, and Florida, the four most populous states; as well as the United States as a

whole, and in each case, their percentage-point increase was the largest for any racial/ethnic group (Texas Education Agency, 2011b). Figures also indicated that nationally total student enrollment by race/ethnicity were reversed compared to Texas with White students at 54.9 % compared to Hispanic students at 21.5 %, while African American's remained the third largest group at 17.0 % (Texas Education Agency, 2011b).

Regardless of ethnicity, all students today must possess a diverse set of skills to take advantage of the assorted forms of communication and information gathering tools made possible by emerging technologies if they hope to engage in a variety of complex learning activities (Chatel, 2002). While becoming a literate individual is a demanding process for any student, it is especially challenging for the English language learner who is acquiring a second language (Cummins, 2007a).

Hispanics preschoolers have been reported to exhibit fewer signs of emerging literacy skills compared to their peers (Zill, Collins, West, & Hausken, 1995) and without some form of early intervention achievement gaps in learning will not only widen but become cumulative, thus making it more difficult for them to achieve parity (Neuman, Roskos, Vukelich, & Clements, 2003). Accordingly, schools must provide technology-enriched classroom environments that not only promote literacy and language development for ELLs but also include activities that extend beyond the classroom to prepare students for competing in the 21st century workplace.

Since the introduction of the Internet to the public in 1993, educational research has focused on the relationship of computer-aided technology and instruction in the classroom (Abdallah, 2011). Arguably, with today's information age being characterized by the continuous emergence of new technologies, the very definition of literacy is ever changing (Chatel, 2002). As the traditional definition of literacy expands beyond reading and writing, it becomes even

more important to understand and embrace the impact of technology-enhanced activities in the classroom (Kasper, 2000).

As new technologies evolve, educational leaders are envisioning innovative ways of implementing these emerging tools in hopes of closing the learning gap by providing a means of interaction between students and the educational system. Incorporated in the classroom and aligned with the curriculum in a purposeful way, emerging technologies should not merely be considered as peripheral pieces of hardware or software but as literacy tools providing a means of improving educational methodologies (Abdallah, 2011). These interactive classrooms, replete with web-enabled devices and other computer-aided technologies, stand at the center of the 21st century technology-enhanced learning environment transformation.

Studies have illustrated the importance of technology-enhanced classroom environments in learning while examining the differences made in student achievement compared to traditional instruction methods (Lin, Chan, & Hsiao, 2011; Utschig, 2006). Examples of investigations measuring the impact on student learning include those conducted by Cole and Hilliard (2006) with students of low socio-economic backgrounds; Englert, Zhao, Collings, and Romig (2005) looking at internet-based instructional delivery software to improve word recognition of students at risk of failure; and Sullivan and Pratt (1996) who examined students taught in two ESL writing environments comparing a networked computer-assisted classroom and traditional classroom. Research continues to underscore the daunting task English language learners face in becoming literate in a second language while trying to negotiate the sociocultural skills needed to succeed in their new environment (Cummins, 2007b).

Beyond the sociocultural needs of these students what will instruction look like in the 21st century classroom and how will those changes influence the evolution of technology-

enhanced learning environments? Chatel (2002) has proposed that, in order for a classroom environment to be successful, it must first meet the needs of the English language learner in four critical areas: functional literacy, academic literacy, critical literacy, and technological literacy.

1. Functionally literacy—having the ability to speak, understand, read, and write English, as well as use English to acquire, articulate and expand one’s knowledge. Functionally literate individuals have the capability to communicate effectively with others. (Kasper, 2000)
2. Academically literacy—having the ability to read and understand interdisciplinary texts, analyze and respond to those texts through various modes of written and oral discourse, and expand one’s knowledge and understanding. Academically literate individuals possess the skills necessary to comprehend and use academic language to complete learning tasks. (Cummins, 1981b)
3. Critically literacy—having an understanding of the purposes of literacy demonstrated by the ability to evaluate the validity and reliability of informational sources in order to draw appropriate conclusions. Critically literate individuals understand that text, print and non-print, is used for particular purposes and social interactions. (Garner & Gillingham, 1998)
4. Technologically literacy—having the ability to develop the knowledge and skills to understand patterns, changing relationships and the conveyed meaning of those patterns and relationships. Technologically literate individuals have the talent to create, utilize, and analyze information gathered electronically in a critical manner. (Fanning, n.d.)

In addition to the four literacies identified by the Chatel (2002) study, addressing the socio-emotional needs of children are widely believed to be a necessary support as well, not only at school but also at home, for ensuring student achievement in the learning environment.

Bradley and Corwyn (2002) found that children from poor families have fewer opportunities to educational resources compared to those coming from higher SES families. As a result, there are less occasions for parents to spend quality time working with their children teaching them the basic social needs for attending schools (Milne & Plourde, 2006).

As a source of information and a tool for teaching, the Internet presents opportunities as well as challenges for educators when addressing the needs of ELLs. Do computer-mediated

communication tools and other similar technology-enhanced classroom environments promote meaningful human interaction among preschool and elementary-aged students? What are the pedagogical benefits of social networking technologies for English language learners? Do technology-enhanced classroom environments have the potential to cultivate social relationships beyond the classroom leading towards collaborative, cross-cultural interactions among students? Can the use of technology applications develop critical thinking skills? Do these interactions provide authentic experiences for the emersion of native speakers in a virtual community with their non-native peers?

To answer these questions about learner engagement, educational researchers often look to students and their social worlds to understand their natural facility with technology. It is evident that native English speakers as well as non-native speakers use computer activities and internet-based tools for social interaction and other language-based learning. However, research by Soo and Ngeow (1998) suggests that simply offering students the autonomy and self-direction to use these technologies does not necessarily lead towards improved learning.

At a time when globalization and technology innovations are dramatically transforming the world in which we live, higher-level knowledge and critical thinking skills are essential to succeeding in a globally competitive society. Once popular teaching methods such as grammar-translation, direct instruction, and audio-lingual no longer dominate current pedagogical models in part because of their lack of relevancy towards problem-based applications (Zha, S., Kelly, P., Park, M., & Fitzgerald, G., 2006). Educational practices in bilingual education programs have changed tremendously because of researchers driven to develop instructional models that maximize student engagement and critical thinking skills.

Numerous achievements have been made over the years in understanding how languages are acquired, how language learning merges with academic achievement, and how these advancements can be applied effectively in the classroom (National Association for Bilingual Education, 2012). Today, one of the focuses of language learning is on communication and interaction with an emphasis on communicative competence (Krashen & Terrell, 1983; Zha et al., 2006). Kummings (2010) contends that social media and other emerging technologies have contributed greatly towards providing engaging non-traditional language learning opportunities for students. Schools must continue to work diligently to cultivate a diversity of learner talents by developing global and digital competencies among all students, while preparing students to cope with a world that has been significantly changed by technological advancements (Zhao, 2009).

Since the passage in 1965 of the Elementary and Secondary Education Act (ESEA), the federal government has made a commitment to ensuring equal access for a meaningful education for English language learners (American Institutes for Research, 2012). In 1968, the ESEA was amended to include the Bilingual Education Act under Title VII, underscoring the educational challenges faced by ELLs (National Council of Teachers of English, 2008). Amended and reauthorized since then, Title VII has undergone several changes. Most recently in 2002, the English Language Acquisition, Language Enhancement, and Academic Act (Title III of the No Child Left Behind Act) replaced the Bilingual Education Act.

These legislative revisions have triggered research studies both practical and theoretical leading to the development of numerous ESL and bilingual education programs and services to meet the demands of a growing ELL population. As a nation, we must therefore focus on high achievement for our Hispanic students if the United States is to remain competitive in a global

economy. Indeed, Hispanics, represent the majority of students for some grades in many large districts throughout the southwestern United States. Senator Iris Martinez of Illinois and president of the National Hispanic Caucus of State Legislators (NHCSL) points out “We simply cannot afford to continue to under-educate so many, from so early in their education” (National Hispanic Caucus of State Legislators, 2010).

This challenge was brought to light in 2002 when the ESEA was reauthorized as the No Child Left Behind Act (NCLB) with the goal of strengthening efforts on the relationship between English language proficiency and academic achievement (American Institutes for Research, 2012). Title III of NCLB added requirements aimed at promoting English language acquisition while assisting ELLs in meeting core content standards, and in the process, making districts accountable for the progress of the learners in both acquiring English and achieving the states’ academic standards (American Institutes for Research, 2012).

Thirty-eight years have passed since the United States Supreme Court recognized the equal educational opportunity rights of limited-English proficient and non-English proficient students in *Lau v. Nichols* (Biegel, 1994). In their ruling the Court declared, “There is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education” (*Lau et al. v. Nichols et al.*, 1974). Today, the debate persists over how much has changed in education since this landmark decision. Policy recommendations at the local, state and federal levels for improving educational outcomes must reflect relevant research for those students identified as English language learners. It is imperative that recommendations include the broader social, historical, and political trends that currently affect the educational rights of students acquiring English as a second language.

There are still strong reactions from many prominent groups over policy affecting bilingual education. The National Association for Bilingual Education and National Hispanic Caucus of State Legislators are demanding further policy reforms at the state and federal levels aimed at improving educational outcomes for those classified as ELLs in all grade levels (National Association for Bilingual Education, 2012; National Hispanic Caucus of State Legislators, 2010). Leaders are calling for improved support of language instruction programs addressing such needs as increasing professional development opportunities for teachers of ELLs, identifying and implementing research-based ELL programs, and greater transparency of outcomes of students transitioning to middle school where the Hispanic dropout rate is at critical levels (National Hispanic Caucus of State Legislators, 2010).

Suggested recommendations include an emphasis on student engagement and motivation, as well as college awareness and career development. As the Internet becomes more accessible, the influential role technology plays on pedagogical changes in the area of language learning becomes more prominent and needs addressing (Zha et al., 2006). Studies have shown that well-designed, developmentally appropriate school programs with an integrated curriculum approach concentrating on language immersion can make a meaningful difference in student performance particularly for at-risk students (National Association for the Education of Young Children, 2009; Parke & Agness, 2002).

The stakes are especially high for children who are English language learners. These students must not only master academic content but also a new language at the same time. How can schools ensure that ELLs will acquire the high level of academic English necessary to enjoy a quality education? Given the evidence documenting the low achievement among ELLs as a group, a closer examination of English language acquisition among these students is a priority

for many school districts (National Council of Teachers of English, 2008).

According to the NHCSL (2010), these issues illustrate a lack of coherent and coordinated instructional programming. A problem intensified by an underprepared teaching force that lacks the professional development training necessary to improve the educational outcomes for these students (NHCSL, 2010). Moreover, polarizing ideological debates about bilingual education often take precedence over focused discussions on the pursuit of evidence-based policy and practices that best support student learning and achievement (National Association for Bilingual Education, 2012). How will local, state, and federal legislation shape the programming outcomes of bilingual education? The NHCSL (2010) argues that there are many issues deserving consideration in this multi-faceted problem including:

- Recognizing and reducing disparities across schools in the quality, experience, credentials, and professional training of teaching staff
- Ensuring that current academic and social-emotional support and enrichment programs are reaching the intended students
- Strengthening college planning, information dissemination, and career development during middle school
- Promoting the value of technical-vocation education as meaningful

In summary, failure in school at a young age often has lifelong consequences (National Association for the Education of Young Children, 2009). Studies have shown that children with limited English proficiency frequently enter kindergarten with significant academic deficiencies making them a greater risk of school failure in later years (Ramey, Ramey, Phillips, Lanzi, Brezaussek, Katholi, Snyder, & Lawrence, 2000; Shaul, 2000). Additionally, many experts agree that there is often a positive correlation between low-socioeconomic status and poor academic achievement (Milne & Plourde, 2006). Not only do educators need to understand and support

research-based programs addressing the needs of ELLs but also so should policymakers and members of the public.

Statement of the Problem and Research Question

The model classroom environment should deal with these obstacles by providing strategies to help educators increase their effectiveness as teachers of English language learners. For these at-risk students to succeed, it is essential that bilingual programs for ELLs not only reflect best practices but also embrace promising trends in education. In view of these matters, the purpose of this study is to examine the role of emerging technologies on English language acquisition among native Spanish-speaking ELLs in preschool and elementary bilingual education programs.

Specifically, this study seeks to investigate the research question: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language? To assist with this study's examination, the following related interview questions provide further analysis.

- How are emerging technologies used in the classroom to support second language acquisition among ELLs?
- How does technology use in the classroom provide meaningful interactions with others in learning the English language?
- Which emerging technologies have made the most impact on second language acquisition among ELLs?
- How does the desire to communicate with others motivate students' interest for learning technology?
- How do emerging technologies assist teachers in providing appropriate linguistic support and accommodations in making other instructional content areas accessible among ELLs?

- What difficulties have been encountered while using technology in language acquisition instruction?

Significance of the Study

Over a 10 year period between 1994-1995 and 2004-2005, the number of students in public schools classified as English language learners in the United States grew from approximately 3.2 to 5.1 million, representing an increase of 57% (National Clearinghouse for English Language Acquisition, 2006). Despite the opportunities that exist for ELLs in attaining the same level of success as their native English counterparts, for many of these children there still remains an achievement gap in learning that can be traced back to oral language and literacy development deficiencies (Mohler, G., Yun, K. Carter, A., & Kasak, D., 2009). A common misconception held by many in the general public is that bilingual education may adversely affect a student's English language development, a phenomenon known as the immersion myth and has led to many placement decisions that have not produced the desired results (Rhodes, Ochoa, & Ortiz, 2005). Further, studies have found that children reared in low-SES households have delayed cognitive development resulting in below normal academic achievement (Milne & Plourde, 2006).

In spite of these seemingly insurmountable conditions, the question remains why are some of these children able to succeed? Perhaps the answer lies with understanding the needs of these at-risk learners and how they can be supported. Research conducted by Helfrich and Bosh (2011) identified four hurdles that beginning and veteran teachers encounter when teaching literacy skills to English language learners:

- Limited understanding of the role of literacy in other cultures
- Inability to differentiate instruction to meet the needs of all learners

- Devaluation of peer interactions and collaborations in the process of learning
- Lack of knowledge about using assessment measures with diverse student populations

Studies conducted by Thomas and Collier (2002) have shown that while ELL students initially make similar gains in most English language development programs regardless of the type of language instruction (e.g., ESL pullout or bilingual immersion education), the gains are often short lived. In some cases, not only do these short-term language development gains begin to level off they actually disappear altogether among students in transitional and ESL programs compared to those in one- and two-way bilingual immersion programs where continual language maintenance is provided (Bylund, 2010).

Another significant source of language development for school-aged bilingual children is the mother or primary caretaker and families (Duursma, Romero-Contreras, Szuber, Proctor, Snow, August, et al., 2007). Not surprisingly, where the mother primarily speaks Spanish at home children acquire Spanish vocabulary at a higher rate compared to their peers where English is the predominant language (Hammer, Davison, Lawrence, Miccio, 2009). Interestingly, children exposed to both languages at home are more likely to show low proficiency in both languages (Dixon et al., 2012). However, children most at risk for low proficiency in both languages are those from low-SES families, although many have demonstrated the ability to achieve a high proficiency in multiple languages (Dixon et al., 2012).

According to Vail (2004), students entering school from high poverty environments are typically less ready to learn and lag behind their more affluent classmates in the ability to use language to solve problems. Poor academic performance coupled with underachievement among minority youth is a well-documented problem pervasive in public schools throughout the United States (Becker & Luthar, 2002; National Center for Educational Statistics, 2006). Contributing to this dilemma are two widespread assumptions among bilingual students: 1) language

development in two languages is typically disproportionate and 2) being identified as low-SES typically indicates low proficiency in both languages (Dixon, Wu, & Daraghmeh, 2011).

The implications illustrate the importance of teachers not only assessing English language learners in both languages but also collaborating with parents. The significance of looking at literacy development and language acquisition from a whole child perspective including the socio-emotional needs of the individual student should be considered (Helfrich & Bosh, 2011). Many policymakers, educators, and parents view bilingualism as a limited capacity occurrence whereby a person is either strong in one language or the other but not both because of the belief that the brain has a limited capacity for languages (Baker, 2006). Though common for bilinguals to be more capable in one language over another, it is not extraordinary to exhibit a high proficiency in both languages (Gathercole and Thomas, 2009).

However, according to Banks (2004), it is important to remember that an effective ELL program need not reshape the student into a native-language equal, linguistically or otherwise. As student accessibility to bilingual education programs grows, schools are likely to continue to struggle with identifying what factors influence how well a child learns in multiple languages. The benefits resulting from this study may lead toward a more comprehensive understanding of the influence technology-enhanced classroom environments have on English language acquisition among preschool and elementary native Spanish-speaking English language learners. In addition, this study will add to the overall literature in bilingual education as well as inform districts and schools of issues relating to English language acquisition among preschool and elementary students. Ultimately, this work may offer a significant contribution to the overall improvement and effectiveness of bilingual education programming.

Definitions of Key Terms

The following key terms for this study include:

- **Basic interpersonal communicative skills (BICS):** also referred to as conversational fluency, a dimension of language proficiency that includes the aspects of language such as basic vocabulary and pronunciation, skills readily apparent during conversations (Bylund, 2011; Cummins, Mirza, & Stille, 2012).
- **Bicultural:** possessing knowledge of two cultural systems and having the ability to negotiate situational clues effectively within either system (Texas Education Agency, 2012a).
- **Bilingual education (BE):** an approach that incorporates a variety of program models that are designed to support a range of language acquisition goals, it is neither a single uniform program nor a consistent methodology for teaching language to students who are not proficient in English (Ovando & Combs, 2012). According to the California Department of Education (1981), in its most basic form, a bilingual program is one that includes: 1) the continued development of the student's primary language, 2) acquisition of the second language, which for many students is English, and 3) instruction in the content areas incorporating both languages.
- **Bilingual immersion education (two-way or dual-language):** an enrichment model designed to achieve bilingualism and biliteracy in both the minority and majority language by serving two linguistically diverse populations. These programs provide content area instruction and language development in both languages intended to promote the native language abilities of both groups (Ovando & Combs, 2012).
- **Biliteracy:** possessing the capability to read, write, listen, and speak with native-like skill and comprehension in two languages (Texas Education Agency, 2012a).

- Cognitive academic language proficiency (CALP): also known as academic language proficiency, a dimension of language proficiency that enables an individual to process and make meaning of language that exists independent of situational clues and is the language skill required for meaningful engagement in most academic tasks (Bylund, 2011; Cummins et al., 2012). From a Vygotskian viewpoint, CALP is not merely an extension of basic interpersonal communicative skills (BICS), but the convergence of thought and language (Bylund, 2011).
- Communicative competence: the use of language in social communications without grammatical analysis (Krashen & Terrell, 1983).
- Cultural responsiveness: possessing the capability to respond to others with consideration, respect, and sensitivity because of an increased ability to recognize and validate cultural differences (Texas Education Agency, 2012a).
- Emerging technology: tools, concepts, innovations, and advancements used in educational settings to assist in various education-related functions including instructional, social, and organizational tasks (Veletsianos, 2010).
- English language learner (ELL): a term often preferred over limited English proficiency because it conveys that the student is in the process of learning English without the impression that the student is in some way deficient (Ovando & Combs, 2012).
- English as a second language (ESL): any instructional system that assists students who are not proficient in English in acquiring both interpersonal communication skills and academic proficiency in spoken and written English (Ovando & Combs, 2012).
- L1 (acronym for first language): referring to a person's native language.
- L2 (acronym for second language): referring to a language that a person knows or is learning in addition to their native language.

- Language acquisition: the learning of a language focusing on the utterances made during communication process, speakers concentrate on meaning, not on form (Krashen, 2003).
- Language proficiency: a term used to distinguish between the skills that govern a person's oral fluency from those associated with functioning in an academic environment (Halle, Hair, Wandner, McNamara, & Chien, 2012).
- Limited English proficiency (LEP): a term frequently used to identify students who do not speak English as their primary language and have a limited ability to read, speak, write, or understand English (Texas Education Agency, 2012a).
- Low-socioeconomic status (Low-SES): a term meaning economically disadvantaged and often used to identify students who are eligible to participate in the National School Lunch Program to receive lunches at either a reduced price or for free through their school district (Texas Education Agency, 2013).
- Sheltered instruction: an instructional approach design making mainstream curriculum accessible to ELLs in a safe, productive, low-anxiety environment preparing them for eventual participation in the mainstream curriculum (Fritzen, 2011).
- Social language: the aspects of language proficiency associated with basic fluency in face-to-face communication (i.e., BICS or conversational fluency); including those social interactions that occur in the classroom (Cummins et al., 2012; Texas Education Agency, 2012a).
- Socioeconomic status (SES): conceptualized as a measurement of capital (i.e., resources and assets) including access to financial capital (i.e., material resources), human capital (i.e., nonmaterial resources such as education), and social capital (i.e., resources achieved through social connections). In the United States, this combination of family income, parent's

educational attainment, and job status has been shown to be a predictor of a child's cognitive development and academic achievement (Bradley & Corwyn, 2002; Dixon et al., 2012).

- Transitional bilingual education (TBE): a remedial model to prepare language minority students to mainstream (i.e., all English) classes. A portion of the instruction is in the student's first language and after a period of time the student is transitioned into the mainstream curriculum, typically in two to three years (Ovando & Combs, 2012).

Delimitations of the Study

This study gathered, evaluated, and reported findings based upon an inductive data analysis approach by means of traditional qualitative research methodologies typically found in social science research. This analytical strategy uses a systematic procedure incorporating detailed readings of raw data to theorize and derive concepts or emergent themes through interpretations made from those readings (Thomas, 2006). However, restrictions may have existed during the implementation of this study due to unanticipated, as well as anticipated effects, which ultimately could have diminished the research's scope.

The primary benefit of the inductive approach is that it allows findings to emerge from the dominant themes without the restraints imposed by more structured methodologies as the researcher attempts to uncover the hidden meanings found within the data (Charmaz, 2004). However, qualitative research does have its uncertainties described in terms of trustworthiness (Lincoln & Guba, 1985). In an effort to achieve trustworthiness, this study used a technique called member checks. Member checking allowed for the input from participants on the researcher's interpretations and conclusions. This comparison of the data from the research

findings and subsequent interpretations makes this approach among the most accepted in establishing credibility (Thomas, 2006).

Providing an account to participants of the findings with the intent of corroborating the researcher's analyses is also known as respondent validation (Flick, 2011). There are additional benefits to using member checking or respondent validation that go beyond merely taking back ideas to participants for their confirmation; through participant discussions the researcher can also gather additional material to elaborate on already established concepts or themes (Charmaz, 2010).

Triangulation is another technique used to validate claims and further address the concept of credibility in qualitative research (Glesne, 2011). A term taken from navigation and surveying; triangulation refers to the incorporation of multiple kinds of data sources, multiple investigators, or multiple theoretical perspectives all converging to evaluate the results critically (Flick, 2011; Glesne, 2011). This study incorporated two sources of qualitative data in an effort to understand the multiple perspectives presented through the findings. Preferably, triangulation will produce a superior level of knowledge; one that goes beyond the understanding made possible by just one approach thereby resulting in a higher quality of research (Flick, 2011). Because this study involved only a small group of teachers having specific characteristics, the findings were undoubtedly oriented to the contextual uniqueness of their shared social world. Whether the findings can be transferred to another context or even the same context at other time is subject to debate. Lincoln and Guba (1985) emphasize the necessity of having a detailed account to describe the social interactions and relationships thus providing the reader an opportunity to make judgments about the possibility of transferring the findings to other contexts. Every attempt to produce and accurately report the findings that defensibly address the study's objectives and

questions has been completed in accordance with known best practices. In keeping with the principles of qualitative research, no attempt to predict outcomes has been made, but rather the information gathered has been allowed to derive the concepts and themes as the study progressed.

Although an inductive approach is sometimes regarded as a mediocre procedure for theory development, it does provide a simple, straightforward method for deriving findings when linked to focused evaluations (Thomas, 2006). For that reason, the researcher needs to consider the audience for they will judge the usefulness of the research methods employed based upon the quality of the final report (Charmaz, 2010). Ultimately, it will be the responsibility of the readers of this study to determine the worthiness and applicability of the findings, as well as the conclusions drawn when formulating opinions.

Organization of the Study

This study has been structured into five chapters. Chapter 1, Introduction, provides an introduction and includes the problem statement, research question, significance, definitions, and delimitations of the study. Chapter 2, Review of Literature, examines relevant research and literature in the field. Chapter 3, Research Methodology and Procedure, discusses the research perspective and methods used in the study. Chapter 4, Analysis of Data, presents the findings of the study. The study concludes with Chapter 5, Summary, which includes a detailed discussion of the interpretations, implications, recommendations for future research, and conclusions.

Summary

Language diversity has long been a defining characteristic of public schools in the United

States and there appears to be no indication of that trend changing in the near future (Bylund, 2011). As a result, there are numerous pedagogical challenges associated with maintaining quality learning and teaching standards, including those in the development of effective models for language acquisition. For ELLs, the integration of new learning requires connecting what students already know in their native language to English. Active engagement with language is critical to student success and is a strong predictor of achievement. Technology is changing how people interact with the world and for our students to function effectively they must be able to communicate with others, retrieve information through an assortment of methods, and continue to apply innovative skills in the classroom and beyond.

This chapter presented an overview of technology-enhanced classroom environments and English language acquisition among native Spanish-speaking English language learners. Its organizational structure included: background of the study, statement of the problem and research question, significance of the study, definitions of key terms, delimitations of the study, and organization of the study. The following chapter examines the literature relevant to this study.

CHAPTER 2

REVIEW OF LITERATURE

Teaching has seen many reform initiatives designed to change education systems for the better. However, they do not always produce the desired educational outcomes in student achievement despite conforming to some well-established education practices. As necessitated by law, it is the responsibility of public schools to educate children from diverse linguistic backgrounds, and regrettably, efforts to do so have resulted in varying degrees of success (Gutiérrez-Clellen, 1999; Missall, McConnell, & Cadigan, 2006). This leads to the broader question about whether or not our customary teaching methods and curriculum are providing all of our children the skills needed to be productive global citizens, especially those whose English is not the first language.

For English language learners this requires an insightful look into learning and instruction. “What year are we preparing our students for, now or the future?” Jacobs (2010) observes. Preparing all students to be successful in a globally competitive society ought to be the primary objective of education. How ELLs achieve linguistic development through the incorporation of 21st century skills is central to this research study. For educators confronted with the challenges of creating engaging yet practical 21st century classroom environments it continues to be a dynamic and sometimes elusive endeavor (Jacobs, 2010). In an effort to understand how emerging technologies have influenced second language acquisition, this research seeks to answer the following: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language?

To provide a backdrop to the factors that may influence second language learning, a review of the literature follows examining these related topics:

- What relevance does a low-socioeconomic background have on children's emerging oral language and literacy development?
- What role does sociocultural theory play in second language acquisition?
- How can an inquiry-based learning approach facilitate cognitive and socialization skills?
- How does literacy and language development influence limited English language ability and learning?
- How can a technological interactive classroom environment facilitate language acquisition instruction within the construct of social learning theory?

Emergent Oral Language and Early Literacy

Students who speak Spanish as their primary language often lag behind their non-Hispanic peers during their preschool years and continue to fall behind throughout the elementary and middle school years in the development of school related language and literacy skills (Gutiérrez-Clellen, 1999). Research has identified a vast assortment of environmental, familial, cultural, and linguistic variables that contribute to the development of emergent language and early literacy skills (Missall et al., 2006).

Snow, Burns, and Griffin (1998) maintain that for children to be successful in school they must develop a wide range of language skills; including phonological awareness (e.g., rhyming, alliteration), vocabulary, letter naming, and word manipulation (e.g., word blending, word segmenting). Goswami (2008) explains phonological development is an important part of a child's language development. This perspective of emergent literacy or early literacy is currently the dominant view on language development and is the precursor to reading instruction (Whitehurst & Lonigan, 1998).

Words are composed of phonemes (e.g., individual sound elements). In order to create individual words these phonemes must be grouped into a sequence requiring a knowledge of which phonemes belong to each word (Goswami, 2008). Language development encompasses learning the sounds and combinations of sounds or sound structures of individual words, called phonological representations, while the rules that govern the sequences of phonemes used to make words in a particular language are called phonotactics (Goswami, 2008). To assist in this learning, symbolic systems have been created to represent spoken language including alphabetic, character-based, and Braille (Missall et al., 2006). It is notable that through these various language systems the average child between the ages of 1 and 6 years will acquire more than 14,000 words (Dollaghan, 1994).

Spanish is an alphabetic-based system where the letter in the written word usually indicates to the reader how to pronounce or read the word (Gutiérrez-Clellen, 1999). Orthographies are visual codes for spoken language where meaning is communicated via printed symbols (Goswami, 2008). Through this process, skilled readers of alphabetic-based systems are able to transfer their orthographic and phonological knowledge to the reading of words they have never seen before (Goswami, 2008). Studies suggest that children learning across languages appear to use analogies to determine the pronunciation of irregular words, applying their knowledge of the pronunciation to the decoding of words they have not read before (Gutiérrez-Clellen, 1999). The usefulness in which analogies can assist in decoding varies to the extent in which a close sound-letter correspondence exists.

Current research indicates that certain groups of children, including those living in poverty or learning English as a second language, are in jeopardy of experiencing early literacy deficiencies resulting in negative reading outcomes (Missall et al., 2006). These children

frequently lack adequate skills in English because of the absence of such things as shared reading activities, printed materials in the home, and stimulating adult conversations (Bradley & Corwyn, 2002). The effects of childhood poverty on successes later in life imply a strong correlation between family income and a child's ability to achieve academically (Duncan, Yeung, Brooks-Gunn, & Smith, 1998). Caldwell and Ginther (1996) found that children from low-SES households constitute the largest population of students considered to be at-risk of not graduating from high school citing their lack of academic achievement as the likely predictor for dropping out of school.

Among children who are English language learners, Dixon et al. (2012) cite four major factors that contribute to language development: the status of the language involved (even suggesting that often times a language which is associated with a lower SES population is accorded a lower status), the socioeconomic status of the child's family, the amount of language input in each language, and the language(s) the mother or care taker uses with the child. Acknowledging that both the home language and school language play an important role in language acquisition among school-aged children, Gathercole and Thomas (2009) believe that home language is the most critical for success.

In contrast, early literacy development for children from middle-class and higher income homes is often far more advanced than those of low-socioeconomic status (SES) backgrounds or families where English is not the first language (Mohler et al., 2009). Constantino (2005) found that children from high-SES home environments have more books in their homes and are more likely to read for pleasure compared to those living at or near poverty. In addition to increased reading opportunities, research has shown that high-SES parents engage their children in more

meaningful and stimulating conversations leading to a greater frequency of teaching experiences (Bradley & Corwyn, 2002).

Oller and Eilers (2002) found that Spanish-English bilingual students from high-SES families significantly outperformed students from low-SES households on English vocabulary tests. Similarly, a mother's education level and occupation, along with the amount of language input given to the child, are positive predictors of English proficiency (Hoff & Elledge, 2005). Tabors, Pérez and López (2003) discovered bilingual students who scored high in both Spanish and English usually came from households of parents with higher levels of education.

Frequently children from higher SES backgrounds have parents and teachers who encourage educational activities that are more expressive in nature including extensive read-alouds coupled with lively conversations. As such, their verbal exchanges are richer containing more scaffolding and complex verbal strategies resulting in a higher degree of oral language and literacy development (Borduin & Henggeler, 1981).

McLoyd (1998) argues that teachers tend to perceive low-SES students unfavorably resulting in less positive attention and reinforcement for good performance. Because of negative teacher attitudes and low expectations, many poor and minority children tend to have fewer learning experiences with cognitively stimulating materials (McLoyd, 1998). For these at-risk children, many of whom are Hispanic, Bradley and Corwyn (2002) cite that a lack of exposure to enriching language-based experiences have resulted in deficiencies in their oral language and literacy development. A failure to master early literacy concepts and skills may also place children at a greater educational risk for possible placement in special education in elementary school (Scarborough, 1989).

The relationship between SES and language competence is complex. However, it is clear that over time, lower student expectations coupled with the frustrations associated with school failure and negative encounters are likely to limit academic success (Bradley & Corwyn, 2002). Unfortunately, similar problems also exist beyond the classroom. Low-SES parents are less likely to purchase reading and learning materials for their children's use at home and less likely to engage in educational and cultural events (Bradley, Corwyn, Caldwell, Whiteside-Mansell, Wasserman, et al., 2000). The consequences of all of these actions may not only result in school failure for these children but also lead toward conduct and withdrawal problems (Battin-Pearson, Newcomb, Abbott, Hill, Catalano, & Hawkins, 2000).

There is little doubt that the relationship between low-SES, cognitively stimulating learning experiences, and emergent oral language and literacy skills can be attributed to parent and teacher attitudes, expectations, and styles of interacting with children (Bradley & Corwyn, 2002). It is to be expected then that enriching materials and experiences can stimulate cognitive learning (Ford & Lerner, 1992). Learning materials and experiences afford opportunities for social exchanges in a productive way, while in the absence of such opportunities, children may become bored or frustrated, leading to negative responses from parents, teachers, and peers (Bradley & Corwyn, 2002).

Findings point out the negative effects poverty plays on children's development, especially their cognitive functioning and educational achievements (McLoyd, 1998). To counter these devastating outcomes, many research studies advocate integrated and family-centered strategies for raising the level of literary achievement among low-SES children including greater home-based cognitive stimulation, increased parental involvement in schooling, and higher teacher expectations (Illback, 1994).

Children with a rich linguistic background before entering school are more likely to acquire a larger vocabulary at a quicker rate than those from a more limited linguistic environment (Goswami, 2002). This link between literacy and oral language development is considered a high priority in most preschool literacy programs (National Association for the Education of Young Children, 2009). One such study investigating a preschool literacy project in southern California revealed that playful but purposeful literacy instruction can have positive learning outcomes in developing oral language and literacy skills among 3- to 5-year-old children of low socioeconomic backgrounds who have English as a second language (Mohler et al., 2009).

Also shown to improve reading comprehension is a greater knowledge of vocabulary. Children with stronger abilities in phonological processing, print awareness, and oral language benefit from early reading instruction more than children do with fewer of these skills (Missall et al., 2006). These factors help to explain why vocabulary size and rate of attainment are both important in a child's development. Children from poorer homes are generally not exposed to the same quality and quantity of adult-child interactions involving vocabulary development, book reading and exposure to printed materials (Borduin & Henggeler, 1981; Missall et al., 2006).

These findings have a direct impact on academic success for second language learners whose vocabulary is often limited. Academic achievement is the relationship between development and instruction: the former creates the potentialities; the latter realizes them (Vygotsky, 1986). Mohler et al. (2009) argues that as early as 5 years of age this readiness gap may put these children several years behind their more advantaged peers. Children from less advantaged situations or whose first language is not English have fewer of these essential skills needed to achieve academically. Although the acquisition of oral language and literacy

development is dependent on a given level of developmental readiness, there is little doubt that student success is strongly influenced by environmental settings.

Sociocultural Theory

Another exploration in the development of language acquisition can be found in the works of sociocultural theory as originally conceptualized by L. S. Vygotsky, noted Russian psychologist. Proponents of sociocultural theory believe that the learning process is primarily a social activity (Lantolf, 2000) regulated by means of reciprocal actions incorporating the use of physical tools (e.g., paper, pencils, and computers) and semiotic tools (e.g., language). People learn through and about language interacting in social settings. Language is seen as an important mediation tool in the learning process (Zha et al., 2006). How does such a theoretical construct affect language acquisition in a bilingual education program?

Rather than simply repeating tasks when directed, true learning, according to sociocultural theorists, occurs when the learner actively transforms knowledge gained into meaningful new skills (Lantolf, 2000). Within the framework of second language acquisition, this implies going beyond the basics of mastering literacy skills to higher forms of human mental activity including logical thought, planning, and problem solving (Wertsch, 1990).

Lantolf (2000) believes that the most fundamental concept of Vygotsky's sociocultural theory is that the human mind can be mediated, thereby causing changes to occur within our environment. Vygotsky postulates that humans do not act directly on the physical world but rather employ physical or symbolic tools to mediate or regulate relationships with others (Kramsch, 2000). These tools are created by human cultures over time and made available to

succeeding generations who can then adapt these artifacts to fit their existing needs in order to communicate and express themselves (Donato, 2000).

Whether these tools are symbolic or physical, according to Vygotsky they are created under specific cultural and historical conditions, and therefore carry specific meaning (Vygotsky, 1986). Included among the symbolic tools are arithmetic systems, music, art, and perhaps most importantly language. From a sociocultural theory perspective, we learn language primarily through social activities such as conducting conversations and responding to teachers' questions rather than memorizing arbitrary linguistic shapes and the sounds associated with them to later be used in goal-oriented activities (Kramersch, 2000).

According to Vygotsky (Lantolf, 2000), a child's everyday surroundings provide numerous opportunities to engage in tasks utilizing symbolic and physical tools for language learning. It can be argued that the classroom environment offers similar experiences in the form of teacher-student and student-student interactions. From a pedagogical standpoint then, understanding the role of sociocultural theory within the context of language acquisition becomes a valuable asset in developing bilingual education programming.

In the early stages of a child's life, Vygotsky asserts that a child is completely reliant on other people to initiate their actions by instructing the child to what to do and how to do it (Vygotsky, 1986). As representatives for society's cultural norms, parents typically become the principal means through which customs are introduced to the child, primarily through the symbolic tool of language. As children are exposed to these cultural and social legacies through interactions with their parents and others, they acquire new knowledge while adding their own personal values in the process (Lantolf, 2000).

This transition from social interaction to internalization according to Vygotsky is not

merely a copy of information, but rather a transformation of what has been learned through personal exchanges, resulting in the development of internal values (Vygotsky, 1986). Vygotsky believes this development of personal values is what also takes place in schools (Donato, 2000). Students do not merely reproduce the actions of their teachers during the learning process; rather they transform what teachers provide during instruction and internalize the knowledge gained adding individual meaning along the way (Lantolf, 2000).

As children develop mentally, they acquire increasing control over the mediational means afforded by their culture, including language, for interpersonal (i.e., social interaction) and intrapersonal (i.e., thinking) purposes (Lantolf, 2000). Students who are able to successfully manage mediational tools performed better on performance-based activities suggesting that sociocultural theory offers a more holistic view about the process of learning (Turuk, 2008). A study by Frawley and Lantolf (1985) compares the performance levels of intermediate and advanced ESL speakers engaged in a complex narrative task. The findings indicated that the advanced speakers outperformed the intermediate group because they had a greater understanding of the language; in other words, they managed the mediational means afforded them because of their advanced knowledge level.

Sociocultural theorists view the educational process as being centered on developing skills and strategies that enable the learner to grow while making learning experiences meaningful and relevant to the individual (Williams & Burden, 1997). The implications of sociocultural theory on second language instruction and how the classroom environment is structured to facilitate student learning is far-reaching. Rejecting the idea of teaching concepts as detached ideas, sociocultural theorists believe that a unit of study should be presented in all its intricacies, rather than introducing skills and knowledge in isolation (William & Burden, 1997).

This belief acknowledges the dynamic interplay between teachers, students, and the learning activity while emphasizing the importance of the student as being an active problem-solver and social interaction becoming the focal point of the learning process.

According to Ellis (2000), sociocultural theory assumes that learning occurs during the interaction process culminating in the exchange of ideas with others. Learners first succeed in performing a new task with the help of another person and then internalize this task so that they can perform it on their own. The relationship between second language acquisition and sociocultural theory focuses on the means that move students from one skill level to the next and the teacher's role in facilitating this development.

Two concepts central to Vygotsky's sociocultural theory are mediation and scaffolding, both critical to learning outcomes (Turuk, 2008). According to Vygotsky (1986), mediation describes the interaction of the learner and other significant people in the development process. This is accomplished through selecting and shaping learning opportunities that enhance the learner's understanding. The key to effective learning then lies in the nature of social interaction between two or more people with different levels of skills and knowledge. Vygotsky asserts the learning process of a child is one of exploration and interaction with others rather than a solitary journey experienced alone (Lantolf, 2000).

The other concept essential in learning is scaffolding. From an educational perspective, scaffolding is an instructional strategy where the teacher models the desired learning skill or task then gradually shifts the responsibility of implementation and completion to the student (Turuk, 2008). Donato (1994) observes scaffolding involves the expert (i.e., adult) continually revising the teaching model in response to the emerging capabilities of the learner.

From a teaching strategy viewpoint, as the learner begins to take on more responsibility for the task, the adult dismantles the scaffolding support signifying that the learner has internalized the necessary problem-solving processes (Donato, 1994). Conversely, a learner's error or limited capabilities can be construed as a signal to the expert to raise the level of support. The implications within a bilingual classroom suggest that scaffolding may provide a mechanism for collaborative work among language learners of varying skill levels (i.e., expert-novice relationship).

A student's competency in a second language should not be regarded solely as an exercise in the mastery of rudimentary skills, according to Zimmerman (1997). Relying only on performance outcomes based on instructional activities designed to teach discrete skills does little to assess the learner's potential range of abilities. Vygotsky (1986) recognizes this limitation and places great emphasis on trying to gauge a child's future capabilities; his efforts resulted in his theory known as the zone of proximal development (ZPD). Vygotsky realizes that a child's mental functions have not yet matured but are in the process of maturation given the right environment (Turuk, 2008). ZPD is defined as "the distance between a child's actual developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Turuk, 2008).

This process of developmental maturation takes place when the child is interacting with adults, peers, or artifacts in the environment by means of collaborative activities. Once these activities or behaviors have become internalized, they become part of the child's independent developmental achievements. Thus, the process of learning may be thought of as closing the gap

between what learners can accomplish independently and what learners can achieve when provided external support (Zha et al., 2006).

Instruction plays a prominent role in a child's cognitive development and calls for teachers to be responsible for providing learning activities at a level that are just beyond the independent ability level of the student. As Vygotsky (1986) advocates good instruction must always be aimed not so much at the developed but the developing functions.

At issue in the school context is what are the instructional strategies that can help students move from one level to the next and more importantly, what is the teacher's role in facilitating this progress? Often instructional strategies stress teaching concrete facts with not much attention given to conceptual thought. Vygotsky believes teachers should push students towards a more abstract examination of ideas as a means to develop multiple skills enabling them to deal with complex learning tasks (Lantolf, 2000).

Simister (2004) emphasizes the importance of the student's personal voice and asserts that only focusing on the recitation of facts and accepted ideas results in creating uninspired students. This belief recognizes the importance of abstract thinking and implies that students should be taught how to create and alter their learning strategies to make meaning of complex ideas. Within the framework of bilingual instruction, the learner's understanding of the newly acquired language is gradually reshaped as their level of knowledge is expanded (Turuk, 2008). From this perspective, ZPD can be thought of as an instructional strategy to expand the student's mastery of the targeted language in addition to cultural responsiveness.

Although the concepts of scaffolding and mediation are important, second language learners still require explicit instructions in order to achieve success. There is still a need for learning tasks to be delivered in stages with an appropriate means of assessing progress by the

instructor. Piaget's theory of cognitive development is consistent with this perspective of peer support in learning (DeLisi & Golbeck, 1999). Piagetians believe that peer interaction experiences can help children foster their intellectual growth (Zha et al. 2006). Insisting that many rudimentary tasks cannot be handled independently at the early stages of learning, Carson and Leki (1997) maintain that a teacher must still take second language learners through multiple layers of instruction building on previous knowledge before the learners can be left on their own.

Internalizing meaning during the learning process from multifaceted activities through social interaction is currently a principal area of focus in second language instruction (Turuk, 2008). This is evident by the proliferation of instructional approaches seen within the classroom. Models such as sheltered instruction and transitional bilingual education are efforts to integrate the teaching of reading and writing into language development. On the other hand, too much attention on basic skills may deprive students from engaging in aspects of literacy such as meaning construction, competency, and fluency (Zimmerman, 1997).

Terrell's (Krashen & Terrell, 1983) natural approach theory on language development is predicated on the belief that the primary function of language is communication and interaction without regard to grammatical analysis, a description characterized in an earlier work by Hymes (1972) as communicative competence. Krashen and Terrell (1983) state that meaning is more important than structure and the primary goal of language learning ought to be the development of communicative skills.

Communicative competence goes beyond the characterization of a speaker's ability to merely converse in a second language, however. Social and cultural situations need to be considered. In a study by Liu (2008) this phenomenon of sociolinguistic transfer, identifies the inherent problems associated with cross-cultural interactions. Second language speakers tend to

transfer sociocultural patterns from their native language to English often lacking knowledge on what they should do and say in the target language given the social situation (Liu, 2008). This intercultural miscommunication is the result of speaking a foreign or second language but employing the rules of the native language (Liu, 2008).

Marshall (1987) believes that if these sociocultural aspects of language development are ignored, teachers will instill in students a literacy skill set that is rigid and unimaginative. Arguing that possessing such limited skills make students develop one-way thinking, causing them to reject whatever does not conform to their existing knowledge (Marshall, 1987). This inflexibility is what Vygotsky refers to as fossilization or a cessation in learning, resulting in students developing a convergent type of thinking that hinders their abilities to deal with new tasks that require complex thinking (Turuk, 2008).

Inquiry-Based Learning

A major concentration of early childhood education is the development of children's cognitive and socialization skills, proficiencies recognized as prerequisites for future success in schools and later as adults (Essa, 2002). To reach this objective, many experts advise that early childhood and elementary programs offer a balanced approach focusing on child-centered, highly contextualized, meaningful interactions which are teacher guided, scaffolded, and targeted to key concepts (Ginsburg & Golbeck, 2004).

To further serve language minority students, schools have been in the process of reshaping past practices and models of instruction to accommodate a new generation of learners (Rodríguez, 2008). Inquiry-based learning presents a viable methodology in which this balance can be attained, while engaging learners in meaningful and active learning activities (Wang,

2004). Grounded in child development and learning research, with an emphasis on promoting children's learning and development, this framework of instruction is often referred to as developmentally appropriate practice (National Association for the Education of Young Children, 2009).

While inquiry-based strategies as a foundation for student learning have long been recommended, particularly in the areas of mathematics and science (Anderson, 2002), they have emerged in the field of language and literacy instruction in more recent times (Short & Harste, 1996). The inquiry method involves a problem-solving process readily adapted to the classroom environment (Lind, 2005) that allows students to construct their own knowledge as they develop an understanding with support of the teachers and peers (Savery & Duffy, 1996). Inquiry-based learning assists students in developing their personal and social understandings of the world by utilizing multiple perspectives and various forms of knowledge (Short & Harste, 1996). Wang (2004) goes further saying computer technologies offer an approachable means for extending the domain and range of this type of exploration.

The National Educational Technology Standards (International Society for Technology in Education, 2000) has also advocated the application of technology for informed decision-making in solving real-world problems. The benefits that technology can bring to inquiry-based learning are abundant, including enhancing student interests and motivation, providing access to information, managing complex ideas, structuring learning processes with integrated support, and permitting interactive representations that can be manipulated and explored (Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991). Even though a growing number of technological innovations introduced over the years have targeted reading and language most

applications concentrate on drill-and-practice or entertainment, consequently they lack strong pedagogical value (Sarama, 2004).

Currently, there is a need for technology-based learning activities that emphasize scaffolding instruction with inquiry-based methodology to meet learners' developmental goals (Wang et al., 2010). The availability of a variety of technological resources presents infinite potential to supplement inquiry-based learning in early childhood education (Wang, Kinzie, McGuire, & Pan, 2010). However, English language learners, especially younger children, can be overwhelmed by technology's complexity, thus making it difficult to direct their learning experiences (Quintana, Reiser, Davis, Krajcik, Fretz, & Duncan, 2004).

Learning activities can often be facilitated if complex tasks are taught in more manageable steps coupled with expert guidance (Reiser, 2004). If not effectively managed by young children, these resources may actually inhibit inquiry-based learning by reducing the motivation to learn because of the increased cognitive demands placed on the learner (Wang et al., 2010). According to Tyson (2010), the essential questions that education leaders should consider when evaluating instructional programs include:

- How can we leverage the students' interest in sharing their work?
- How can we be assured of getting exemplary student work?
- How can we improve the quality of the students' finished product while increasing their emotional connection to the curriculum?
- How can we persuade students to think more deeply and take greater ownership of their schoolwork?

Our educational system appears to be moving away from student activities reliant on passive consumption and beyond instructional models in which the few broadcast to the many (Tyson, 2010). Students appear to want a greater sense of participation and involvement, to be more connected with their learning. Research suggests that student learning must not only

include an emphasis on developing children's self-regulation, engagement, and focused attention but also include the teaching of relationship-based skills that embrace partnering with families and adapting for children from different backgrounds (National Association for the Education of Young Children, 2009). People instinctively want to interact with others, the challenge for schools is how they are supporting students' desire to contribute, produce, and share (Tyson, 2010).

Language Acquisition

There is not one single student profile of an English language learner, and neither is there one approach in meeting the child's educational needs because, in the larger sense, all students are learning English; this presents both opportunities and challenges (National Council of Teachers of English, 2008). The purposes for which language is used range from expression of everyday needs through words and actions to the participation in wider cultural encounters with society (Wolfe & Flewitt, 2010). The advent of new technologies has introduced new dimensions into language development applications in the classroom, driven in part by social and cultural practices. This is dramatically changing the way young children grow as learned individuals. As a child begins to mature, the ability to comprehend linguistic forms and judge grammatical correctness start to emerge. It is a relatively small step then to hypothesize that general cognitive growth accounts for language development (Rice, 1989). Indeed, this relationship between cognition and language helps define what a literate being represents. As Au and Raphael (2000) emphasize, "ensuring educational equity involves helping students become literate in all artifacts of literacy, not only those historically used and present in today's society, but those likely to become prominent in the future." Though the goal of education is to provide every child the

knowledge and skills needed to achieve success in all settings, studies suggests that sometimes educational practices have unequal consequences for children of limited language ability (National Council of Teachers of English, 2008; National Association for the Education of Young Children, 2009).

Research suggests that there are three critical factors essential for learning a new skill: frequency, duration, and modality (Garner, 2010). With this understanding, what will language instructional practices look like in our classrooms and how will those changes impact the evolution of technology-enhanced learning environments? Further, how can innovative technologies deliver effective strategies in helping ELLs transfer the knowledge they already possess from their first language to learning English as a second language? Finally, in the larger context what do these changes signify for all students?

Critical to student success and a strong predictor of academic achievement is active engagement with literacy and language (Cummins, 2007b). It is important to distinguish between the language skills that govern oral fluency and those associated with functioning in an academic environment, in other words a person's language proficiency (Halle et al., 2012). Cummins (1999) uses the terms BICS (basic interpersonal communication skills) and CALP (cognitive academic language proficiency) to discriminate between the social and academic components of language proficiency. Rice (1989) contends that language consists of four major grammar elements: 1) the sound system (i.e., phonology), 2) the system of meanings (i.e., semantics), 3) the rules of word formation (i.e., morphology), and 4) the rules of sentence formation (i.e., syntax).

To develop competence in academic language in the core content areas, ELLs must learn how to use the English vocabulary and grammar. Rice (1989) adds that language acquisition is

comprised of three interrelated factors: 1) the language to be acquired, 2) the child's abilities and predispositions that he or she brings to language acquisition, and 3) the environmental setting.

The theory underlying these facets of development is that language acquisition is promoted by meaningful use and learner interaction. Understanding how all three pieces fit together within the structure of a language-learning environment is the major challenge facing educators.

The bilingual curriculum taught in many language programs today is no longer limited to the basic skills of grammar, memorization, and learning from rote. The most effective programs incorporate language acquisition principles and cultural knowledge in order to communicate and connect with students delivered through high-level activities (Zha et al., 2006; Halle, 2012).

Krashen and Brown (2005) found that children with higher levels of self-confidence and motivation are also more likely to become English proficient in comparison to those with low esteem.

Research has also revealed that most learning occurs at a non-conscious level in an area of the brain that effortlessly processes visual cues, sounds, experiences and feelings in order to make meaning—all without regard to socioeconomic status, language ability, or life experiences (Jenson, 2008). This is in stark contrast to where language learning occurs in the brain. Language along with the acquisition of other types of information takes place at the conscious level of learning (Jenson, 2008). It is at this conscious level where bilingual students can be at a disadvantage because of their lack of familiarity with a new language and the patterns of interaction facilitating classroom instruction (Neuman & Celano, 2006). Here learning requires effort and to be successful it is necessary for the student to be attentive and actively engaged in activities that are typically language intensive (Jensen, 2008).

The curriculum taught in many early childhood education programs place a great emphasis on developing language and literacy skills beginning with the teaching of sounds and patterns (Wolfe & Flewitt, 2010). Traditionally, literacy and language development has been seen as a cognitive activity associated with primarily print-based media. Though there is great merit in sharing stories and introducing children to books and other versions of the printed word, what is lacking is an equivalent introduction to literacy and language development via new technologies (Wolfe & Flewitt, 2010). Additionally, many approaches to teaching literacy and language are based upon skill-building techniques. Children must first consciously learn all the rules and words of a language before they can actually use the language; this practice puts second language learners at a disadvantage (Krashen, 2008).

Being competent in a language is about having a broader understanding of the world, one where individuals are able to interpret social situations and understand what is required in order to participate effectively in specific situations. Lonsdale and McCurry (2004) contend that individuals become empowered because of the development of critical thinking skills through language and literacy. Distinguished by connectivity and relevance, these skills involve the mental strategies associated with reading and writing but have their foundation anchored in spoken communication (Wells & Chang-Wells, 1992). In this context, language is not only a tool for communicating but also for thinking.

Language skills emerge from prelinguistic communicative needs where the social situation controls the early applications of language; in turn the social setting provides validation and confirmation of the child's effectiveness as a communicator (Rice, 1989). Schools represent an important social setting for student language development. In order for English language

learners to participate effectively in the 21st century Wolfe and Flewitt (2010) argue it is necessary for these students to have the following:

- Access to human and material resources such as people, books, objects, computers, mobile phones or internet connections
- The skills necessary to operate or engage with these resources effectively
- A critical understanding of the diversity of literacy tools and how they might be used in different ways and for different purposes

The implications for educators become clear—to assist students’ language and literacy development, teachers must help them make connections to stay engaged and reflect critically on the purposes of communication, even at a relatively young age (Wolfe & Flewitt, 2010). Because the rules of learning a language are so complex, instructional methods such as skill-building models should not be the primary means of developing language competence (Krashen, 2003). Rather, Swain (1985) believes that we acquire language when we try to produce it, fail to make ourselves understood, and keep trying until we achieve communicative success. For schools to be successful our instructional models should reflect these ideals.

In a theoretical sense, Krashen (2003) believes that teaching language is easy, “All we have to do is give students comprehensible messages that they will pay attention to, and they will pay attention if the messages are interesting” (p.4). Unfortunately, many English language learners are faced with the reality of not being allowed to learn in their native language, presenting a major hurdle in their development as a communicator.

When exposed to a learning concept using the preferred modality of their native language, students are more likely to increase their understanding of the identified skill (Bandler, 1985). Many current language-learning models are based on the assumption that we subconsciously acquire language competence when we comprehend what we hear and read (Krashen, 2008). There is considerable discussion that the future of language acquisition will

concentrate on a communicative language teaching approach, one that emphasizes real-life situations created by the teacher in which communication by the student is the chief focus (Galloway, 1993; Krashen, 2008). Critical then to young children's success in language learning is the nature of the learning environment and resources available, along with the kinds of pedagogic interactions mediating those experiences. Without this understanding, language acquisition models may remain underdeveloped.

Interactive Technology

The importance of studying interactive technologies lies in understanding how student-to-student as well as student-to-teacher interactions can be encouraged within the classroom and in doing so contribute to whole class interactions that are language driven. Can technology-enhanced classroom environments effectively engage the learner while delivering a language curriculum that supports the accepted theories on language acquisition? Within the context of social learning theory, little research has been conducted focusing on student-to-student interactions using interactive technologies in the learning environment (Maher, 2012). Most studies have only examined teacher-to-student interactions typically using a skill-building model of instruction (Bennett & Lockyer, 2008).

Innovative design elements transforming traditional teaching methods do exist, however. For aural learning activities, the Internet allows access to programming that provides listening and reading experiences on an assortment of topics in a variety of languages at no cost (Krashen, 2008). When used for voluntary surfing the Internet has many benefits for English language learners. Students can read what they want, with no accountability, no follow-up exercises, no assigned topics, and no vocabulary list that must be memorized (Krashen, 2008). Another

innovation that has been introduced to a new generation of learners is in the area of digital storytelling. Often created by students, a digital story combines recorded voice, still and moving images, music, and other sounds (Kendrick, 2011). The instructional focus remains on the traditional story elements such as plot and character development but with an emphasis on peer interaction (Kendrick, 2011).

During the late 1990s, the British government released the National Literacy Strategy (NLS) report promoting language development strategies for the classroom (Maher, 2012). The NLS report identified the use of whole class discussions as a means for encouraging and extending student contributions (Department for Education and Employment, 1998). According to Alexander (2005), these dialogic interactions help to develop critical thinking skills because the student's own words, ideas, conjectures, and arguments are prominently featured. This is in stark comparison to monologic discussions, which are predominately controlled by the teacher.

The relationship between technological innovations and established language development practices has been the topic of many scholarly works (Zhao, Englert, Chen, Jones, & Ferdig, 2000). By focusing on the interactions of students, researchers have identified a number of positive learning outcomes associated with whole class instruction aided by the use of interactive technology. Maher (2012) observes when students in these classrooms are questioned by their teacher they tend to have lengthier responses with more detailed explanations while using an extended range of vocabulary.

While some researchers have suggested that the use of interactive technology in whole class instruction increases critical thinking skills through dialogic interactions, others have found no evidence to indicate an improvement in language related activities such as student response. Schuck and Kearney (2007) note that these types of technologies when introduced in the

classroom setting do not change the type of questioning initiated by the teacher and rarely advanced student inquiries. In spite of these contradictory findings, it is clear that social interactions are a shared experience influenced by cultural factors (Wang, 2004) composed of verbal and non-verbal cues providing a basic means for language acquisition (Maher, 2012). The transformative possibilities these interactive technology practices bring to teaching and learning within the classroom environment is open to discussion.

Long before the emergence of interactive technologies in the classroom, a child's emergent literacy and language skills encompassed a variety of activities that did not include such devices as iPads, iPods and other tablet-style, touch-screen technologies (O'Mara & Laidlaw, 2011). However, in the digital age we live in with our fascination of new media, it is important to understand the impact these new technologies have on instructional development, including language acquisition and their relationships with students in the classroom. As Burnett (2009) proclaims, there has been very little research examining new literacies and emerging practices within the primary classroom setting, arguably one of the most critical times in a student's development.

The need to develop research-based approaches to support educational activities including digital technologies is necessary in meeting the challenges of the 21st century (O'Mara & Laidlaw, 2011). How might these technologies and practices change the understandings and usage of language acquisition with children in the classroom environment? While teachers and students are frequently eager to incorporate these devices into their activities, there is very little confirmation offering how these new technologies actually change the approaches to the subjects taught (O'Mara & Laidlaw, 2011).

Some studies do exist, Freeman (2012) examines how digital educational technologies

are used to support student learning among high school Hispanic ELLs. Using a technology-based sheltered instructional program to supplement the mathematics curriculum, the findings revealed that not only did math ability increase as a result of the computer-based intervention program but it also had an indirect effect on increasing students' perceived math self-efficacy (Freeman, 2012).

Because of emerging technologies widespread acceptance, students today are developing a new disposition towards language and print media, influencing their literacy and language development in the process. Traditionally, print media has been a stable commodity composed by the author and interpreted by the reader (O'Mara & Laidlaw, 2011). In this regard, print media had a sequential, linear order, within a structure characterized by authority and recognized as a basis of knowledge (O'Mara & Laidlaw, 2011). Often designed by a producer and redesigned by a reader print media looks vastly different today. Its value lies in the potential usefulness as a basis of information, making it not only participatory but also radically unstable (O'Mara & Laidlaw, 2011).

Though not always linear or logical in their creation, technological innovations and educational practices should interact in a reciprocal manner to define and redefine each other (Zhao et al., 2000). Educators need to be able to envision new possibilities in creating unique opportunities for learning that more fully exploit the affordances of new technology tools. We must find new ways to work with interactive technologies in technology-enhanced classroom environments to improve upon language acquisition for English language learners.

The need to develop innovative pedagogical approaches while shifting educational practices to better address 21st century realities has been the focal point of many collaborative efforts. Countless levels of involvement, from individual schools and districts to state and

national agencies, have driven this research focus. Alberta, Canada's Organization for Economic Cooperation and Development recently published a report advocating innovative approaches to change educational practices to better address the challenges of the 21st century including effective social engagement, participatory democracy, equitable communities, and sound economies (Organization for Economic Cooperation and Development, 2011). Clearly, today's learners live in a rapidly changing world that demands an ever-increasing ability to communicate and share ideas while adapting to new technology tools and innovations (Laidlaw, 2010).

Children need to be thought of as "global cosmopolitan citizens" capable of critically analyzing and processing multiple digital information sources (Luke, 2007). When new technologies are introduced into the classroom environment educators must change pedagogical practices to fully exploit the learning opportunities offered through these new cognitive tools. Unfortunately, education systems have tended to "delay and sublimate the emergence of new paradigms" rather than embracing new technological approaches and challenges (Luke & Luke, 2001).

Summary

Students requiring specialized instruction often benefit from the technological improvements incorporated into the learning environment and ELLs appear to be no exception to the academic gains that have resulted from these enhanced language delivery systems (Bishop, 2000). Many studies have shown these learning environments to increase the levels of student engagement, critical thinking skills and self-confidence. However, many factors must be taken into account when addressing the language acquisition needs of English language learners thus making it an elusive concept.

The very nature of literacy learning and language development has taken on new meaning with our changing times (Chatel, 2002). As technologies have evolved, educational leaders are envisioning new ways of using them for literacy development endeavors. In addition to the traditional views of literacy that embrace reading and writing, it is becoming increasingly important to understand and appreciate what new technology-enhanced literacy skills means in the 21st century classroom (Kasper, 2000). But there should be some trepidation as we move forward; promises offering innovative and creative delivery systems to improve student learning may result in some of the same shortcomings as witnessed from older generations of technologies (Bishop, 2000).

While today's technologies have given instructional delivery models a new presence in the classroom, school districts throughout the United States are struggling to find effective instructional practices to meet the growing number of students identified as English language learners. Interactive technologies have ushered in a whole new range of learning possibilities offering engaging settings with unique opportunities for cultivating social relationships; attributes essential in delivering meaningful second language acquisition activities. For English language learners, these technology-enhanced classrooms may not only provide better tools for learning but also the promise of equitable access to materials in the student's native language.

With today's information age characterized by the continuous emergence of new technologies, educational leaders must be accountable in determining how schools respond to the trends and social adaptations underway (Wilmarth, 2010). Students have become so intimately familiar with many of the technological advancements educators often find themselves left behind (Keenan, 2011). Wilmarth (2010) insists that the educational community must let the social adaptations of technology use direct them as they revise best practices to confront the

challenges of a less than certain outcome within our education institutions.

At the very least, educators will have to address not only what we teach our students, but also how they learn. Protheroe (2011) believes teachers should use instructional methods that provide opportunities for ELLs to use their home language, in addition to the English being taught. What we thought we knew about learning and teaching to support learning; methods that embrace top-down, linear design systems, may not be the relevant model of education in the 21st century (Wilmarth, 2010). Society needs to move away from the notion of an education as being something that is provided to us and instead towards thinking of it as something we create (Richardson, 2011).

As Cummins (2007a) observes, acquiring literacy skills is a challenging process for any student learning a language but it is particularly demanding for the ELL who must contend with another language and its cultural nuances. However, today's technological innovations have afforded educators a variety of new approaches to teaching and learning. In this chapter, a review of relevant literature was presented on technology-enhanced classroom environments with regard to English language acquisition and the effect on native Spanish-speaking English language learners. Its organizational structure included: emergent oral language and early literacy, sociocultural theory, inquiry-based learning, language acquisition, interactive technology, and summary. The following chapter discusses research methodology and procedure.

CHAPTER 3

RESEARCH METHODOLOGY AND PROCEDURE

This chapter examines and describes the methods and procedures used to generate, collect, and analyze data collected for this qualitative research study. Organization of the chapter is divided into the following sections: a) purpose of the study, b) context, c) population, d) research design, e) methods and procedures for data collection and analysis, f) triangulation and trustworthiness of data sources, and g) summary.

By definition, qualitative oriented researchers employ the techniques associated with the gathering, analysis, interpretation, and presentation of narrative information emphasizing words rather than numbers (Teddlie & Tashakkori, 2009). For this study, data were gathered through self-identified online questionnaires and face-to-face semi-structured interviews conducted by the researcher. It should be noted that the term qualitative research is frequently taken to imply an approach to social research in which quantitative data are not collected; this assumption is incorrect however for qualitative research does not strictly operate in the absence of numbers (Bryman, 2008).

For any form of qualitative research to be considered trustworthy and credible, the researcher must be immersed within the context of the research (Lincoln & Guba, 1985). This engagement includes the construction and design of both the research question and types of data to be collected (Pérez & Cannella, 2011). For the purposes of this study, a close examination of the online questionnaires and semi-structured interviews was done in hopes of deriving a general conceptual theory based upon the views of the participants.

Qualitative researchers often behave either as pollsters recording people's opinions and experiences or as probers intruding into the private worlds of the interviewees to search out some

concealed aspects of their lives (Brinkmann, 2011). Described as a non-directive method for social research it is meant to provide an unbiased technique by which the researcher may examine private thoughts and perceptions (Brinkmann, 2011). The researcher must accurately present a rich, thick description expressing the experiences of the individual participants with minimal bias or subjectivity. To assist in determining the level of objectivity of this study as well as any biases that the researcher may have brought to this investigation, the Person as Instrument document is available for review by the reader (see Appendix A).

Purpose of the Study

How does language acquisition occur and what is the most effective way to learn another language in the classroom? Not easily defined, the principles of language acquisition take on new significance with our changing times. However, there is much evidence to support a simple hypothesis: we acquire language when we are able to comprehend messages by hearing or reading (Krashen, 2003). With today's information age being characterized by the continuous development of new technologies coupled with current theories on language acquisition it is not surprising that educational leaders are devising new ways of using these innovations for teaching language.

Emerging technological innovations, as defined by Veletsianos (2010), are tools, concepts, innovations, and advancements used in educational settings to assist in various education-related functions including instructional, social, and organizational tasks. Though what constitutes an emerging technology from one classroom to another may vary, there is little doubt that these innovations have provided an opportunity for design changes leading towards improved instructional approaches in the acquisition of a second language.

In order to understand the role technology plays on second language acquisition, this study examined the attitudes and beliefs of teachers about the effectiveness of technology-enhanced learning environments in promoting social and cognitive activities that support language acquisition among native Spanish-speaking English language learners in the preschool and elementary classroom. Within this context, the study's primary research question asked: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language?

To examine the influence of emerging technologies on language acquisition within the classroom environment, the following questions were presented to teachers during the interview phase.

- How are emerging technologies used in the classroom to support second language acquisition among ELLs?
 - How does technology use in the classroom provide meaningful interactions with others in learning the English language?
- Which emerging technologies have made the most impact on second language acquisition among ELLs?
 - How does the desire to communicate with others motivate students' interest for learning technology?
- How do emerging technologies assist teachers in providing appropriate linguistic support and accommodations in making other instructional content areas accessible among ELLs?
- What difficulties have been encountered while using technology in language acquisition instruction?

In summary, this study considered matters surrounding the various applications of emerging technologies in the classroom and their perceived effectiveness in promoting language acquisition among English language learners.

Context

Situated in Texas communities from the Gulf Coast region, the Central Texas region, and the Dallas-Fort Worth metroplex; five public school districts agreed to participate in the study (see Appendix B). Campuses were located in rural towns, suburban areas, and mid-size cities with district student enrollments ranging from less than 4,000 to greater than 33,000. The enrollment of English language learners within these districts ranged from 215 to 1,887 students. Teachers for this study taught at either an elementary school or an early childhood center. Campuses served English language learners through either an ESL/ELL or bilingual education program. The State Board for Educator Certification of the Texas Education Agency licensed all participants to teach in the state of Texas.

Population

Strategically recruited from either an early childhood center or elementary school, participants taught in a bilingual education or ESL/ELL program and had an interest in using technology in language instruction. This purposive sampling technique ensured that each participant's interests were relevant to the stated research question. However, a purposive sampling methodology is a non-probability form of sampling and does not allow the researcher to generalize theories to a larger population. Forty-six participants completed the self-identified online questionnaire (see Appendix C). From this initial group, 10 participants were selected to take part in face-to-face semi-structured interviews conducted by the researcher (see Appendix D).

Since the participants were purposively selected, it resulted in a relatively homogenous population with narrow views on technology use and language instruction in the classroom.

According to Guest, Bunce, and Johnson (2006), if the goal of the researcher is to describe a shared perception, belief, or behavior among a relatively homogenous group, then a sample size of twelve is sufficient. Further, if a researcher is only interested in high-level, overarching themes, then a sample size of six interviews may be sufficient to enable the development of meaningful themes and useful interpretations (Guest et al., 2006).

Knowing at what point no new information or themes will be observed in the analysis of the data is referred to as data saturation (Guest et al., 2006). The concept of data saturation helps the qualitative researcher operationalize the number of participants required in a study (Bryman, 2008). A sample size of 10 interviews was concluded to be sufficient in arriving at the beliefs of the participants and the subsequent development of emerging themes relevant to the stated research question.

Research was conducted according to the ethical principles for studies involving human participants. All teachers participating in the online questionnaire and semi-structured interview either signed a consent form or responded via email acknowledging their consent. Participants chosen for the semi-structured interviews also agreed to be digitally recorded in order for their responses to be transcribed later. Further, they were informed that other professionals might read their interview transcripts and excerpts might appear anonymously in published form.

Participants were also informed that they were free to withdraw at any time during the course of the study. All data obtained during the study including the demographic information and conclusions drawn in the report were handled in accordance with the University of North Texas Institutional Review Board regulations.

Research Design

Research Strategy

A qualitative strategy was chosen with predetermined and emerging research questions used to guide the investigation. As with most qualitatively oriented social studies, the information gathered from the investigation was presented principally in narrative data and analysis forms (Teddlie & Tashakkori, 2009). The theoretical framework for the research design of this study was interpretivist in nature. This approach allowed the investigative process the means to interpret the meanings of the participants' responses through the elicitation of personal experiences using their own language while describing those experiences as accurately as possible.

Principal Orientation to the Role of Theory in Relation Social to Research

An inductive approach was used in the generation of theory based upon the findings of the research. This method offers the opportunity to draw generalizable inferences out of observations reasoning from the particular to the general (Bryman, 2008). However, it is assumed that the inductive process is likely to involve a degree of deductive reasoning (Bryman, 2008). As data is gathered, interpreted, and analyzed, it may become necessary to collect further information in order to establish the conditions in which a theory will and will not hold.

In this situation, theory development is derived from methodically gathering inductively analyzed data. Strauss and Corbin (1998) argue that systematically analyzed, this process will eventually result in a theory standing in close relationship to the collected data. Seen as a developmental process and dependent on the collection of continuous data it is able to capture the essential qualities of social interactions (Letts, Wilkins, Law, Stewart, Bosch, &

Westmorland, 2007). Charmaz (2004) believes this methodology allows for a more interpretive research approach focusing on social and subjective ambiguities thus resulting in a deeper understanding of the phenomenon. Lastly, according to Glaser (2009), this methodology works to the advantage of the novice researcher who is more likely to uncover new trends and patterns within the data that an experienced researcher might have forced into some preconceived category.

Epistemological Orientation

Epistemology focuses on the nature of knowledge and what constitutes understanding and truth, in other words passes as accepted fact. Many researchers agree that the subject matter studied in the social sciences is fundamentally different from that of the natural sciences (Bryman, 2008) and so the methodology chosen must reflect the human experience (Blaikie, 1991). An interpretivism orientation approach was decided for this study with the belief that human behavior is best understood from the perspective that participants are social actors negotiating everyday meanings through a process of ongoing interpretations (Blaikie, 1991).

Ontological Orientation

Ontology refers to the nature of reality, being, and truth (Lincoln & Guba, 1985) created by social systems comprised of competing interests (Grbich, 2009). For this study, a constructionism orientation was adopted based upon the conviction that human behaviors are representative of their social interactions and they are in a constant state of revision dependent on the participants involved (Bryman, 2008). The implication being that multiple realities may exist and that human behavior depends on how individuals interpret the conditions in which they find

themselves at that moment (Blaikie, 1991). As a result, knowledge is viewed as imprecise and therefore presents only a specific version of social reality at that point in time, rather than regarded as definitive (Bryman, 2008).

Methods and Procedures for Data Collection and Analysis

The data gathering and analyses methodologies discussed in the ensuing two sections are congruent with the study's goals of conducting qualitative research. For the purposes of this research, participants were selected from Texas public schools representing five districts spanning from the Gulf Coast region to the Central Texas region to the Dallas-Fort Worth metroplex. They taught at either an early childhood center or elementary school in either a bilingual or ESL/ELL program. All participants identified themselves as using technologies in varying forms to some degree in their classroom for language acquisition instruction. Responses from self-identified online questionnaires and face-to-face semi-structured interviews were the sources of data. Each type required a unique data collection and analysis technique. These contrasting techniques along with the instruments used in identifying and collecting responses are described in detail in the Phase 1 and Phase 2 subsections.

After securing permission from the five superintendents or their designees by means of a letter, possible teacher candidates from selected schools were identified (see Appendix E). Teacher recommendations were made with the assistance of the campus principal, assistant principal or a district level administrator to ensure classroom instruction was compatible with the scope of the study. After the identification of suitable candidates, recruitment emails were sent to explain the scope of the study and determine their level of interest. To those teachers agreeing to participate, an informed consent form describing the stipulations was sent (see Appendix F). To

reiterate this purposive sampling technique was a non-probability form of sampling and therefore those teachers selected were not a random sample.

Phase 1: Online Questionnaire Data Collection

Once the participant's signed permission form was either received or acknowledged via an email, a URL link was emailed to the respondent directing him or her to a website to complete the self-identified online questionnaire (see Appendix C). Forty-six teachers participated in this questionnaire. Qualtrics, an online survey software package available through the University of North Texas, was used to create, send, and analyze the questionnaire, "Technology Use in the Classroom to Support Second Language Acquisition." The questionnaire, "Education for the Future Teacher Survey" served as the basis and modified with permission granted by its author, Dr. Victoria Bernhardt of the University of California, Chico (Bernhardt, 2000).

Incorporating a survey-style format, the purpose of the online questionnaire was three-fold: 1) to collect essential demographic data about the teachers (i.e., school location, district size, and years of teaching), 2) to learn their basic beliefs about the role technology plays on language acquisition with ELLs, and 3) to serve as a screening tool in the selection of teachers for the face-to-face interview phase of the study. A fill-in-the blank and drop down menu format was used for the responses associated with the demographic data questions. For statements regarding technology use and language acquisition, respondents indicated their level of agreement through a 5-point Likert scale. This closed question format ranged from *strongly agree* to *strongly disagree*. A middle position of *neutral* indicating neutrality was also included among the response choices. Given that this self-identified questionnaire was offered online, it

could be completed outside of the designated hours of instruction minimizing any disruption of daily school routines.

Phase 1: Online Questionnaire Analysis

Within the online questionnaire were a series of statements focusing on the central issues of technology and language acquisition with the purpose of gathering information on teachers' perceptions of technology use in the classroom and its impact on student learning. Designed as a screening tool for the selection of participants in the face-to-face semi-structured interviews (Phase 2), this questionnaire assisted the researcher in determining to what extent technological innovations influenced language instruction in the classroom and the general attitude teachers had towards students learning a second language. The purposive sampling techniques utilized were a non-probability form of sampling and consequently did not allow the findings to be generalized to a larger population (Bryman, 2008). The purpose of this sampling technique was to choose participants in a strategic manner so that those selected had a relevant interest to the research question.

Bryman (2008) asserts that in order to establish differences between settings it is necessary to have a systematic and standardized method such as a survey instrument. Likert-type scale surveys are frequently used in cross-sectional design studies because they allow variations to be compared among people from more than one setting (Teddlie & Tashakkori, 2009). In the end, it is the responsibility of the researcher to not make exaggerated claims as to the transferability of a study's findings to other similar settings.

Phase 2: Semi-Structured Interview Data Collection

Following the completion of the online questionnaire by the 46 participants, a purposive sampling technique was again conducted to identify the 10 participants that would take part in the face-to-face semi-structured interviews (see Appendix D). Those who indicated an interest in participating were considered based on their consenting response at the end of the questionnaire. In addition, participants who viewed technology as a useful means of instruction and thought of themselves as innovative users of technology were also considered for the interview phase of the study. Once identified by the researcher, the potential candidate was then contacted via email requesting their permission. In order to minimize any disruptions of daily school routines, each interview took place at the participant's school after regular hours of instruction and at mutually agreeable times, typically lasting 20 minutes. All interview sessions were digitally recorded to provide an accurate reporting of each participant's commentary and were archived with the rest of the data upon completion of the study.

Semi-structured interviews offer the capability of providing insights into how participants view their daily lives and culture by allowing the interviewer "a privileged position in producing knowledge about their social world" (Brinkmann, 2011, p.58). This study incorporated a list of specific questions on a range of topics focusing on technology use in the classroom. Referred to as an interview guide, this technique allowed each participant a great deal of latitude in how to respond although the types of questions asked did frame the participants' responses (Letts et al., 2007). Questions sometimes did not follow exactly the way they appeared in the outline of the interview guide; however this allowed the discussion to lead to new questions. Thought of as an in-depth interview, the process was flexible and yet provided enough structure to ensure comparability among participants and districts (Bryman, 2008).

Phase 2: Semi-Structured Interview Analysis

The generation, reporting, and analysis of data were conducted using a general inductive approach (Thomas, 2006). This systematic procedure for analyzing qualitative data utilizes detailed readings of text to develop concepts or themes. The advantage of using this approach allowed the research findings to emerge from the dominant themes inherent in the raw data without the constraints created using structured methodologies (Thomas, 2006).

The coding process involved a word-by-word, line-by-line analysis of the text in order to identify concepts and thematic categories (Grbich, 2007). Saldaña (2009) defines a code as “a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (p.3). For qualitative researchers, a systematic procedure is needed for guiding the analysis of the data. There can be many forms of inductive coding, but they all begin with close readings of text and consideration of the multiple meanings it may possess (Thomas, 2006).

Creswell (2002) outlines the following basic strategic approach in the identification of major categories or themes using raw text data: 1) the initial reading of text data, 2) the identification of specific text segments related to objectives, 3) the labeling of the segments of text to create categories, 4) the reduction of overlap and redundancy among the categories, and 5) the creation of a model incorporating the most important categories. The intended outcome of this process is to create a small number of summary categories or themes, typically between three and eight. According to Thomas (2006), using an inductive coding strategy that finishes up with more than this number is considered incomplete, and in this case, the researcher must make decisions about which themes or categories are most important.

Saldaña (2009) offers the axiom, “Data are not coded-they’re recoded” (p.45). He suggests approaching data analysis coding in a cyclical rather than a linear process (Saldaña, 2009). Accordingly, for the study a progressive refinement coding technique divided in two sections or cycles was implemented. For the initial or first-cycle coding, the In Vivo Coding methodology was used to learn participants’ beliefs and perspectives taking their direct language in creating the codes as opposed to researcher-generated words. The In Vivo Coding approach is one of the best methods for researchers who seek to develop new theory about a phenomenon or process (Saldaña, 2009).

As a continuation of the analytical process, second cycle coding focuses on patterns within the initial coding. Thought of as a higher development in the organization of data, the primary aim of second cycle coding is to create a more select group of themes or concepts (Saldaña, 2009). For the second-cycle coding, the Focused Coding methodology was used to further refine the initial codes. Focused Coding examines the initial codes looking for the most salient categories from the data (Saldaña, 2009).

Analytical memos, similar to a researcher’s ongoing journal entries, were used to record personal reflections including emergent patterns and coding methodology choices made during the coding process. Various artifacts were collected from the participants to aid in the analysis, including photographs of classrooms and teacher created instructional materials. The transcription and subsequent two-cycle coding analysis for each interview was formatted into a basic word document using Express Scribe and Microsoft Word software. Aligned with each interview question, the findings from this inductive analysis methodology were then summarized into broad thematic concepts and presented as emerging categories.

Triangulation and Trustworthiness of Data Sources

Research procedures frequently result in significant opportunities for engaging in meaningful conversations, understanding differences, and developing respect for cultural beliefs. Interpretive social science is sometimes criticized for containing too much description and not enough theoretical analysis; however, deriving meaning from the descriptions of ordinary people is assumed natural and authentic and is the distinguishing mark of qualitative research (St. Pierre, 2011).

Rigor in qualitative research is critical and trustworthiness is the overarching concept when considering this important attribute (Letts et al., 2007). It is imprudent to believe exclusively in what we hear and see without some means of determining the trustworthiness of the source. Educational research often contains contradictory narratives that more closely follow an improvisational process rather than the logical-rational approach usually associated with the social sciences (Garoyan, 2011). That is why in qualitative interpretive research concepts such as triangulation are used for gauging trustworthiness as well as credibility or rigor. Simply put, triangulation is the application of more than one methodology or data source in a study with the purpose of crosschecking the findings in the search for eliminating bias. Lincoln and Guba (1985) suggest using the strategy of triangulation for critically evaluating the results from multiple methods. Flick (2008) emphasizes that triangulation should produce knowledge that goes beyond the base knowledge made possible when merely using one approach, thus triangulation contributes to improving the overall quality of the study.

However, it is important to recognize that triangulation techniques do have their limitations in reducing bias within social science research. Blaikie (1991) argues that from an interpretive ontological perspective, in order for triangulation to reconcile any so-called bias, a

consensus needs to exist on how reality is viewed. To the degree in which any methods of measurement are valid determinants of reality will be a matter of judgment by the reader.

The development of trustworthiness in qualitative research requires immersion within the surroundings of the study (Lincoln & Guba, 1985) and being “exposed to the discourse practices . . . being constructed” (Pérez & Cannella, 2011). Included in this progression of establishing trustworthiness are the steps leading to the interpretation and understanding of the phenomenon being studied. For qualitative researchers, coding is the means in which the investigator strives to capture the essence or meaning of language-based or visual phenomenon through a word or phrase in an attempt to summarize the primary topic examined (Saldaña, 2009). Two analytical steps are required when working with an interview transcript: decoding—deciphering of a word or phrase into its core meaning and encoding—determining its appropriate label (Saldaña, 2009).

When working alone, Saldaña (2009) recommends that in addition to analytical memos, the researcher talks with a colleague about the coding and consult with the participants themselves during analysis. Ezzy (2002) proposes several strategies for assessing trustworthiness while still in the field including: 1) check interpretations developed so far with the participants themselves, 2) immediately code as interview data is transcribed, and 3) methodically maintain a reflective journal on the research project. Discussions with colleagues and participants, timely transcriptions of interview data, and note taking not only provide an opportunity to articulate internal thinking, but also offer a means for validating and clarifying emergent ideas. During the course of this study, the researcher took advantage of all these techniques.

Summary

This chapter detailed the methodology used in the execution of the study, including

purpose, context, population, research design, methods and procedures for data collection and analysis, and triangulation and trustworthiness of data sources. In order to understand technology's role on second language acquisition, this study examined the attitudes and beliefs of teachers about the effectiveness of technology-enhanced learning environments in promoting social and cognitive activities supporting language acquisition among native Spanish-speaking English language learners in the preschool and elementary classroom. The study required all 46 participants to take a self-identified online questionnaire. From this initial group, 10 participated in a face-to-face semi-structured interview. The purpose of these two data sources was to learn the beliefs of bilingual and ESL/ELL teachers about the suitability of emerging technologies in technology-enhanced classroom environments. Triangulation techniques including multiple data sources and member checks incorporated into the methodology allowed for rigor and trustworthiness of the findings. The following chapter presents the results obtained from the implementation of these procedures.

CHAPTER 4

ANALYSIS OF DATA

This chapter begins with an overview of the demographic characteristics of the study population using the data from the self-identified online questionnaire, “Technology Use in the Classroom to Support Second Language Acquisition” (i.e., Phase 1). Following this review, the data from the semi-structured interviews will be presented and analyzed (i.e., Phase 2). The online questionnaire also served as a screening tool for the identification of candidates for the follow-up interviews conducted in Phase 2. This chapter will conclude with an overall analysis and presentation of emergent themes gathered from these interviews.

Demographics

Of the 46 participants completing the self-identified online questionnaire, “Technology Use in the Classroom to Support Second Language Acquisition,” forty-three respondents were female (93%) and three respondents were male (7%). The number of years teaching in a public school ranged from 1 year to 30 years, with an average of 11.8 years. With regard to frequency, the highest occurrence of years taught was nine years by six respondents, followed by five respondents indicating eight years of teaching. Years of teaching experience are shown in Figure 1. Teacher certifications held by the participants varied. However, the majority of participants had teaching credentials as either EC-4 bilingual generalists or EC-4 generalists with an ESL endorsement. A summary of teacher certificates is available in Appendix H.

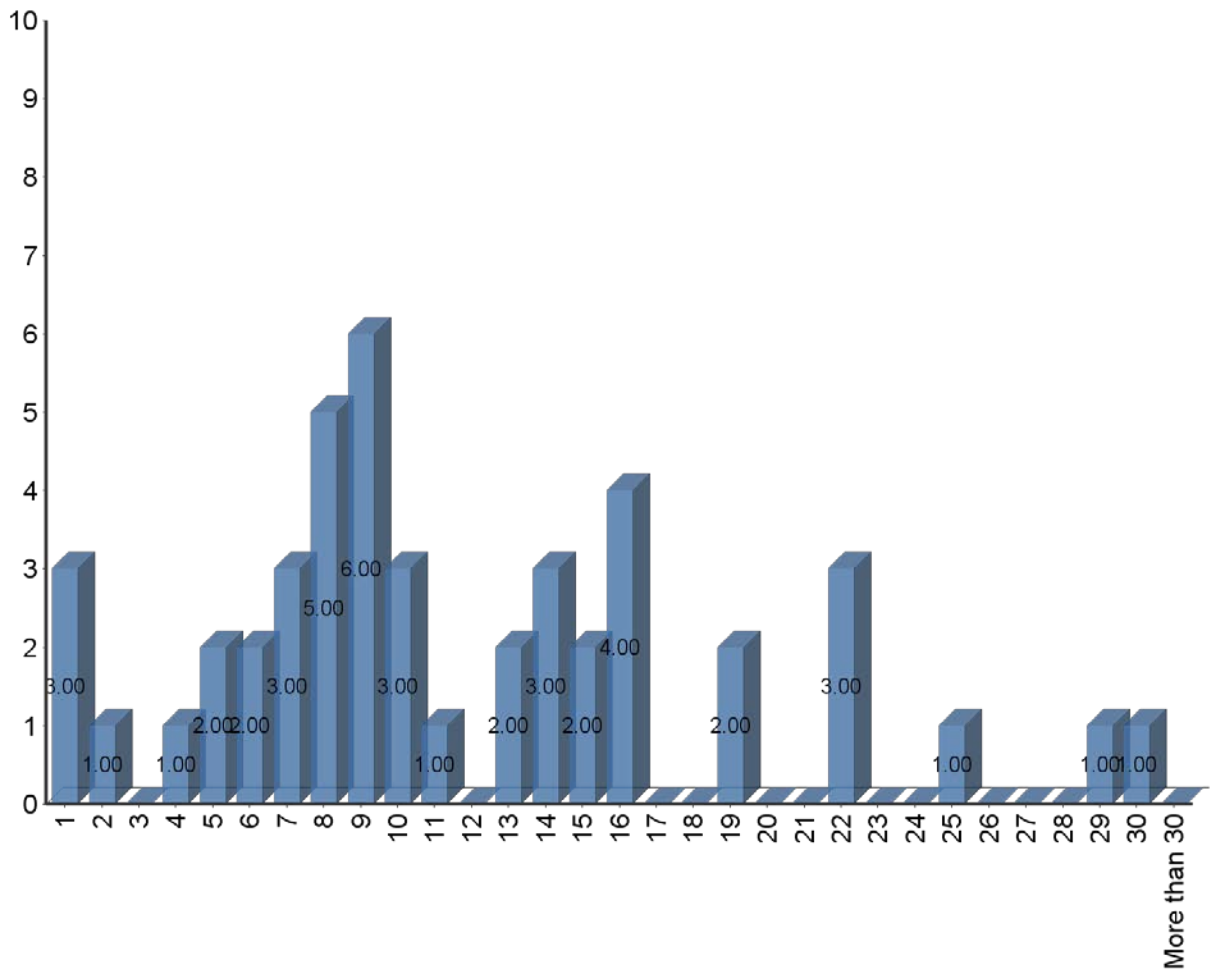


Figure 1. Years of teaching experience.

Grade levels taught ranged from bilingual pre-kindergarten through bilingual sixth grade, in addition there were two teachers with ESL/ELL classes. With regard to frequency, the grade level with the highest occurrence was 1st grade with 10 teachers, followed by kindergarten with eight teachers. Grade level taught data is shown in Figure 2.

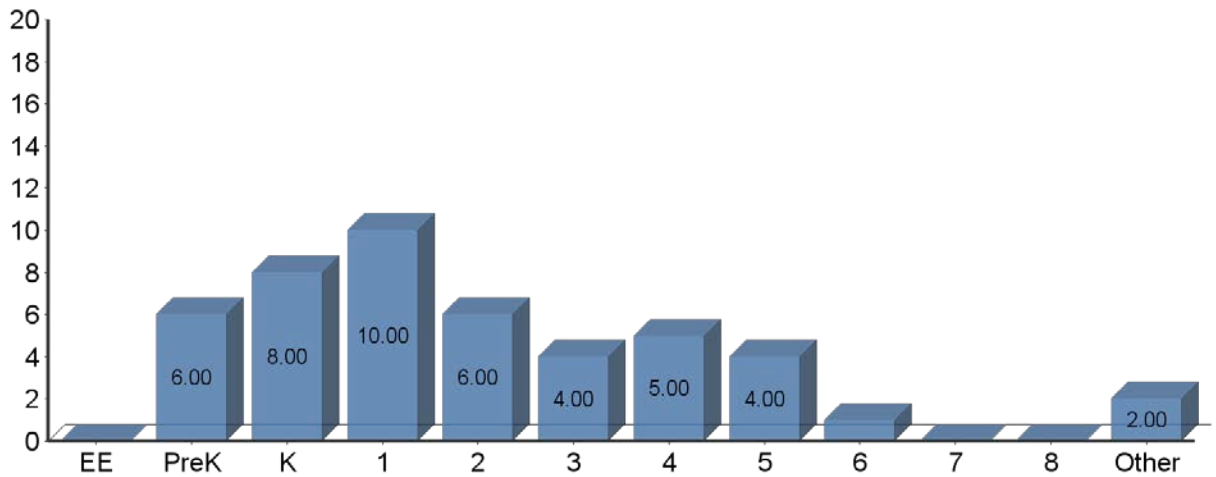


Figure 2. Grade level taught data.

Five local education agencies from Texas agreed to participate this study. They included one public school district from the Gulf Coast region, one public school district from the Central Texas region, and three public school districts from the Dallas-Fort Worth metroplex. In addition teachers and administrators from a school in the Dallas-Fort Worth metroplex agreed to pilot the online questionnaire and semi-structured interview questions. Using the criteria from the National Center for Education Statistics (2006), school districts were identified as either being in a city, suburb, or rural population area. Total student enrollment ranged from 3, 265 to 33, 017, with English language learners comprising 6.6% to 8.1% of the population. Pertinent demographic data from the 2011-12 Academic Excellence Indicator System district profile report (Texas Education Agency, 2012b) is available in Table 1.

Table 1

Demographic Data for Each School District

District	Data
Pilot School: Dallas-Fort Worth Metroplex City: midsize	Total Enrollment: 24,738 ELL: 3,564(14.4%) Hispanic: 7,743 (31.3%) Economically Disadvantaged: 10,689 (43.2%) Program expenditures for Bilingual/ESL Education: \$172 per student (2.4% of total budget)
District #1: Dallas-Fort Worth Metroplex Suburb: large	Total Enrollment: 19,364 ELL: 1,290 (6.7%) Hispanic: 2,583 (13.3%) Economically Disadvantaged: 3,225 (16.7%) Program expenditures for Bilingual/ESL Education: \$266 per student (4.4% of total budget)
District #2: Gulf Coast Region Suburb: small	Total Enrollment: 12,498 ELL: 972 (7.8%) Hispanic: 6,142 (49.1%) Economically Disadvantaged: 7,287 (58.3%) Program expenditures for Bilingual/ESL Education: \$102 per student (1.8% of total budget)
District #3: Central Texas Region Rural: fringe	Total Enrollment: 3,265 ELL: 215 (6.6%) Hispanic: 831 (25.5%) Economically Disadvantaged: 1,922 (58.9%) Program expenditures for Bilingual/ESL Education: \$14 per student (0.2% of total budget)
District #4: Dallas-Fort Worth Metroplex Suburb: large	Total Enrollment: 10,645 ELL: 862 (8.1%) Hispanic: 1,428 (13.4%) Economically Disadvantaged: 1,099 (10.3%) Program expenditures for Bilingual/ESL Education: \$194 per student (3.1% of total budget)
District #5: Dallas-Fort Worth Metroplex Rural: fringe	Total Enrollment: 33,017 ELL: 1,887 (5.7%) Hispanic: 6,170 (18.7%) Economically Disadvantaged: 7,168 (21.7%) Program expenditures for Bilingual/ESL Education: \$152 per student (2.7% of total budget)

Presentation and Analysis of Data

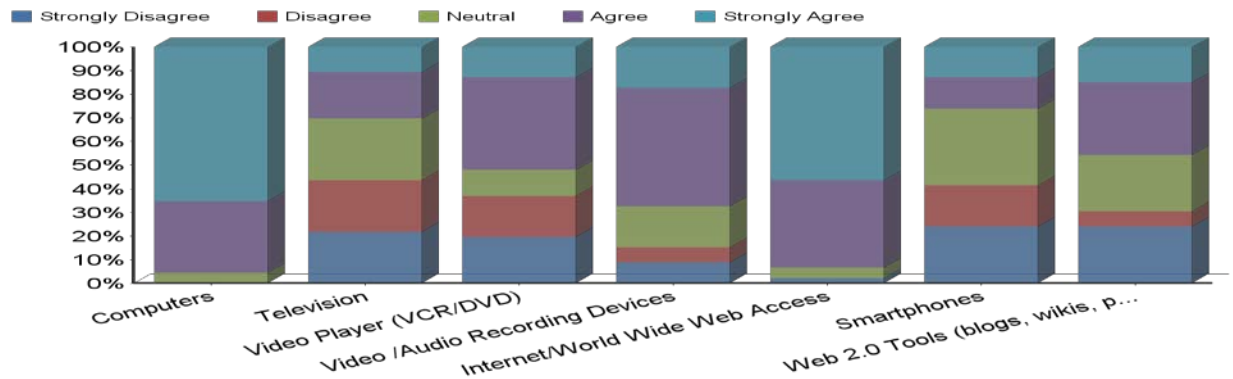
Phase 1: Technology Use in the Classroom to Support Second Language Acquisition Online Questionnaire

Designed as a screening tool for the follow up interviews in Phase 2 of the study, the online questionnaire, Technology Use in the Classroom to Support Second Language Acquisition consisted of 19 questions regarding teacher perceptions on emerging technology applications in the classroom and its influence on English language acquisition among English language learners. All the questions were essential to formulating an understanding of each participant. A discussion of their responses to each of those questions comprises the remainder of this section. The complete online questionnaire is located in Appendix C.

Questions 1-7 of the online questionnaire were to gather basic demographic data such as the participant's name, where he or she taught, what grade, and for how many years. However, for the purposes of this study the majority of questions were framed by the statement, "With regard to second language acquisition please select what best describes what you think or how you feel." Respondents were then given a specific statement, such as, "I use the following technologies as part of my instruction" and were then asked to evaluate a list of items using a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*, with *neutral* indicating no opinion.

Figure 3 shows the first question in this series of statements that will be presented for discussion and analysis. Question 8 asked teachers to rate each technology tool's relevancy in their language instruction program. Computers were the number one technology tool used for teaching language acquisition with 44 of the 46 participants agreeing or strongly agreeing. Selected second by teachers was the Internet with 43 out of 46 participants agreeing or strongly agreeing that it was a part of their instruction. Televisions, smartphones, and various Web 2.0

technologies all were largely viewed as not used in supporting language acquisition instruction.

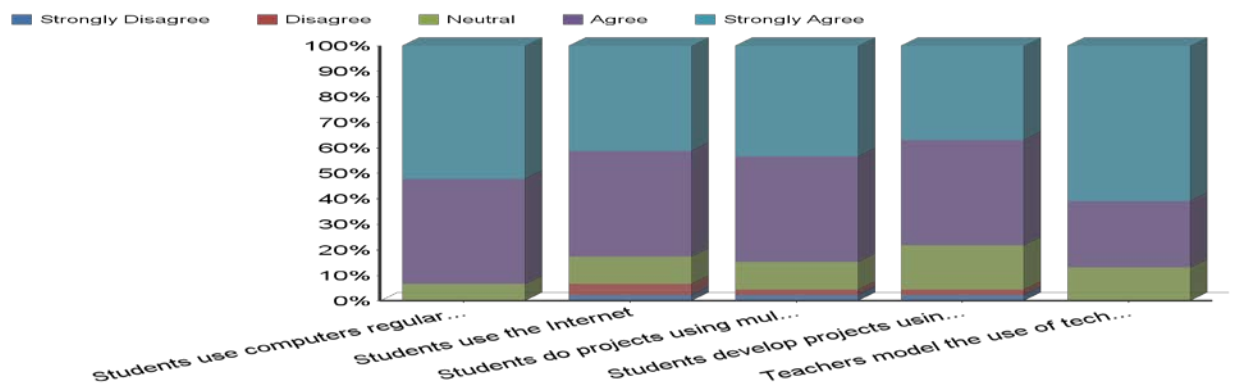


#	Question 8 I use the following technologies as part of my instruction:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Computers	-	-	2	14	30	4.61
2	Television	10	10	12	9	5	2.76
3	Video Player (VCR/DVD)	9	8	5	18	6	3.09
4	Video /Audio Recording Devices	4	3	8	23	8	3.61
5	Internet/World Wide Web Access	1	-	2	17	26	4.46
6	Smartphones	11	8	15	6	6	2.74
7	Web 2.0 Tools (blogs, wikis, photo and video sharing, social networking)	11	3	11	14	7	3.07

Figure 3. I use the following technologies as part of my instruction.

In Question 9, the participants were asked if student learning increased because of specific technology-related conditions. Figure 4 shows the results when teachers were asked, “I believe student learning increases when.” Overwhelming the majority of teachers indicated all five conditions were thought to increase student learning with “Students use computers regularly

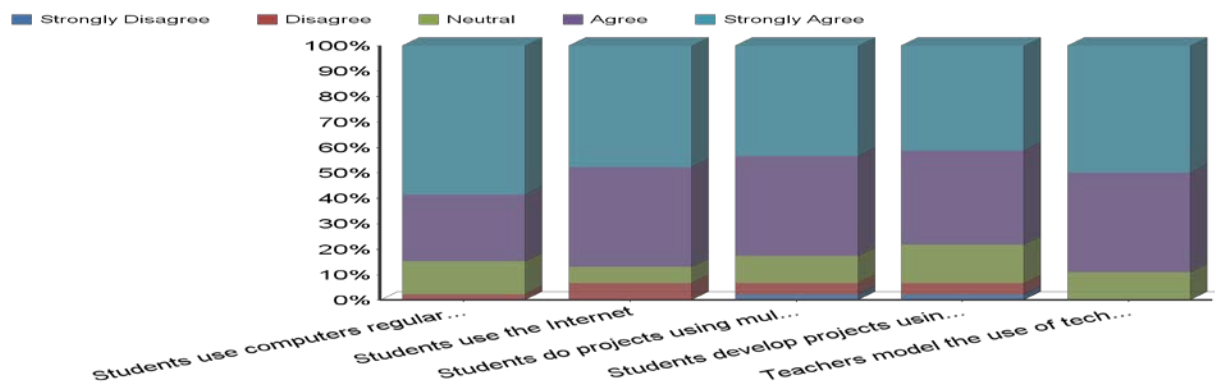
in conjunction with their school work” and “Teachers model the use of technology” being the highest rated. In addition, neither of these had a single *strongly disagree* or *disagree* vote.



#	Question 9 I believe student learning increases when:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Students use computers regularly in conjunction with their school work	-	-	3	19	24	4.46
2	Students use the Internet	1	2	5	19	19	4.15
3	Students do projects using multimedia technologies	1	1	5	19	20	4.22
4	Students develop projects using multimedia technologies	1	1	8	19	17	4.09
5	Teachers model the use of technology	-	-	6	12	28	4.48

Figure 4. I believe student learning increases when.

Using those same specific technology-related conditions found in the previous question, teachers were asked in Question 10 to select what best describes what they think or how they feel regarding student motivation. These results are shown Figure 5. The findings were essentially the same as in the previous question. The majority of teachers indicated all five conditions increased student learning with “Students use computers regularly in conjunction with their school work” and “Teachers model the use of technology” having the highest rankings.

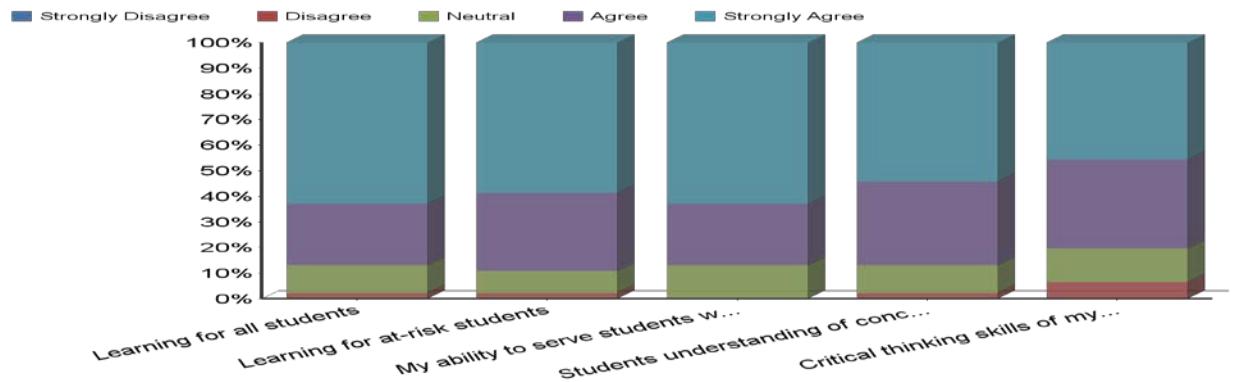


#	Question 10 I believe student motivation increases when:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Students use computers regularly in conjunction with their school work	-	1	6	12	27	4.41
2	Students use the Internet	-	3	3	18	22	4.28
3	Students do projects using multimedia technologies	1	2	5	18	20	4.17
5	Students develop projects using multimedia technologies	1	2	7	17	19	4.11
6	Teachers model the use of technology	-	-	5	18	23	4.39

Figure 5. I believe student motivation increases when.

Teachers were then asked in Question 11 to evaluate how technology improves student learning with regards to: “Learning for all students”; “Learning for at-risk students”; “My ability to serve students with differing needs”; “Students understanding of concepts I am teaching” and “Critical thinking skills of my students.” As Figure 6 illustrates, a significant number of the respondents acknowledged that technology positively influences learning for all students, including at-risk students and those with differing needs, as well as improving critical thinking

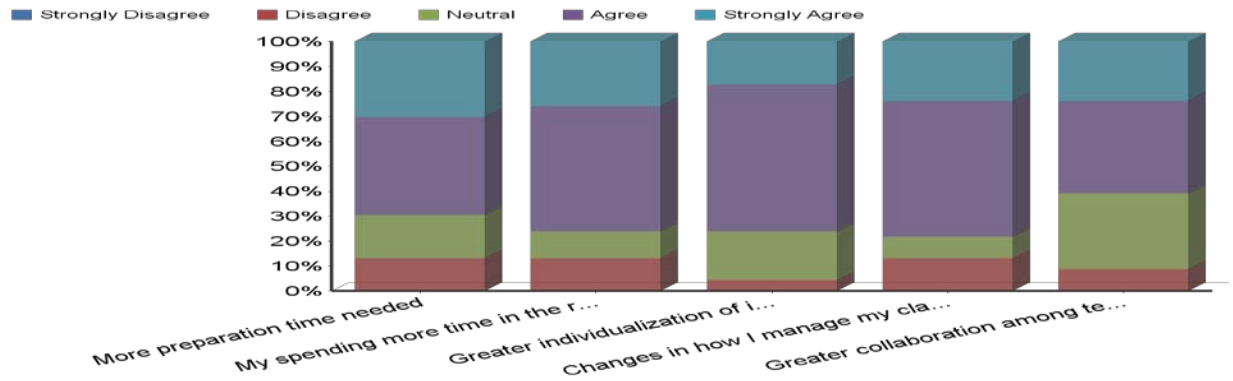
skills. Among this entire set of statements only six respondents disagreed, believing that the utilization of technology does not positively influence these learning outcomes.



#	Question 11 I believe the use of technology improves:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Learning for all students	-	1	5	11	29	4.48
2	Learning for at-risk students	-	1	4	14	27	4.46
4	My ability to serve students with differing needs	-	-	6	11	29	4.50
5	Students understanding of concepts I am teaching	-	1	5	15	25	4.39
6	Critical thinking skills of my students	-	3	6	16	21	4.20

Figure 6. I believe the use of technology improves.

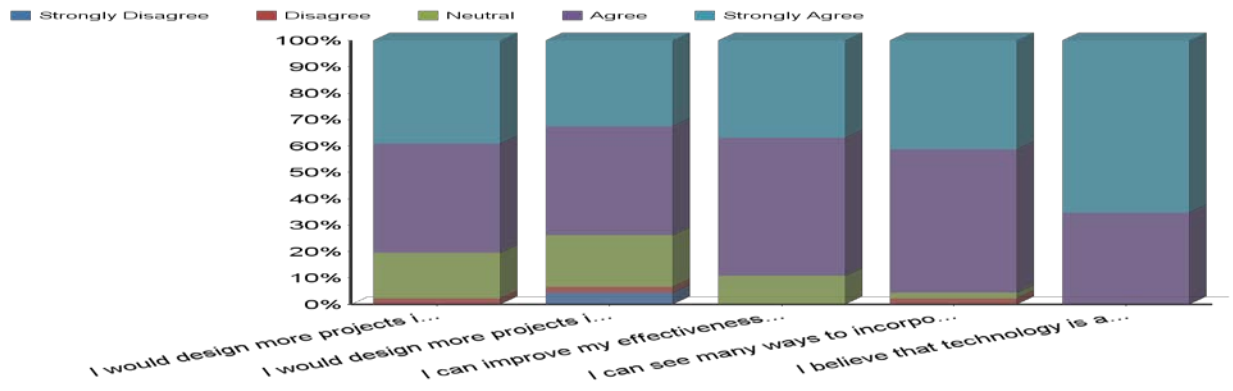
Continuing on, Question 12 asked teachers to consider statements related to classroom instruction and teaching strategies. These findings are revealed in Figure 7. The statement, “More preparation time needed” was clearly a concern for the majority of respondents with 32 out of 46 either agreeing or strongly agreeing.



#	Question 12 Technology results in:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	More preparation time needed	-	6	8	18	14	3.87
2	My spending more time in the role of facilitator	-	6	5	23	12	3.89
3	Greater individualization of instruction in my classroom	-	2	9	27	8	3.89
4	Changes in how I manage my classroom as a teacher	-	6	4	25	11	3.89
5	Greater collaboration among teachers	-	4	14	17	11	3.76

Figure 7. Technology results in.

A final series of statements within the context of second language acquisition was presented in Question 13 asking teachers to evaluate the impact made by technology in the classroom. The results are presented in Figure 8. The most significant outcome is that 46 out of 46 respondents pointed to technology as an effective tool for learning. This was closely followed by the belief that “I can see many ways to incorporate technology into my curriculum,” with 44 teachers selecting either agree or strongly agree.



#	Question 13 Incorporating technology in the classroom:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	I would design more projects involving technology if students had greater access to technology	-	1	8	19	18	4.17
2	I would design more projects involving technology if I had more familiarity with the technology	2	1	9	19	15	3.96
3	I can improve my effectiveness as a teacher through the use of technology	-	-	5	24	17	4.26
4	I can see many ways to incorporate technology into my curriculum	-	1	1	25	19	4.35
5	I believe that technology is an effective tool for learning	-	-	-	16	30	4.65

Figure 8. Incorporating technology in the classroom.

Questions 14 and 15 asked teachers to give the percentage of time spent in their classroom and school integrating technology in second language instruction, respectively. Figures 9 and 10 present those findings. Looking at Figure 9, only one teacher indicated integrating technology during second language instruction 100% of the time. The highest rate of occurrence was nine respondents at both 30% and 50% of the time. The majority of teachers (25 out of 46) believe they integrate technology during second language instruction ranging from 30% to 50% of the time.

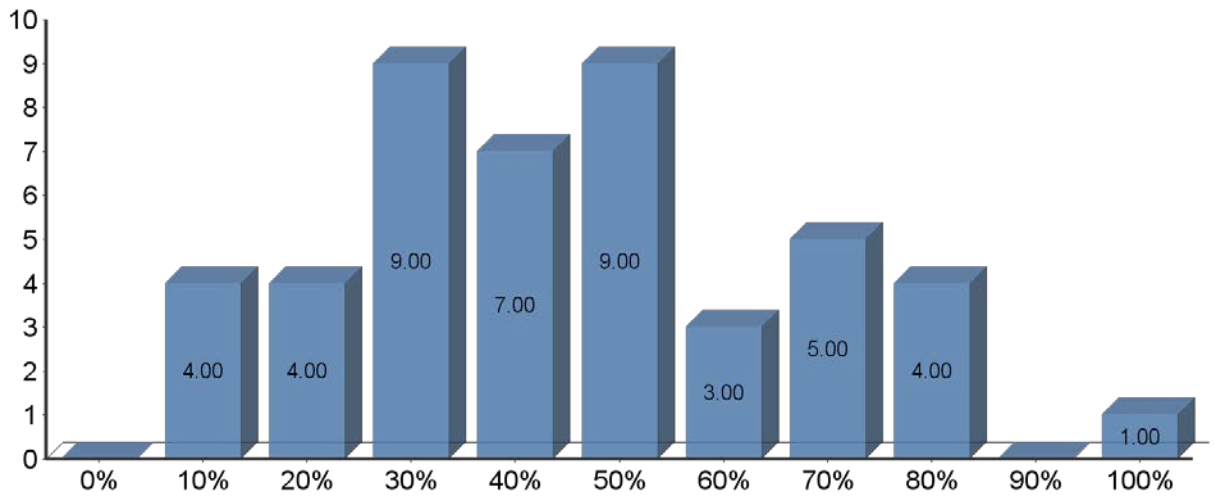


Figure 9. Classroom.

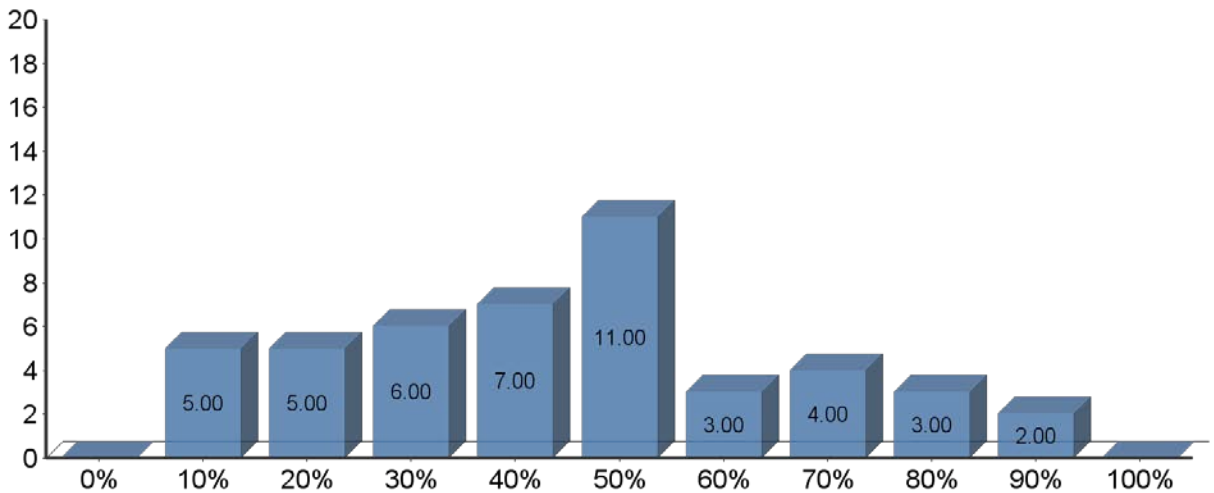
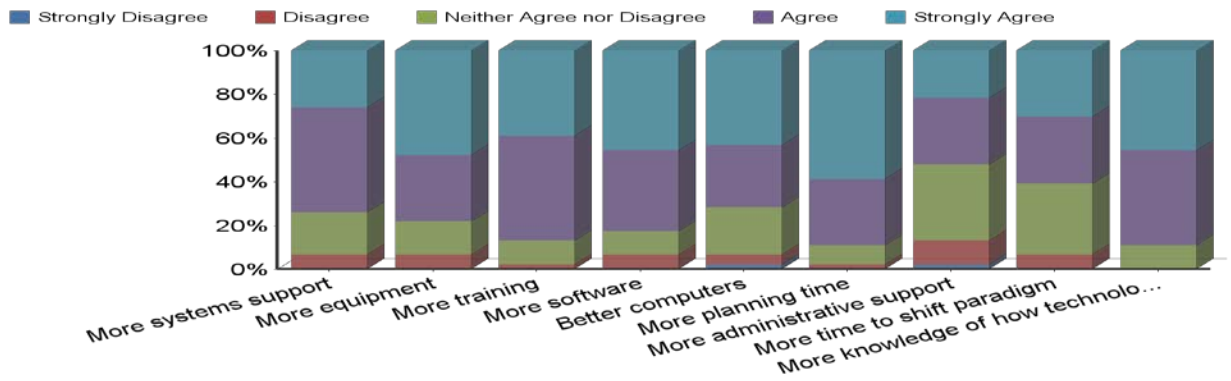


Figure 10. School.

Figure 11 depicts a similar pattern for schools integrating technology in second language instruction. Though no teachers thought their school integrated technology for second language instruction 100% of the time, two believe that their campuses integrated technology 90% of the time and three more believed they were at 80% of the time. The highest rate of occurrence was 50% of the time integrating technology for second language instruction with 11 schools. Finally, the majority of schools (24 out of 46) were clustered in the 30% to 50% range.

Question 16 asked respondents to evaluate a series of statements from the point of view, “I could help my school with technology implementation in second language instruction if there were.” As illustrated in Figure 11, the statements “More planning time” and “More knowledge of how technology integration would look in the classroom” were perceived to be the most influential in positively affecting this outcome receiving 41 agree and strongly agree responses. Closely following this sentiment tallying 40 agree and strongly agree responses was the statement “More training.” Interestingly, the statement “Better computers” was in the bottom half receiving only 33 agree and strongly agree responses out of 46.



#	Question 16 I could help my school with technology integration in second language instruction if there were:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	More systems support	-	3	9	22	12	3.93
2	More equipment	-	3	7	14	22	4.20
3	More training	-	1	5	22	18	4.24
4	More software	-	3	5	17	21	4.22
5	Better computers	1	2	10	13	20	4.07
6	More planning time	-	1	4	14	27	4.46

7	More administrative support	1	5	16	14	10	3.59
8	More time to shift paradigm	-	3	15	14	14	3.85
9	More knowledge of how technology integration would look in the classroom	-	-	5	20	21	4.35

Figure 11. I could help my school with technology integration in second language instruction if there were.

Teachers were asked in Question 17 to what extent they would consider themselves as innovative users of technology when it comes to teaching students a second language. The results are displayed in Figure 12. Twenty-four of the respondents believed that they were either not innovative users of technology or had no opinion, an amount just over half. Only 22 teachers believed that they were innovative users of technology.

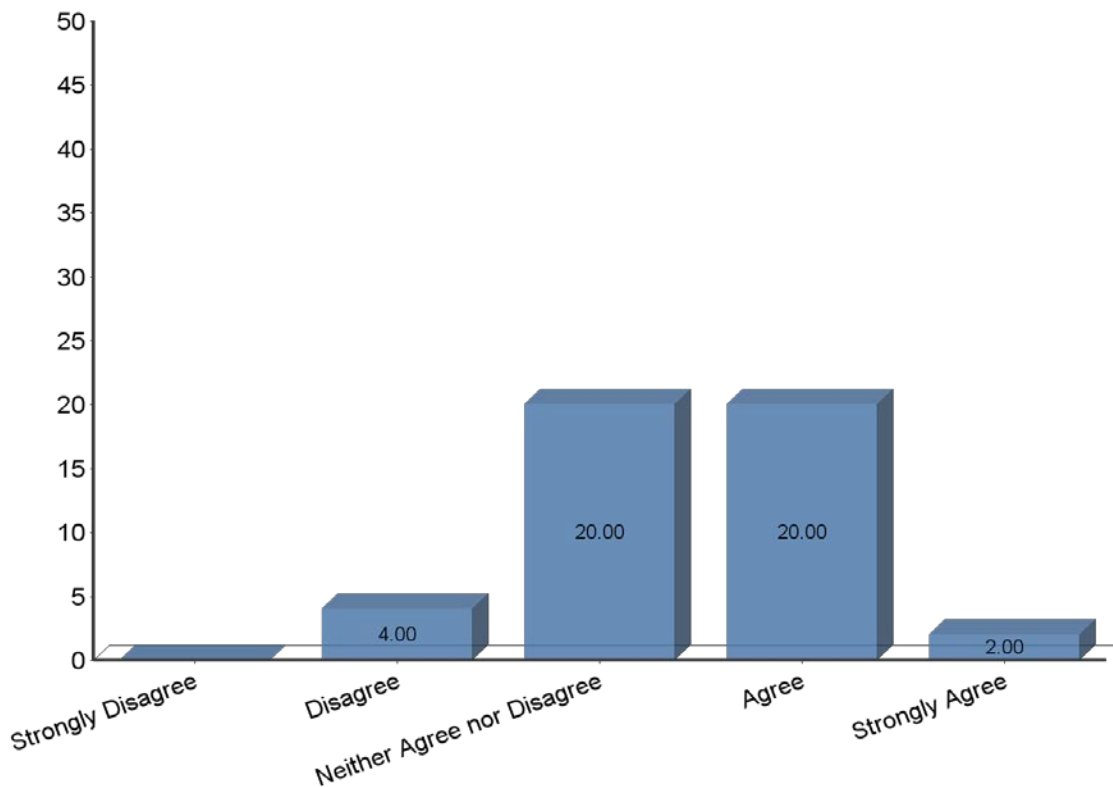


Figure 12. I consider myself an innovative user of technology when it comes to teaching students a second language.

Finally, in Question 18 the teachers were polled to see if they would be willing to participate in Phase 2 of the study, a follow-up face-to-face interview on their campus with the researcher. Figure 13 shows the results. Thirty-four of the respondents indicated that they would be willing to participate if asked by the researcher.

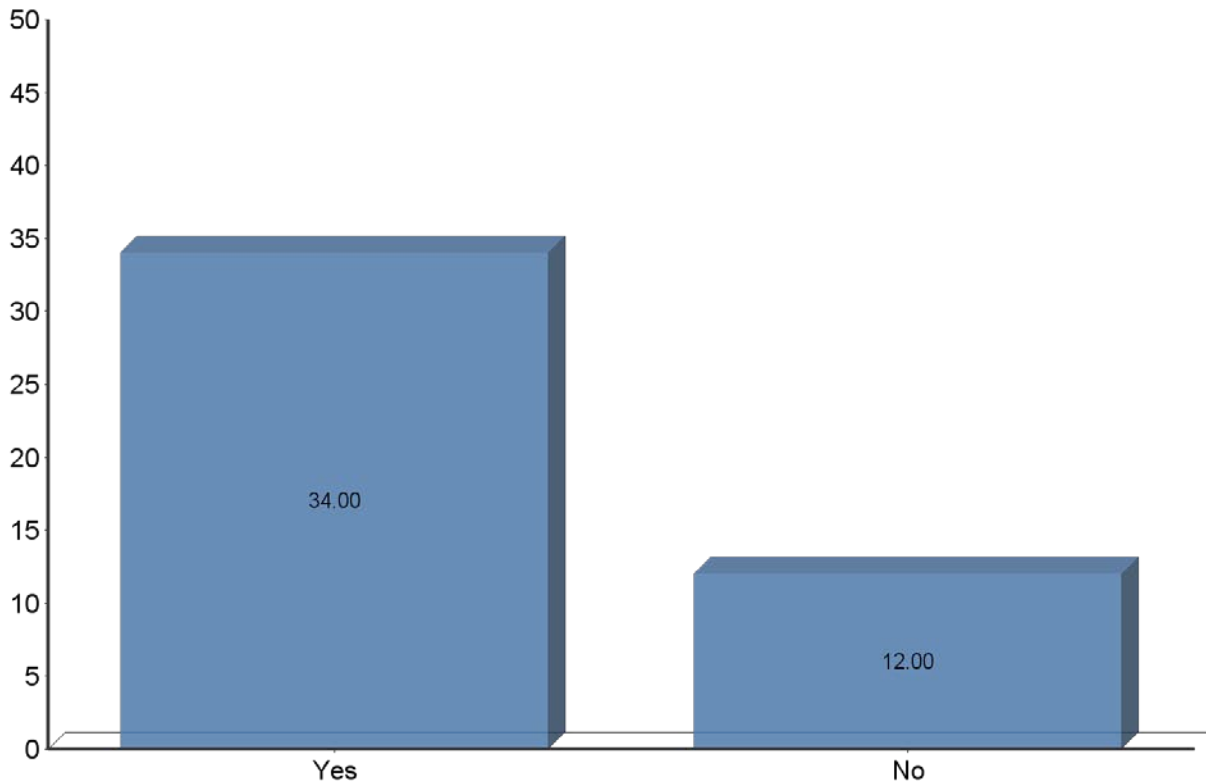


Figure 13. Would you be willing to participate in a follow-up face-to-face interview on your campus?

A second review of the online questionnaires was conducted by the researcher at the conclusion of Phase 1 to determine the ten teachers who would be asked to participate in the semi-interviews in Phase 2 of the study. The first factor that had to be considered was whether the respondent indicated, “Yes” to Question 18. That reduced the potential number of teachers from 46 down to 34. Of those remaining, the next step was to screen their responses to Questions 8-17 to gauge the level of technology integration in their classroom and perceived effectiveness

as a means for learning. In addition, these questions were used by the researcher to gauge each respondent's feelings towards his/her own level of expertise as an innovative user of technology.

By design, the study's sampling technique was purposive in nature. In other words, the researcher's approach was to find teachers exhibiting *best practices* in the classroom. Following these guidelines, the best situation would be to have two teachers from each school district agree to take part in the interview process. Fortunately, this was the case and ten teachers (two per district) did meet these conditions and agreed to participate. As a means of comparison to the whole group, the following will be a presentation and analysis of the, "Technology Use in the Classroom to Support Second Language Acquisition" online questionnaires completed by this subgroup of ten teachers.

Of these 10 participants, there were nine female respondents (90%) and one male respondent (10%). The number of years teaching in a public school ranged from 6 years to 29 years, with an average of 13 years. With regard to frequency, the highest occurrence of years taught was seven and eight years each with two respondents, all others years had just one respondent. Years of teaching experience are shown in Figure 14. All were either bilingual or ESL/ELL teachers in a PreK or elementary classroom. Teacher certifications held were varied. However, the majority of teachers were classified as either EC-4 bilingual generalists or EC-4 generalists with an ESL endorsement. A review of teacher certificates is available in Appendix H.

Grade levels taught ranged from bilingual pre-kindergarten through bilingual fourth grade, including two teachers with ESL/ELL classes. With regard to frequency, the grade level with the highest occurrence was kindergarten with four teachers, followed by the ESL/ELL class with two teachers. Grade level taught data is shown in Figure 15.

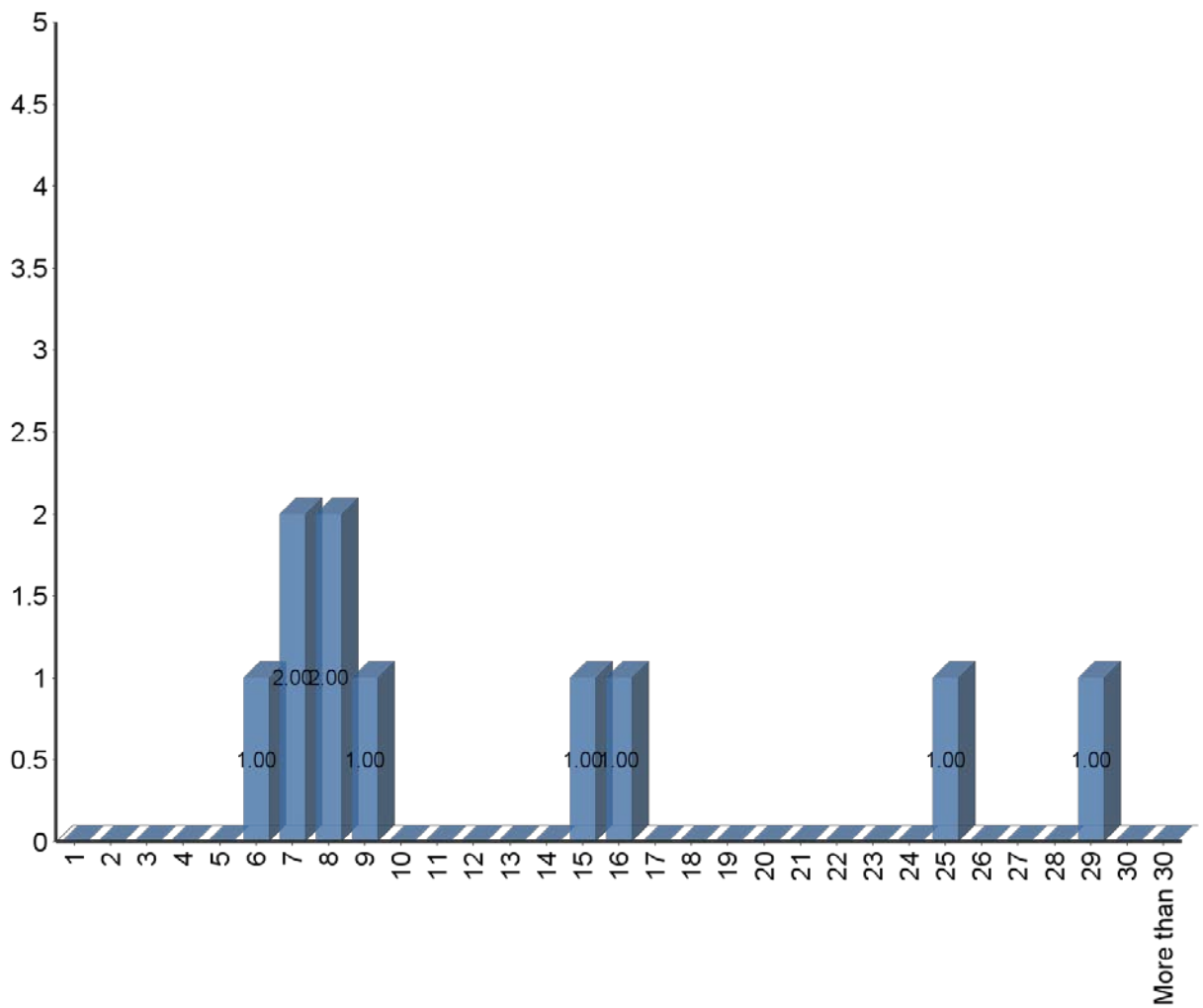


Figure 14. Years of teaching experience.

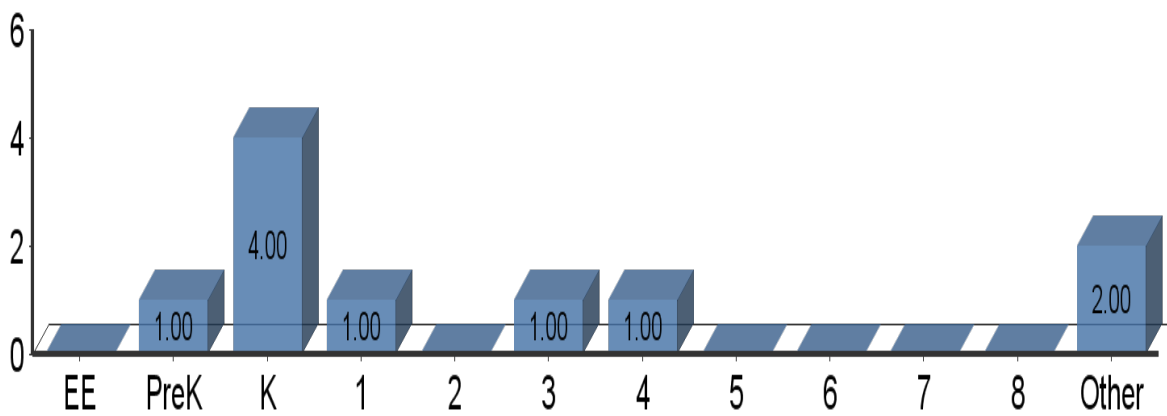
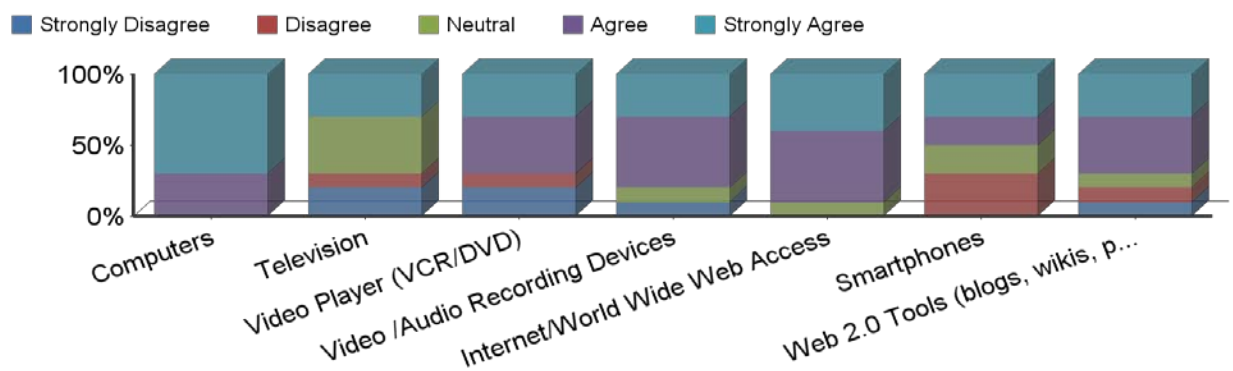


Figure 15. Grade level taught.

As explained previously the majority of questions from the online questionnaire were framed by the statement, “With regard to second language acquisition please select what best describes what you think or how you feel.” Question 8 asked teachers to rate each technology tool as it pertains to being a part their language instruction. The results of this first question for the subgroup are shown in Figure 16. Teachers ranked “Computers” as the highest ranked technology tool used for teaching language acquisition with all 10 participants agreeing or strongly agreeing. “Internet/World Wide Web Access” closely followed this with nine participants either agreeing or strongly agreeing and one neutral on being a useful technology tool. This was the same pattern found with the whole group.

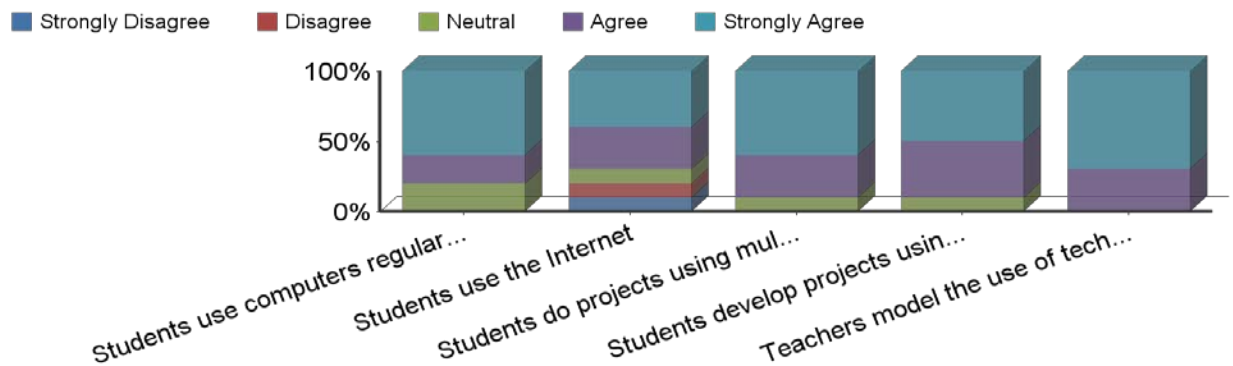


#	Question 8 I use the following technologies as part of my instruction:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Computers	-	-	-	3	7	4.70
2	Television	2	1	4	-	3	3.10
3	Video Player (VCR/DVD)	2	1	-	4	3	3.50
4	Video /Audio Recording Devices	1	-	1	5	3	3.90
5	Internet/World Wide Web Access	-	-	1	5	4	4.30

6	Smartphones	-	3	2	2	3	3.50
7	Web 2.0 Tools (blogs, wikis, photo and video sharing, social networking)	1	1	1	4	3	3.70

Figure 16. I use the following technologies as part of my instruction.

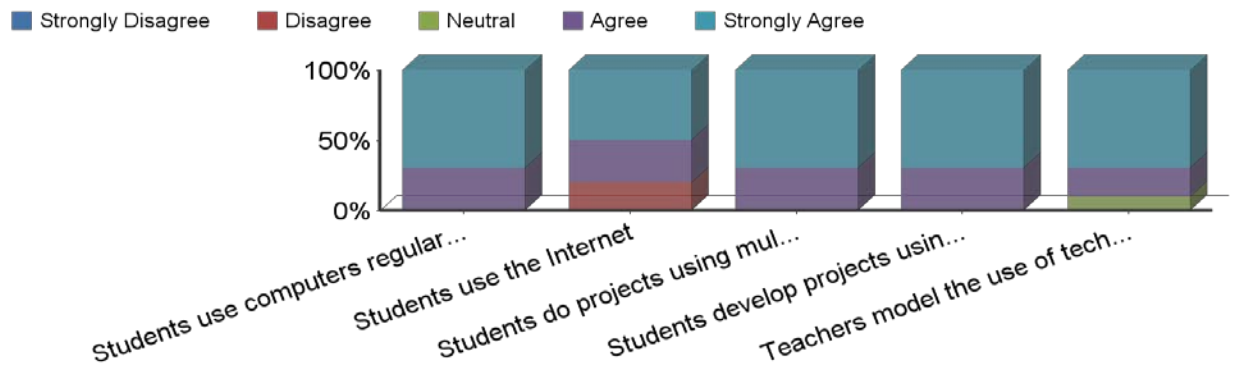
For Question 9, the results for the subgroup were again comparable to the whole group. All five conditions were believed to increase student learning by the majority of respondents. However, two respondents believed that “Students use the Internet” did not increase student learning as shown in Figure 17.



#	Question 9 I believe student learning increases when:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Students use computers regularly in conjunction with their school work	-	-	2	2	6	4.40
2	Students use the Internet	1	1	1	3	4	3.80
3	Students do projects using multimedia technologies	-	-	1	3	6	4.50
4	Students develop projects using multimedia technologies	-	-	1	4	5	4.40
5	Teachers model the use of technology	-	-	-	3	7	4.70

Figure 17. I believe student learning increases when.

Continuing with these same technology-related conditions, Question 10 asked the teachers to select what best describes their beliefs relating to student motivation. Again, the findings, as shown in Figure 18, were strikingly similar to the responses made by the whole group. Standing out as before was the disagreement about the use of the Internet as a motivational tool with two “Disagree” responses recorded.

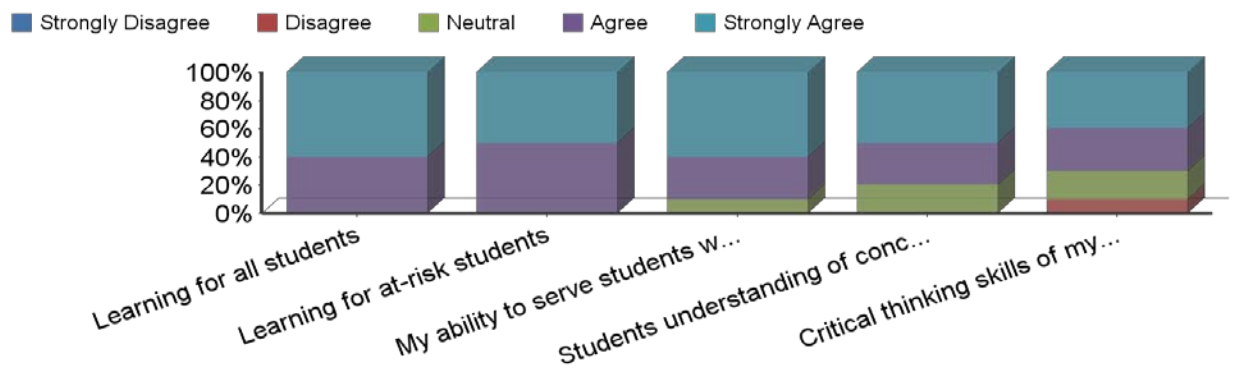


#	Question 10 I believe student motivation increases when:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Students use computers regularly in conjunction with their school work	-	-	-	3	7	4.70
2	Students use the Internet	-	2	-	3	5	4.10
3	Students do projects using multimedia technologies	-	-	-	3	7	4.70
5	Students develop projects using multimedia technologies	-	-	-	3	7	4.70
6	Teachers model the use of technology	-	-	1	2	7	4.60

Figure 18. I believe student motivation increases when.

Teachers were then asked to evaluate how they perceived technology in terms of improving student learning with regards to: “Learning for all students”; “Learning for at-risk”;

“My ability to serve students with differing needs”; “Students understanding of concepts I am teaching” and “Critical thinking skills of my students.” As shown in Figure 19, when compared to the whole group, the subgroup also strongly believed that technology improves learning for all student populations, including those identified as at-risk. In addition, it was thought that technology improved a student’s understanding of concepts. Interestingly, one respondent believed that technology did not improve a student’s critical thinking skills.

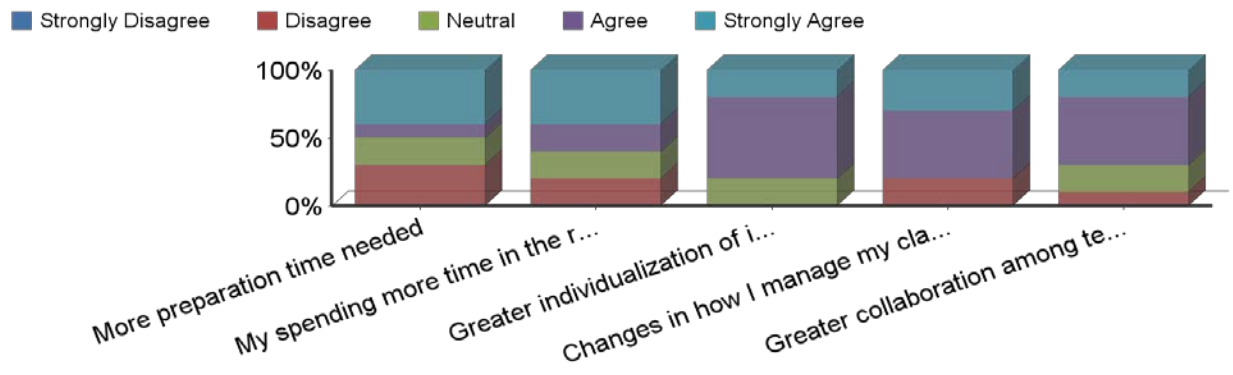


#	Question 11 I believe the use of technology improves:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	Learning for all students	-	-	-	4	6	4.60
2	Learning for at-risk students	-	-	-	5	5	4.50
4	My ability to serve students with differing needs	-	-	1	3	6	4.50
5	Students understanding of concepts I am teaching	-	-	2	3	5	4.30
6	Critical thinking skills of my students	-	1	2	3	4	4.00

Figure 19. I believe the use of technology improves.

Question 12 required teachers to think about how using technology in the classroom

affected their collaboration with others and planning time, as well as their role as instructors. The results are shown in Figure 20. As with the whole group, “More preparation time needed” was a topic of concern for many of the respondents. The category “Greater individualization of instruction in my classroom” was rated the highest among respondents with 8 out of 10 either agreeing or strongly agreeing.

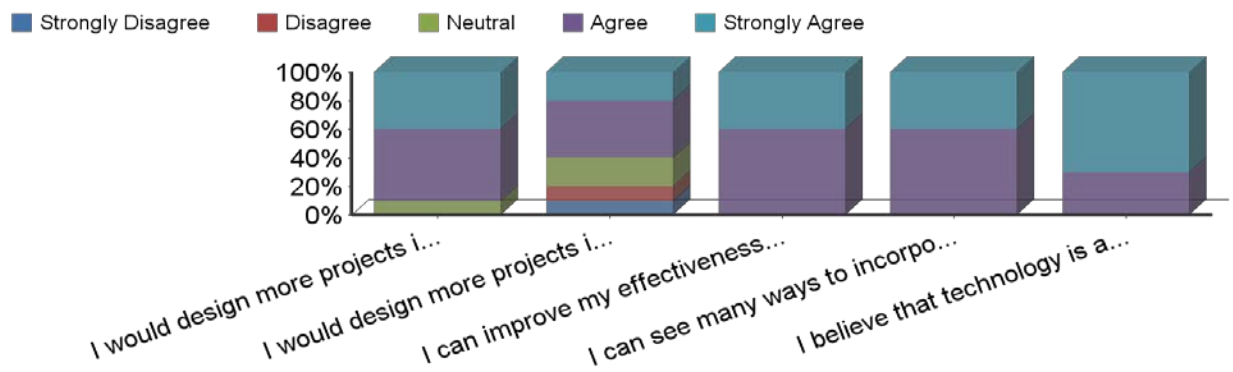


#	Question 12 Technology results in:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	More preparation time needed	-	3	2	1	4	3.60
2	My spending more time in the role of facilitator	-	2	2	2	4	3.80
3	Greater individualization of instruction in my classroom	-	-	2	6	2	4.00
4	Changes in how I manage my classroom as a teacher	-	2	-	5	3	3.90
5	Greater collaboration among teachers	-	1	2	5	2	3.80

Figure 20. Technology results in.

The last in a series of questions regarding second language acquisition was presented in Question 13. It asked teachers to judge technology’s impact on instruction and learning in the

classroom. As the results show in Figure 21, all respondents unanimously agreed or strongly agreed in the statements “I can improve my effectiveness as a teacher through the use of technology,” “I can see many ways to incorporate technology into my curriculum,” and “I believe that technology is an effective tool for learning.” Only the statement, “I would design more projects involving technology if I had more familiarity with the technology” was viewed unfavorably by the teachers.



#	Question 13 Incorporating technology in the classroom:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	I would design more projects involving technology if students had greater access to technology	-	-	1	5	4	4.30
2	I would design more projects involving technology if I had more familiarity with the technology	1	1	2	4	2	3.50
3	I can improve my effectiveness as a teacher through the use of technology	-	-	-	6	4	4.40
4	I can see many ways to incorporate technology into my curriculum	-	-	-	6	4	4.40
5	I believe that technology is an effective tool for learning	-	-	-	3	7	4.70

Figure 21. Incorporating technology in the classroom.

Questions 14 and 15 asked teachers to estimate the percentage of time spent in their

classroom and school integrating technology in second language instruction, respectively. Figures 22 and 23 reveal those findings. Figure 22 shows four teachers integrating technology during second language instruction 70% of the time, the highest occurrence. One respondent indicated that technology integration occurred 80% of the time in the classroom. The remaining five teachers were spread across 50% and 30% of the time.

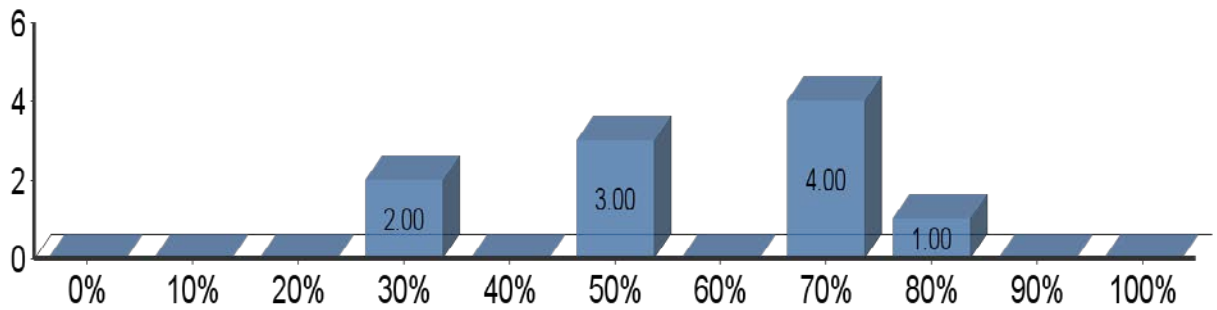


Figure 22. Classroom.

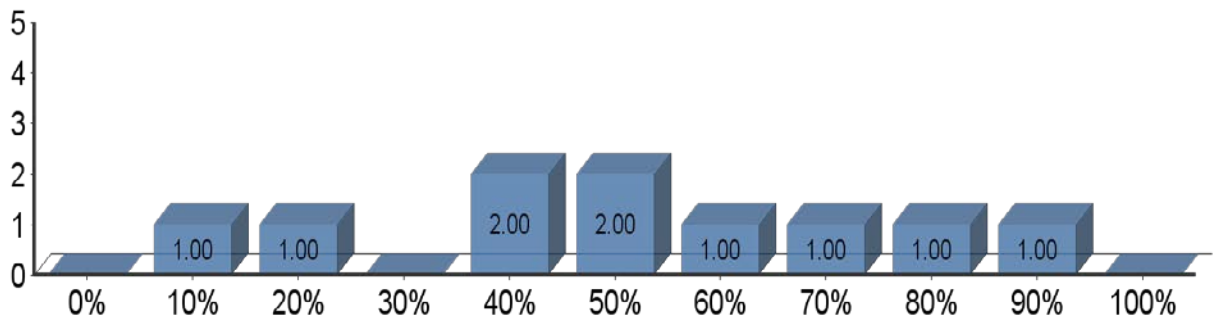
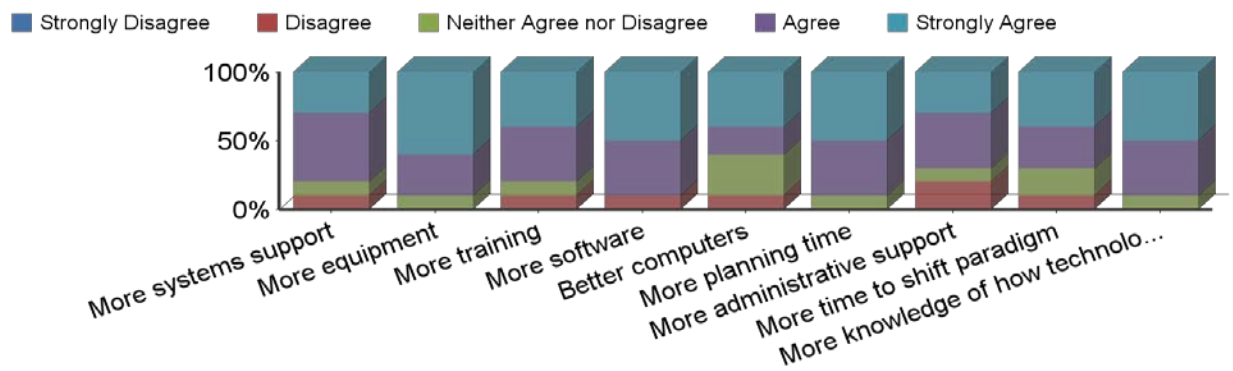


Figure 23. School.

Figure 24 shows a more symmetrical distribution across the scale for technology integration in schools. The highest occurrence was 40% and 50% of the time with two schools each.

As before, Question 16 asked teachers to consider a series of statements from the perspective, “I could help my school with technology implementation in second language instruction if there were.” Figure 24 shows the results of this supposition. The statement “More equipment” was ranked the highest, having the most strongly agree responses. Teachers identified “More planning time” and “More knowledge of how technology integration would look in the classroom” as the next highest need in order to be of help to their school with technology integration. For the most part, the subgroup rated these issues the same as the whole group. Interestingly, “More administrative support” was last in the order of concerns for both groups.



#	Question 16 I could help my school with technology integration in second language instruction if there were:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
1	More systems support	-	1	1	5	3	4.00
2	More equipment	-	-	1	3	6	4.50
3	More training	-	1	1	4	4	4.10
4	More software	-	1	-	4	5	4.30
5	Better computers	-	1	3	2	4	3.90

6	More planning time	-	-	1	4	5	4.40
7	More administrative support	-	2	1	4	3	3.80
8	More time to shift paradigm	-	1	2	3	4	4.00
9	More knowledge of how technology integration would look in the classroom	-	-	1	4	5	4.40

Figure 24. I could help my school with technology integration in second language instruction if there were.

For the purpose of this discussion, Question 17 represents the last comparison of the two groups. When it comes to teaching students a second language, teachers were asked to classify themselves as innovative users of technology from strongly disagree to strongly agree. As the findings show in Figure 25, 8 out of 10 teachers considered themselves as innovative users of technology. The aim of this study was to have a strong presence of teachers who saw themselves as innovative users of technology in the classroom for the follow-up interviews in Phase 2. However, it was not the only criteria for selection. As discussed earlier, the online questionnaire provided insight into a teacher’s perception of technology and its impact on language learning, and the researcher made the selections based upon the totality of available data.

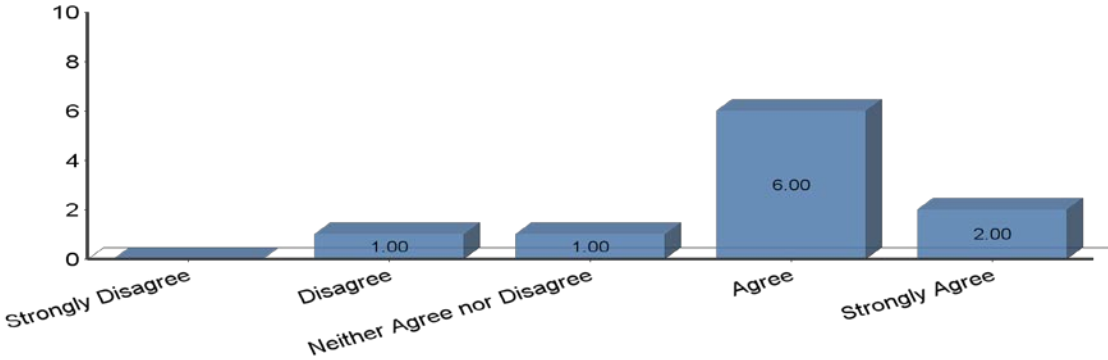


Figure 25. I consider myself an innovative user of technology when it comes to teaching students a second language.

Phase 2: Semi-structured Interviews

This study incorporated two sources of qualitative data in an effort to understand the multitude of perspectives presented by the teacher on technology use and language acquisition. The first source of data was gathered through the self-identified online questionnaire completed by the 46 participants and was presented in the preceding section. The second source of data was collected through face-to-face semi-structured interviews from the 10 teachers selected. A two-cycle progressive refinement coding technique was used for this second phase of the study. For the first-cycle coding, the In Vivo Coding methodology was selected to learn the language and perspectives using their direct language in creating the codes (Saldaña, 2009). The Focused Coding methodology was chosen for the second-cycle coding as a continuation of the analytical process focusing on patterns from the initial coding resulting in reorganizing and reanalyzing the coded data into categories and later into emerging themes (Saldaña, 2009). The intended outcome of this process is to create a small number of emerging themes, typically between three and eight. According to Thomas (2006), a coding strategy that finishes with more than this number is considered incomplete. In this case, the researcher must make decisions about which themes or categories are most important and reject the rest. Analyzed, each interview question will be presented here as codes and categories. Tables 2-8 show the data analysis of the two-cycle progressive refinement coding technique used for each interview question. The analysis of the second-cycle coding transcripts is available in Appendix I.

Table 2

Question 1: Describe How Emerging Technologies are Used in Your Classroom to Support Students' Acquisition of the English Language

Category	Number of Occurrences
Integrating technology tools	35
Supporting activities for speaking, listening, & reading	87
Developing and clarifying concepts	12
Engaging students for learning	38
Supporting technology at school	2
Creating authentic work	24
Acquiring materials for learning	3
Providing a safe environment	1
Providing feedback	4
Collaborating with others	4
Supporting activities for science	3
Accessing technology at home to support school	11

Table 3

Question 1.1: Describe How Technology Use in Your Classroom Provides Meaningful Interactions with Others in Learning the English Language

Category	Number of Occurrences
Integrating technology tools	20
Supporting activities for speaking, listening, & reading	12
Engaging students for learning	40
Creating authentic work	9
Providing a safe environment	1
Providing feedback	2
Collaborating with others	25

Table 4

Question 2: Describe which Emerging Technologies have made the Most Impact with Your Students in Acquiring English

Category	Number of Occurrences
Integrating technology tools	60
Supporting activities for speaking, listening, & reading	5
Developing and clarifying concepts	8
Engaging students for learning	63
Collaborating with others	5
Accessing technology at home to support school	1

Table 5

Question 2.1: Describe How the Desire to Communicate with Others Motivates Students' Interest for Learning Technologies

Category	Number of Occurrences
Integrating technology tools	16
Supporting activities for speaking, listening, & reading	10
Developing and clarifying concepts	1
Engaging students for learning	31
Creating authentic work	8
Collaborating with others	34

Table 6

Question 3: Describe How Emerging Technologies in the Classroom have Provided Linguistic Support and Accommodations for Helping Make Other Instructional Content Areas Accessible

Category	Number of Occurrences
Integrating technology tools	39
Supporting activities for speaking, listening, & reading	27
Supporting activities for science	12
Supporting activities for math	3
Supporting activities for social studies	2
Supporting multiple activities	9
Engaging students for learning	26
Developing and clarifying concepts	36
Creating authentic work	1
Collaborating with others	1
Accessing technology at school to support learning	5

Table 7

Question 4: Describe What Difficulties You have Encountered while Using Technology in Language Acquisition Instruction

Category	Number of Occurrences
Supporting activities for speaking, listening, & reading	5
Engaging students for learning	7
Accessing technology at school to support learning	75
Accessing technology at home to support school	50
Training teachers on technology	34
Training students on technology	10

Table 8

Question 5: As We Conclude Our Interview, is there Anything You wish to Add about How Emerging Technologies in the Classroom have Impacted Students' Language Acquisition

Category	Number of Occurrences
Integrating technology tools	58
Supporting activities for speaking, listening, & reading	12
Developing and clarifying concepts	8
Engaging students for learning	43
Providing feedback	4
Accessing technology at school to support learning	10
Accessing technology at home to support school	2

Emergent Themes

The analysis of categories from the 10 teacher interviews resulted in four emergent themes based on the number of second-cycle code occurrences appearing in the five questions. Eliminated from consideration as emergent themes were two categories because of conflicts in their labels, although having large number second-cycle code occurrences. The category, “Integrating technology tools” had the identical words found in the question asked. Because of this redundancy, the information this category provided in terms of any new insight was not emerging. The other category deemed of no consequence regarding any discoveries as to *why* was “Supporting activities for speaking, listening, and reading.” This category label was also repetitive with regard to the phrases used in most of the questions. Examples of this conflict include, from Question 1 “supporting students’ acquisition of the English language” and “how emerging technologies in the classroom have provided linguistic support and accommodations,” found in Question 3.

What makes emerging technologies valuable in supporting language acquisition instruction among English language learners? Do teachers perceive any benefits in using technology applications in their language instruction programs? If so, why are they effective? From the interviews, four central topics dominated much of the teachers' discussions. Their responses coded into the following four emergent themes: "Engaging students for learning," "Collaborating with others," "Developing and clarifying concepts," and "Creating authentic work." Table 9 shows the data analysis of the emergent themes from totaling the number of occurrences from all five questions.

Table 9

Emergent Themes

Emergent Theme	Number of Occurrences
Engaging students for learning	241
Collaborating with others	69
Developing and clarifying concepts	63
Creating authentic work	42

Question 4 was unique and needs to be addressed separately. Teachers were asked to describe what difficulties they have encountered with technology during language instruction. The majority of responses were not about pedagogy or curriculum matters, rather teachers focused on the accessibility of technology at school and home. This sentiment was reflected in the high number of occurrences for categories "Accessing technology at school to support learning" and "Accessing technology at home to support school." Table 10 shows the data analysis for Question 4.

Table 10

Question 4 Responses

Question 4	Number of Occurrences
Accessing technology at school to support learning	75
Accessing technology at home to support school	50

Summary

How ELLs achieve language acquisition through the incorporation of 21st century skills is central to this research study. In an effort to understand how emerging technologies have influenced second language acquisition, the study sought to answer the following: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language?

This chapter detailed the methodology used in the data analysis of the study, including demographics, presentation and analysis of data for Phase 1 and Phase 2, and emergent themes. The presentation and data analysis for Phase 1 covered the findings from the “Technology Use in the Classroom to Support Second Language Acquisition” self-identified online questionnaire. The findings from Phase 2 resulted from face-to-face interviews using first- and second-cycle coding analysis, a two-cycle progressive refinement coding technique. For the first-cycle coding, the In Vivo Coding methodology was selected to learn the teachers’ language and perspectives. The Focused Coding methodology was chosen for the second-cycle coding as a continuation of the analytical process focusing on patterns from the initial coding to reorganize and reanalyze the coded data into categories and finally into emerging themes.

The intended outcome of this process was to create a small number of emerging themes. In the case of this study, four emergent themes were identified. The following chapter will present a discussion of the emergent themes including interpretations of these findings with regard to the research question. Reflections on the qualitative research methodology used in this study and its limitations will then be examined. Recommendations for future research bring to a close the final chapter.

CHAPTER 5

SUMMARY

Discussion of Research Question and Emergent Themes

This study investigated technology-enhanced learning environments and the impact emerging technologies has on language acquisition by focusing on classroom interactions and learner engagement in preschool and elementary settings. The goal was to understand the views of bilingual and ESL/ELL teachers on *how* the emergence of new technologies has influenced language acquisition. The research question asked: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language? Online questionnaires and teacher interviews provided insight into the effect emerging technologies have on language acquisition through an examination of their characteristics in the instructional setting. The four resultant emergent themes from the teacher interviews are an expression of their influence on language acquisition.

In the search for the most salient categories from the interviews there were a number of prescribed methods to choose from in analyzing the data corpus. However, relying on the language and perspectives from the teachers during the first-cycle coding provided crucial information on what was significant to each participant. Codes conceptually similar were merged into categories during the second-cycle coding, while others deemed marginal or redundant after further inspection were dropped. This two-cycle coding method provided a systematic means of reorganizing and reanalyzing coded data (Saldaña, 2009).

Following an interpretive approach, the goal was to develop a categorical or thematic association woven from the collection of interview transcripts that reflected the views of the

participants on how emerging technologies influence language acquisition. Through this heuristic category-generating process of combining and crystallizing codes, four emergent themes resulted from the combined responses of the five interview questions. The following section presents a theoretical discussion on how emerging technologies influence language acquisition among English language learners through an examination of the relevant literature from Chapters 1 and 2 along with teacher responses.

Interpretations of Findings

Viewed against the abundance of evidence showing continuous engagement during the learning process as a critical component of student achievement, it was not surprising the emergent theme having the highest number of coded occurrences belonged to “Engaging students for learning.” What will student learning look like in the 21st century classroom and how will those changes influence the evolution of technology-enhanced learning environments? When asked how emerging technologies influence learning teachers frequently responded with phrases such as, “Helps them express their thoughts” and “they go deeper with what they were saying.”

Thomas and Collier (2002) cite numerous studies reporting the positive influence on English language development with second language learners when provided long-term instruction in their native language. Emphasizing the importance of personal voice, Simister (2004) asserts that students only focusing on the recitation of facts and accepted ideas results in uninspired learners. For these at-risk students, Bradley and Corwyn (2002) believe that a lack of exposure to engaging language-based experiences result in deficiencies in their oral language

development. Acknowledging this belief, one teacher said that she, “truly believes that integrating technology into teaching and learning activities will increase student achievement.”

Studies have shown that well-designed, developmentally appropriate programs with an integrated curriculum approach concentrating on language emersion can make a significant difference in achievement, especially for many at-risk students (Parke & Agness, 2002; NAEYC, 2009). Instructional models appear to be moving away from passive consumption, students want a greater sense of participation and involvement, in other words, to be engaged with their learning (Tyson, 2010). Many of the teachers agreed, one teacher remarked, “their whole body is involved with language acquisition . . . they are able to touch it, move it . . . it gets them up and moving.” Zill et al. (1995) report that Hispanic preschoolers have exhibited fewer emerging literacy skills than their peers and without some form of early intervention, achievement gaps in learning will continue making it more difficult to achieve equality. Research continues to underscore the difficult task English language learners face becoming biliterate while at the same time trying to negotiate the sociocultural skills needed in becoming bicultural (Cummins, 2007b).

Children from poorer homes are generally not exposed to the same quality and quantity of adult-child engagement when it comes to vocabulary development, book reading, and exposure to printed materials (Borduin & Henggeler, 1981; Missall et al., 2006). One teacher suggested, “they are different types of learners . . . they have a harder time because they’re not from an English speaking background, (however) with technology they’re actually doing it.” As Jacobs (2010) observes, for educators it continues to be a dynamic and somewhat elusive endeavor when confronted with the challenges of creating practical yet engaging 21st century classroom environments. The challenges obviously still exists, poor academic performance

among minority youth is well documented and pervasive in public schools (Becker & Luther, 2002; National Center for Educational Statistics, 2006). Clearly, learner engagement must be prominent in the instructional model in order for students to achieve.

The emergent theme with the second highest number of coded occurrences was “Collaborating with others.” Sociocultural theorists believe that the learning process is primarily a social activity (Lantolf, 2000). While numerous studies have identified an assortment of environmental, familial, cultural, and linguistic variables that contribute to emerging language development (Missall, McConnell, & Cadigan, 2006), students primarily learn through interacting in social settings and language is seen as an important tool in this collaborative process (Zha et al., 2006).

Collaborating with others also includes the role home language interaction plays in student language acquisition. According to Gathercole and Thomas (2009), the home language used is as important to language development as the interactions at school. During one interview, a teacher lamented “kids only speak Spanish at home.” However, technology enables students to interact not only at school but also at home, “it’s about communication, technology allows a lot of those kids to communicate” said another participant. Research corroborates the widely held opinion that the affordance of social exchanges wherever they occur supports learning experiences in a productive manner (Bradley & Corwyn, 2002).

From a sociocultural theory perspective, students engage in social activities such as conducting conversations with peers and responding to questions posed by teachers rather than memorizing arbitrary linguistic sounds associated with words in some isolated classroom assignment to learn a language (Kramsch, 2000). Vygotsky (Lantolf, 2000) believes the everyday surroundings in school provide numerous opportunities for students to engage in

collaborative tasks for language learning. With regard to technology use in the classroom, one teacher reported, “they want to share with each other what they’ve learned and they want to show it.” Another proclaimed, technology “starts conversations between them while doing group or partner work.”

Lantolf (2000) suggests as children are exposed to the cultural and social interactions with peers and others, they acquire new knowledge while adding their own personal values in the process. Again, many participants concur, “while using technology students can communicate and interact . . . they can ask questions” and “they’re teaching each other by exchanging information” were typical responses. The implication of student collaboration on language acquisition and how the teacher is able to facilitate learning structures in the classroom environment is sweeping.

As Ellis (2000) explains, sociocultural theory assumes that learning takes place during social interaction culminating in the exchange of ideas. By utilizing the dynamic interplay between parents, teachers, and students, the language learner becomes an active problem-solver with social interaction being the focal point of the learning process. As one teacher put it, “with technology students have the ability to talk to their peers, asking, ‘How can we do it better?’” Whether from their peers or an expert, students succeed in learning a new task with the help of others internalizing the newly gained knowledge to perform it later. Vygotsky refers to this learning progression as the zone of proximal development (Turuk, 2008). It is during this collaborative exchange of information with others that language acquisition for students is occurring.

The third emergent theme “Developing and clarifying concepts” symbolizes Vygotsky’s (1986) belief that good instruction must target not so much at the developed but the developing

functions. Moreover, academic achievement is the relationship that exists between development and instruction, the former creates the potentialities while the latter realizes them, Vygotsky (1986) asserts. When asked how emerging technologies in the classroom have provided linguistic support, a teacher remarked “clarification through technology, it’s much more meaningful to them.” Another teacher replied, “technology tools allows her to introduce a new concept . . . this way they get the concept.”

Sociocultural theorists view the learning process as being centered on developing skills and strategies that enable the student to grow while making the experience meaningful to the individual (Williams & Burden, 1997). Within the construct of language acquisition, this implies going beyond the rudimentary mastering of literacy skills to higher forms of mental activities including thought, planning, and problem solving (Wertsch, 1990). When asked which emerging technologies have made the most impact with her students in acquiring English, one participant replied that the tablet provided “a very interesting way of developing (concepts) . . . and the connections being made.” This scaffolding strategy enabled the teacher to develop and clarify the desired learning concept then gradually shift the responsibility to the student. In Vygotsky’s view of sociocultural theory, an essential component to learning (Turuk, 2008).

Donato (1994) notes that scaffolding requires the expert (i.e., teacher) to revise the teaching model continually in response to the emerging capabilities of the learner. One participant remarked how emerging technologies provided a powerful means of linguistic support and accommodations for students to achieve. As a teacher providing support in the general education classroom, she uses her iPad as a resource for finding information for her ELLs to help clarify ideas and support concepts as lessons in class are presented. The teacher explained how she is able to quickly locate and show Google images using her iPad to illustrate a

point on American history to a fifth grade student who recently moved to the United States from Japan. “I can show a picture of what they are talking about, they can at least have a little bit of background knowledge,” she says. This developmental progression in learning closes the achievement gap between what a student can accomplish and what can be achieved when provided external support (Zha et al., 2006). “When they can hear it and see it, they understand it” and emerging technologies support that endeavor another teacher proclaims.

“Creating authentic work” is the fourth and final theme emerging from the interview data. Students instinctively want to interact with others in meaningful ways, the challenge for schools is to devise opportunities that support their desire to create and share authentic work (Tyson, 2010). To reach this objective, many educators suggest a balanced approach focusing on child-centered interactions that are teacher guided targeting key concepts (Ginsburg & Golbeck, 2004). An inquiry-based learning model presents a viable method in which this balance can be achieved (Wang, 2004).

One teacher described an experience with her first grade students writing stories using the school’s computer lab. “We had gone through the whole process of planning, drafting, writing, editing, and then we were ready to publish, it took several visits,” the teacher remarked. At the conclusion of the assignment the students shared the stories they had written, “They just get so excited with the interaction,” she commented. The benefits technology brings to inquiry-based learning are many, including enhancing student interests, providing access to information, structuring learning process with integrated support, and permitting interactive representations that can be manipulated and explored (Blumenfeld et al., 1991). As one teacher explained, “I am facilitating (the learning) for my students as we’re working together . . . technology helps me do that.”

The need to develop innovative methodologies supporting educational activities that include emerging technologies is necessary in meeting the challenges of the English language learner in the 21st century (O'Mara & Laidlaw, 2011, Freeman, 2012). One school recently purchased the iMovie app for the students to create video projects using iPads. Though buying a license was a huge financial investment, the ELL teacher said the cost was well worth the expense. Students get excited using the moviemaker app the teacher said and that, "it's a real authentic type of project . . . that they've put a lot of prep work into and they get a lot of oral language practice." Innovative design elements such as iMovie have transformed traditional teaching methods, evidence that schools have been diligent in revamping methods of instruction to accommodate a new generation (Rodríguez, 2008).

This example of inquiry-based learning illustrates how English language learners can be engaged in meaningful and active experiences using technology. Au and Raphael (2000) propose that ensuring educational equity requires providing every student the skills needed to achieve in all settings. That means not only helping students become knowledgeable in those skills historically used and present in today's educational system but also those likely to become prominent in the future. Many experts see the future of language acquisition instruction concentrating on a communicative language teaching approach, one that emphasizes real-life situations in which student engagement is the primary focus (Galloway, 1993; Krashen, 2008). Teachers interviewed agree, language acquisition promoted through meaningful applications and learner interaction is effective. Their examples ranged from farmers visiting classrooms via Skype answering student questions in real time to hearing fellow students talk about their artwork on recorded YouTube videos accessed by means of a QR code printed at the bottom of the picture presented at a gallery.

The relationship between technology's usefulness and established language development practices has been the subject of much debate. Educators must explore new possibilities while creating opportunities for learning that more fully exploit the affordances of emerging technologies. Creating authentic work means featuring prominently the student's own words, ideas, conjectures, and arguments (Alexander, 2005). To make this a reality, the most effective programs incorporate language acquisition development and cultural values delivered through high-level activities to communicate and connect with students (Zha et al., 2006; Halle, 2012). As one teacher said, "Not only are they creating their own word problems through technology, but they're recording in their own words how to solve it. It has been really beneficial . . . they take a lot of ownership."

Implications of the Study

This qualitative study examined the views of preschool and elementary teachers from bilingual and ESL/ELL programs on emerging technology use in their classroom and its influence on language acquisition with native Spanish-speaking students learning English. The findings presented are not generalizable to other settings, but rather indicative of what might occur in other contexts and meant to provide a description expressing the experiences of the individual participants with minimal bias or subjectivity. This section discusses the reflections on the research, limitations on methodology, recommendations for future research, and conclusions.

Reflections on Research

I believe that this study has provided valuable insight into the relationships emerging technologies have on English language acquisition in the classrooms of those bilingual and

ESL/ELL teachers interviewed. Student demographics alone did not determine the selection of each school district but also my professional relationships with district personnel. I personally knew four of the six district superintendents; one other was the superintendent in the district where I worked for 13 years as an elementary teacher and principal.

District staffs are generally very protective of their teachers' time and do not freely grant access to outsiders. However, every person I met at each central office was gracious and willing to assist me in my study. Having an unwavering commitment to students leaves districts little time to spend scheduling meetings with researchers. After all, their teachers have a classroom full of students to instruct. Although, it has been my experience as a campus principal and now researcher, that teachers themselves are usually open to the idea and want to share their instructional practices. I was confident that once I had permission from the administrators at central office, I would have little trouble finding teachers willing to participate in the online questionnaire and interview phases of the study. Indeed, 100% of the teachers who committed to the study completed the Phase 1 questionnaire and of those 46 participants, 34 were willing to take part in the interview portion of Phase 2 of the study.

The non-probability sampling technique used in the study ensured that the population was relatively homogenous in its views, a critical component of the study's design. Guest et al. (2006) argues if the objective of the research is to identify only a few global outcomes or themes this purposive sampling technique permits the researcher to select a relatively small number of participants to study. Hoping to identify just a few central themes was clearly the aim of this study. With this thought in mind, I set my research goals on searching for and analyzing best practices in the classroom.

The four emergent themes ultimately selected for discussion centered on *how* emerging technologies effect language acquisition. Eliminated from consideration were two categories that did not offer any insight into answering the question *how*. Those categories were “Integrating technology tools” and “Supporting activities for speaking, listening, and reading,” despite having the largest number of occurrences. Perhaps an argument could be made that these two categories do in fact answer the question how emerging technologies influence language acquisition, by *integrating* and *supporting*. Nevertheless, this explanation was viewed as too superficial. Obviously, the purpose of technology is to integrate and support learning in some manner. Why would a teacher use such tools if they did not assist in student learning? Therefore, the discussion came back to a question of how technology integrates and supports student language acquisition. The four emergent themes chosen do concentrate on how technology influences student learning.

Two categories that received little attention by the majority of teachers were “Providing feedback” and “Providing a safe environment.” There were a few exceptions, one teacher stressed the importance of feedback throughout much of the interview, emphasizing the ability of technology to allow students to immediately “check and correct” their work with “knowing exactly how to fix it.” Another teacher remarked, “I think having technology on hand (provides) the immediate feedback. You know, especially when they read those novels from different time periods.”

Students working in environments that are secure and safe from unwanted intrusions are often a major worry when using technology applications that rely on the Internet. For this reason, more conversations by participants on the topic of having a safe environment for students and teachers free from Internet predators were expected. Perhaps the safe guards that many districts have put in place concerning technology use in the classroom have alleviated most teachers

concerns. Although safety comes with a price, one teacher stated, “The policies are kind of restricting us from getting the technology we may want to use because it might be blocked.”

The teachers who agreed to participate in the online questionnaire of the study were prompt in responding to requests and kept to scheduled deadlines. The online questionnaire had a 100% completion rate and not a single teacher asked to participate in the follow up interview declined. Again, their enthusiasm and willingness to share their knowledge was overwhelming. On several occasions during the interview sessions it was expressed to me by the participants they were not only excited to be a part of my research study but were genuinely touched by the fact that I would ask them for their insights—after all, they were just a teacher.

Expanding the scope of the study to include a quantitative element is next. In the early stages of my dissertation proposal, I put forth the idea of a mixed-methods study with this component in mind. Because of the time limitations I had found myself facing, I was encouraged not to pursue such a study. Circumstances permitting however, I would like to continue examining this research question through another study using the same methodology but include some measurement of student performance. I want to compare the type of interval/ratio data that scores from an evaluation can provide with what teachers are telling me through an instrument such as a questionnaire or face-to-face interview.

Limitations on Methodology

Several factors must be taken into account when considering the findings and conclusions of this study. The results and summary remarks were based only on the input of teachers from early childhood centers and elementary schools and should not be inferred as to what might occur at the secondary level. Additionally, only 46 teachers representing five school districts and

15 campuses in Texas participated in the online questionnaire. This is a relatively small representation of the total bilingual and ESL/ELL teacher population in Texas. Even fewer teachers participated in the interview phase. Any conjectures as to the likelihood of arriving at similar results with any other population at any other time would be imprudent. The responses given by the teachers were predictably uniform since the method for participant selection was a purposive sampling technique in the hopes of assuring a homogenous group of like-minded participants. In addition, due to time constraints for completing the study, observations of teacher practice were not included in the methodology, as originally considered.

Despite using multiple means of collecting information, limitations arose having a study only interested in data gathered from a single source (i.e., teachers). An additional source of data, such as the Texas English Language Proficiency Assessment (TELPAS), designed to assess the progress that ELLs make in learning the English language in the four language domains: listening, speaking, reading, and writing would have added a level of trustworthiness and rigor to the findings. Furthermore, no measurable means of assessing the socio-emotional needs of students or comparisons of student achievement tests such as the Texas Assessment of Knowledge and Skills (TAKS) and State of Texas Assessments of Academic Readiness (STAAR) were analyzed.

Recommendations for Future Research

This section presents recommendations that emerged from this study. These recommendations for future research are reflective of this particular study and have been formulated based on the review of literature, findings, and conclusions of this study.

- Conduct a follow up study using student data from the TELPAS as part of the examination. How strongly do the teacher responses corroborate with the findings from the language assessment data?
- Conduct a follow up study that focuses on teacher-student and student-student interactions during language development instruction. How strongly do the teacher responses corroborate with the findings from the classroom observations?
- Conduct a follow up study expanding the number of districts to include representation from schools in the Rio Grande Valley and High Plains regions of Texas.
- Conduct a case study using an exemplar teacher from this study evaluating the influence of emerging technologies on language acquisition in the classroom.
- Conduct a comparative case study using an exemplar teacher from this study comparing language acquisition and the influence of emerging technologies in their class to language acquisition occurring in a class taught by a teacher using more traditional methods.
- Develop a rubric used by educators for evaluating the effectiveness of emerging technologies in supporting language acquisition based on the four emergent themes.

Conclusions

Emerging technologies hold promise as a viable means of supplementing classroom instruction in the language acquisition process of native Spanish-speaking English language learners. The intent of this dissertation was to provide a deeper understanding of the relationship between language acquisition and technology-enhanced classrooms. The goal of the study was to learn how emerging technologies have influenced language acquisition by understanding the perceptions of bilingual and ESL/ELL teachers. Through an examination of the beliefs of

preschool and elementary teachers from five Texas school districts, four emergent themes resulted describing how innovative technologies used in the classroom have positively influenced language acquisition outcomes among English language learners.

APPENDIX A
PERSON AS INSTRUMENT

This section will review my background relevant to early childhood and elementary education; bilingual education and language acquisition; and emerging technologies in the classroom with regard to their influence on my beliefs and approach to this study.

My interest in teaching began during my mid-thirties at a time well into my first profession in agricultural sciences. I worked in the field of plant sciences upon graduating from Texas A&M and then Oklahoma State University in 1981 and 1983, respectively, with degrees in Agronomy. However, ten years after graduating with a master's of science from Oklahoma State, our daughter, Melissa, began attending preschool at the Child Development Lab School on the campus of the University of North Texas, in Denton, Texas. Not knowing at the time, this was a pivotal moment in my career development. Not only had Denton been the town where I was raised and attended public school, but also the place my family ended up calling home. Like most children going off to college I was happy to leave the familiar surroundings of my childhood and anxious to explore new places.

After Melissa's two years at the lab school, she entered kindergarten at Frank Borman Elementary in the Denton Independent School District. Amazingly, she was now at the very same elementary school where I attended 6th grade. This fact also became significant because the then building principal, Mr. Robert Estes, was a teacher there when I went to school. It truly seemed to me that the world was indeed small and that something profound was about ready to change my life. As time permitted with my work, I spent hours volunteering at the school helping in the workroom preparing instructional materials for the teachers and in the content mastery lab assisting the lead teacher as an instructional aide. Mr. Estes was very gracious in allowing me to join this community of educators. As the school year progressed, I found myself enjoying the time I spent working with the teachers and students. Finally, at a crucial point

during that year of volunteering, I came to the conclusion that I needed to be an elementary school teacher. I realized that I had something significant to offer children, that I could make a difference in their lives.

With my newfound passion firmly planted in my mind, I had a talk with my wife, Linda, about quitting my job and going back to college. My goal was to become a schoolteacher. It is worth noting that both my parents were teachers. My mother taught third grade for the majority of her career, while my father was a professor at North Texas State University, now known as the University of North Texas. Growing up, I was reminded frequently of the fact my parents taught. Our world revolved around school events and summer vacations. My parents loved teaching and it showed; strangely growing up I never thought of myself in the role of a teacher.

With the support of Linda, I was ready to enroll in school at the University of North Texas in the College of Education. There was one important person however that I needed to speak to first, Carol Hagen, the director of the Child Development Lab. I told her of my plans to go back to school and become an elementary teacher. Still to this day, I can hear her exact words to me, “No, you need to go into early childhood education.” She spoke with her usual directness and smile. Heeding her advice, that is exactly what I did, I enrolled in the elementary education program with an emphasis on early childhood education. I fondly recall surrounded by mostly females in my early childhood classes. On occasion, there might have been one other male in class. What a great learning experience, I thoroughly enjoyed my time back in school but being in my mid thirties, I must say it was something I never expected. Not only did I become a teacher, but also I grew as a parent because many of my classes focused on child development. My first teaching job was in Keller Independent School District as a second grade teacher at Park Glen Elementary. Like most of the schools in Keller at that time, the majority of families where

affluent, well-educated and their children came well-prepared for school academically and did not lack for material possessions. I quickly realized however that the demands of a teacher in such a community environment were completely different than those who taught where the majority of the children qualified for the federally funded free and reduced lunch program (i.e., Title I funding).

In spite of having spent two successful years teaching at Park Glen Elementary, including being selected Keller ISD Teacher of the Year for 1996 by my colleagues, I realized something was missing. I felt the desire to work with families who were disenfranchised. In Texas, that often meant Hispanic families that had immigrated to the United States and whose dominant language was Spanish.

During my early experience in the classroom, I never felt the desire to be anything other than a classroom teacher. As I recall, at some point into my second year of teaching, I begin to think about becoming a principal. The reason was simple. As a campus leader, I would have the means to serve a greater number of families and children. Much like the time I sought out Carol Hagen, I met with my principal Debbie LaMar for advice at a pivotal time in my life. Little did I realize, she had already observed my natural ability for such a role and was waiting for me to reach this decision on my own. Once again, I enrolled back in college at the University of North Texas this time in the master's program in educational administration.

That school year went quickly between teaching and going to college. By the time May came about, I was finishing up my first six hours of the master's program and had enrolled for six more hours that summer. As the school year was winding down, an amazing opportunity opened up. Whitley Road Elementary, Keller's only Title I school at that time, was interviewing for an assistant principal. Being a Title I school in Texas usually means having a large

population of low-income Hispanic families whose children know little English. It turned out that Whitley Road Elementary was no exception.

This seemed like the perfect place for me; the only concern I had was my lack of completed coursework in my degree program. As I learned, Texas allows districts to hire campus administrators enrolled in a master's program and have completed the first 12 hours of coursework - a condition of employment that I would have by the end of the summer. As summer approached, I was invited for an interview with the campus principal, Janet Dickey. Following a successful interview with Mrs. Dickey, I met with Karen Simpson, Deputy Superintendent for Keller ISD. She had the final decision on all campus principal and assistant principal hires. Obviously, the meeting with Mrs. Simpson was extremely important and I was quite nervous. Once again, destiny stepped in during that meeting.

As it turns out, Mrs. Simpson already knew a little about my teaching abilities and shared her story during the interview. While enrolled in the teacher education program at the North Texas State University I did substitute teaching in the Denton Independent School District. One of my substitute teaching assignments placed me at the school where I had volunteered, Frank Borman Elementary, so I was excited to return to a familiar place. I was to sub for a 5th grade class taught by Ruth Budlong. Coincidentally, Mrs. Budlong is the mother of Deputy Superintendent Karen Simpson. Having done such an excellent job of subbing for her that day Mrs. Budlong had remembered my name and years later had shared the information with Mrs. Simpson during a conversation they had regarding the assistant principal position at Whitley Road Elementary. It is also worthwhile to note at that time Frank Borman Elementary was a Title I school with a large population of Hispanic students from low-SES families. I believe this experience helped solidify my selection as assistant principal at Whitley Road Elementary. So,

with just having the minimum of 12 semester hours in educational administration and two years of classroom experience, I was selected as the assistant principal at the most academically challenging elementary school in Keller ISD.

I was the assistant principal at Whitley Road Elementary for a mere two years before I was chosen as the principal at North Riverside Elementary. The school across town recognized as the “crown jewel” of Keller ISD. Considering I had such little experience as a campus leader I was thrilled to be selected even though it was not a Title I school. Since becoming an assistant principal, I believe I had proven myself to Karen Simpson as a campus leader with a compassion and commitment for all students to succeed and that success required parents to be actively involved in the school community.

An opportunity had once again presented itself and I was in the proverbial right place, right time. These were important values for the next principal to embrace in order be successful at North Riverside Elementary. Karen Harlen, the principal who opened the school, had instilled these values in the culture of the school community and as a result the school had achieved tremendous success reflected in accountability ratings. Her efforts noticed by the Keller ISD leadership were rewarded. After being at North Riverside for three years, Mrs. Harlen was asked to open the newest elementary school located in the most affluent section of the district, the Hidden Lakes development. The North Riverside community was in shock to learn she was leaving, if even it was an acknowledgement of her achievements. The district was looking for a campus leader that could reassure the North Riverside faculty and families that the school was in capable hands in terms of academic success and community relationships.

Within a couple of years, North Riverside Elementary became a partially funded Title I school because of its increased enrollment of students from low-socioeconomic families. I was

anxious to serve these families though the community of teachers and families took a little longer to accept the change. I would like to think that my leadership had a positive influence on making that change happen. More changes were to come for North Riverside, however.

Several years after arriving as principal, the district was faced with the need to add a bilingual language program at one of its elementary campuses. This was a result of the growing number of students moving into the district being classified as limited English proficient with Spanish as their dominant language. Mahala Gardner, director of elementary instruction and curriculum, spoke at one of our elementary principals' meeting about an impending dual language program and a campus was needed to support the program. Without hesitation, I volunteered North Riverside Elementary. By the end of that meeting, it was decided that our campus would become the location for the district's first bilingual program for native Spanish speaking students.

Our campus experienced many firsts as a result of having the bilingual program. Our faculty was involved in the adoption process of a dual language program that supported and valued a student's primary and secondary language – the Gomez and Gomez 2-way dual language model. In addition, I had the privilege of hiring Keller's first group of bilingual teachers, including the first, Rosa Gonzalez. Many of them are either teaching or administrators in the district today, including Mrs. Gonzalez who teaches at another elementary.

Up until January of that first year of the bilingual program we had one student, a third grader named Alejandro. We slowly grew and by the end of the school year we had four third graders in Mrs. Gonzalez's class. The bilingual program has grown considerably over the years and now includes a Vietnamese dual language program at another elementary campus. I am proud to report that North Riverside Elementary still serves its Hispanic families through the

Gomez and Gomez dual language program.

It would be many years later before I realized the impact emerging technologies had on classroom instruction and student learning. Though my involvement in instructional technology came about purely by accident, it was profound in providing the final piece to my study. I had been in Keller ISD for thirteen years, employed as a teacher, assistant principal, and finally principal. I was not looking for a change, but once again, an opportunity presented itself. Then Deputy Superintendent Jamie Wilson of Denton Independent School District, and a former principal at Keller High School, called me one day and asked if I would consider coming to Denton to replace the retiring principal at WS Ryan Elementary.

Though located in an affluent area of Denton, the school received Title I funding because of a large student population on the free and reduced lunch program as well as hosting a bilingual education program. This presented its own unique set of challenges. After thinking about the offer, this seemed like a perfect fit and I welcomed the new opportunity. I served two years as principal at WS Ryan before moving to a central office position in Denton ISD as the manager of instructional technology for all 38 campuses in the district. My responsibilities included providing instructional training and support services in the application of technology for teachers and students.

This experience has broadened my skills as an educational leader focusing on technology and its role on curriculum and instruction. What I have observed over the past 17 years in education is that student engagement is critical for academic success. For those students who may feel disenfranchised because of a language difference, I believe emerging technologies can significantly help close the achievement gap while providing the skills needed to be successful in a technology-rich world. We must ask the question, how is technology transforming teaching and

then figure out how to take advantage of students' natural competence with technology. This is the focus of my study.

APPENDIX B
SCHOOLS SELECTED FOR THE STUDY

2011-12 District Profiles based on information from the Academic Excellence Indicator System

Pilot School: Dallas-Fort Worth Metroplex City: midsize	Total Enrollment: 24,738 ELL: 3,564(14.4%) Hispanic: 7,743 (31.3%) Economically Disadvantaged: 10,689 (43.2%) Program expenditures for Bilingual/ESL Education: \$172 per student (2.4% of total budget)
District #1: Dallas-Fort Worth Metroplex Suburb: large	Total Enrollment: 19,364 ELL: 1,290 (6.7%) Hispanic: 2,583 (13.3%) Economically Disadvantaged: 3,225 (16.7%) Program expenditures for Bilingual/ESL Education: \$266 per student (4.4% of total budget)
District #2: Gulf Coast Region Suburb: small	Total Enrollment: 12,498 ELL: 972 (7.8%) Hispanic: 6,142 (49.1%) Economically Disadvantaged: 7,287 (58.3%) Program expenditures for Bilingual/ESL Education: \$102 per student (1.8% of total budget)
District #3: Central Texas Region Rural: fringe	Total Enrollment: 3,265 ELL: 215 (6.6%) Hispanic: 831 (25.5%) Economically Disadvantaged: 1,922 (58.9%) Program expenditures for Bilingual/ESL Education: \$14 per student (0.2% of total budget)
District #4: Dallas-Fort Worth Metroplex Suburb: large	Total Enrollment: 10,645 ELL: 862 (8.1%) Hispanic: 1,428 (13.4%) Economically Disadvantaged: 1,099 (10.3%) Program expenditures for Bilingual/ESL Education: \$194 per student (3.1% of total budget)
District #5: Dallas-Fort Worth Metroplex Rural: fringe	Total Enrollment: 33,017 ELL: 1,887 (5.7%) Hispanic: 6,170 (18.7%) Economically Disadvantaged: 7,168 (21.7%) Program expenditures for Bilingual/ESL Education: \$152 per student (2.7% of total budget)

APPENDIX C
TECHNOLOGY USE IN THE CLASSROOM TO SUPPORT SECOND LANGUAGE
ACQUISITION

Q1 *Technology Use in the Classroom to Support Second Language Acquisition*, adapted from *Education for the Future Initiative Teacher Technology Survey*. Copyright 2000 by Education for the Future Initiative (2000) Chico, CA: Education for the Future. Reprinted with permission.

Q2 RESPONSES TO QUESTIONS 1-7 ARE FOR GATHERING BASIC DEMOGRAPHIC DATA Name

First (click in box to write) (1)

Last (click in box to write) (2)

Q3 Where Do You Teach

School Name (click in box to write) (1)

School Address (click in box to write) (2)

City (click in box to write) (3)

State (click in box to write) (4)

Postal Code (click in box to write) (5)

District Name (click in box to write) (6)

Region (click in box to write) (7)

Q4 Student Enrollment of District

Less than 2,000 (1)

2,000 to 4,999 (2)

5,000 to 9,999 (3)

10,000 to 19,999 (4)

Greater than 20,000 (5)

Q5 Community Locale Where School Is Located

City, Large (city population of 250,000 or more) (1)

City, Mid-size (city population between 100,000 and 250,000) (2)

City, Small (city population less than 100,000) (3)

Suburb, Large (urbanized area population of 250,000) (4)

Suburb, Mid-size (urbanized area population between 100,000 and 250,000) (5)

Suburb, Small (urbanized area population less than 100,000) (6)

Town, Fringe (town less than 10 miles from an urbanized area) (7)

Town, Distant (town between 10 and 35 miles from an urbanized area) (8)

Town, Remote (town greater than 35 miles from an urbanized area) (9)

Rural, Fringe (community less than 5 miles from an urbanized area) (10)

Rural, Distant (community between 5 and 25 miles from an urbanized area) (11)

Rural, Remote (community greater than 25 miles from an urbanized area) (12)

Q6 What Grade Do You Teach

- EE (1)
- PreK (2)
- K (3)
- 1 (4)
- 2 (5)
- 3 (6)
- 4 (7)
- 5 (8)
- 6 (9)
- 7 (10)
- 8 (11)
- Other (12)

Q7 Years of Teaching Experience

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)
- 11 (11)
- 12 (12)
- 13 (13)
- 14 (14)
- 15 (15)
- 16 (16)
- 17 (17)
- 18 (18)
- 19 (19)
- 20 (20)
- 21 (21)
- 22 (22)
- 23 (23)
- 24 (24)
- 25 (25)
- 26 (26)
- 27 (27)
- 28 (28)
- 29 (29)
- 30 (30)
- More than 30 (31)

Q8 Teaching Certificates Held

Q9 With regard to second language acquisition please select what best describes what you think or how you feel I use the following technologies as part of my instruction:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Computers (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Television (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Player (VCR/DVD) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video /Audio Recording Devices (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet/World Wide Web Access (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smartphones (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web 2.0 Tools (blogs, wikis, photo and video sharing, social networking) (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 With regard to second language acquisition please select what best describes what you think or how you feel I believe student learning increases when:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Students use computers regularly in conjunction with their school work (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students use the Internet (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students do projects using multimedia technologies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students develop projects using multimedia technologies (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers model the use of technology (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11 With regard to second language acquisition please select what best describes what you think or how you feel I believe student motivation increases when:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Students use computers regularly in conjunction with their school work (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students use the Internet (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students do projects using multimedia technologies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students develop projects using multimedia technologies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers model the use of technology (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 With regard to second language acquisition please select what best describes what you think or how you feel I believe the use of technology improves:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Learning for all students (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning for at-risk students (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ability to serve students with differing needs (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students understanding of concepts I am teaching (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical thinking skills of my students (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 With regard to second language acquisition please select what best describes what you think or how you feel Technology results in:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
More preparation time needed (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My spending more time in the role of facilitator (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater individualization of instruction in my classroom (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes in how I manage my classroom as a teacher (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Greater collaboration among teachers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 With regard to second language acquisition please select what best describes what you think or how you feel

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
I would design more projects involving technology if students had greater access to technology (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would design more projects involving technology if I had more familiarity with the technology (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can improve my effectiveness as a teacher through the use of technology (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can see many ways to incorporate technology into my curriculum (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that technology is an effective tool for learning (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15 Where would you say your classroom is right now with respect to integrating technology in second language instruction?

- 0% (1)
- 10% (2)
- 20% (3)
- 30% (4)
- 40% (5)
- 50% (6)
- 60% (7)
- 70% (8)
- 80% (9)
- 90% (10)
- 100% (11)

Q16 Where would you say your school is right now with respect to integrating technology in second language instruction?

- 0% (1)
- 10% (2)
- 20% (3)
- 30% (4)
- 40% (5)
- 50% (6)
- 60% (7)
- 70% (8)
- 80% (9)
- 90% (10)
- 100% (11)

Q17 I could help my school improve technology implementation for second language instruction if there were

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
More systems support (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More equipment (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More training (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More software (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better computers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More planning time (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More administrative support (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More time to shift paradigm (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More knowledge of how technology integration would look in the classroom (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q18 I consider myself an innovative user of technology when it comes to teaching students a second language

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

Q19 Would you be willing to participate in a follow-up face-to-face interview on your campus?

Yes (1)

No (2)

Q20 Email Contact

Preferred email (click in box to write) (1)

Q21 Thank you for sharing! If you have any questions please contact Gary Miller at Gary.Miller@unt.edu

APPENDIX D

INTERVIEW PROTOCOL FOR TEACHER INTERVIEWS

Introduction of Interviewer

Hello, my name is Gary Miller, thank you for agreeing to participate in the second phase of my dissertation study. I would like to ask you a series of questions about how you use emerging technologies within your classroom to help children acquire the English language as I investigate my research question: What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language?

The information gathered from these interviews and the online questionnaire along with the conclusions drawn from your responses will be used in my dissertation to help assess interactions and learner engagement. With your permission I would like to record our conversation. May I? Also, please know that at any time during the interview you may withdraw from participating. Do you have any questions?

For the purposes of this interview, I am defining emerging technologies as tools, concepts, innovations, and advancements used in educational settings to assist in various education-related functions including instructional, social, and organizational tasks (Veletsianos, 2010). Furthermore, I am defining language acquisition as the picking up of a language, in other words, focusing on the utterances produced by the speaker and not so much the application of the rules of speech and their correctness (Krashen, 2003).

If you do not have any questions, let's begin.

- Main questions

1. *Describe how emerging technologies are used in your classroom to support students' acquisition of the English language.*

- Clarifying questions

- *Can you expand a little on this?*
- *Can you tell me anything else?*
- *Can you give me some examples?*

- 1.1 *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language (Krashen, 2003).*

- Clarifying questions

- *Can you expand a little on this?*
- *Can you tell me anything else?*

- *Can you give me some examples?*

2. *Describe which emerging technologies have made the most impact with your students in acquiring English (e.g., smartphones, white boards, and tablets).*

- *Clarifying questions*

- *Can you expand a little on this?*
- *Can you tell me anything else?*
- *Can you give me some examples?*

2.1 Describe how the desire to communicate with others motivates students' interest for learning technology (Solomon & Schrum, 2007).

- *Clarifying questions*

- *Can you expand a little on this?*
- *Can you tell me anything else?*
- *Can you give me some examples?*

3. *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible. (Note: The linguistic accommodations component is one of three instructional components of the Texas English Language Proficiency Standards [ELPS] identifying English-language supports that help make content area instruction accessible to ELLs [Texas Education Agency, 2011a].)*

- *Clarifying questions*

- *Can you expand a little on this?*
- *Can you tell me anything else?*
- *Can you give me some examples?*

4. *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

- *User-friendliness?*
- *Availability of resources?*
- *Training?*

- *Parent acceptance?*
- *Student access at home?*
 - Clarifying questions
 - *Can you expand a little on this?*
 - *Can you tell me anything else?*
 - *Can you give me some examples?*
- Concluding question
 1. *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students' language acquisition?*

APPENDIX E

LETTER TO SUPERINTENDENT SAMPLE

XXXX Independent School District

Re: District Support Request for Consent to Conduct Research

January 29, 2013

Superintendent Dr. XXXX:

I am a doctoral student in the Educational Leadership Program, Department of Teacher Education and Administration, College of Education, at the University of North Texas. I am conducting research on technology-enhanced learning environments in the classroom and would like to know if such environments promote social and cognitive activities that support the acquisition of English among second language learners. Further, I want to understand teachers' perception on the emergence of new technologies and its impact on language acquisition focusing on interactions and learner engagements. The title of my research is *Technology-enhanced Classroom Environments and English Language Acquisition among Native Spanish-Speaking English Language Learners in the Preschool and Elementary Classroom*. My research question asks: *What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language?*

Within this framework, the following questions were formulated to examine emerging technologies within the classroom environment:

- How are emerging technologies used to support students' acquisition of the English language?
- Which emerging technologies have made the most impact with students in acquiring English?
- How do emerging technologies provide linguistic support and accommodations for helping make other instructional content areas accessible to students?
- What difficulties have been encountered while using technology in language acquisition instruction?

To summarize, this study will examine matters involving the application of technology-enhanced learning environments and their perceived effectiveness among preschool and elementary bilingual teachers in promoting language acquisition among English language learners.

In order to conduct this research, I am requesting your approval to contact principals so that I may seek their assistance in identifying possible teacher candidates to participate in an online questionnaire on technology use in the classroom. From that initial group of participants, I will follow up with a selected few requesting a face-to-face semi-structured interview on technology use in the classroom. The purpose of the questionnaire and interview is to inform the research as to the impact emerging technologies in the classroom has on second language acquisition among native Spanish-speaking preschool and elementary students. The results of this study may have implications for future research and practice for bilingual instruction.

Copies of the questionnaire and interview protocols are attached to this letter for your review. Should you have additional questions or concerns regarding the participation of your school district in the research study, please feel free to contact me at (940) 565-2836 or

Gary.Miller@unt.edu. I look forward to hearing from you very soon and in working with your school district in this research study. Thank you for your time and consideration.

Sincerely,

Gary Miller

APPENDIX F

ADULT SUBJECTS INFORMED CONSENT FORM SAMPLE

XXXX Independent School District

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Technology-Enhanced Classroom Environments and Language Acquisition among Native Spanish-Speaking English Language Learners in the Preschool and Elementary Classroom

Student Investigator: Gary Miller, University of North Texas (UNT) Department of Teacher Education and Administration **Supervising Investigator:** Dr. Jane B. Huffman

Purpose of the Study: You are being asked to participate in a research study. Dr. XXXX, Superintendent of XXXX ISD, has granted his permission for schools in the XXXX Independent School District to participate in this research study regarding language acquisition among preschool and elementary bilingual/ESL students. The purpose of the research is to explore technology-enhanced classrooms to see if such environments promote social and cognitive activities in support of the acquisition of English among native Spanish-speaking English language learners. Further, I want to understand teachers' perception on the emergence of new technologies and its impact on language acquisition focusing on interactions and learner engagement. My research question asks: *What are the perceptions of preschool and elementary bilingual and ESL teachers on how technology-enhanced classroom environments support native Spanish-speaking English language learners in the acquisition of English as a second language?*

Study Procedures: Online questionnaires and face-to-face semi-structured interviews will be conducted with preschool and elementary bilingual and ESL teachers in selected regions of Texas. The purpose of the questionnaires and interviews are to inform the research as to the impact emerging technologies in the classroom environment have on the acquisition of the English language among native Spanish-speaking students. All participants will take the online questionnaires independently and a selected number will then do face-to-face interviews conducted by the researcher at the schools during mutually agreeable times to minimize classroom disruptions. Questionnaire and interview questions focus on the perceived impact of technology use and language acquisition in the classroom. The online questionnaire will take approximately 20 minutes. The interview sessions will take approximately 20 minutes and digitally recorded to provide an accurate reporting of participants' commentary.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: The study is designed to contribute to the knowledge and understanding of language acquisition in a bilingual education classroom setting.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: Anonymity of participation will be safe guarded and interview transcripts and surveys will only include

participant's assigned numbers. Thus, interview transcriptions and surveys will not associate names with reported comments. You can refuse to answer any questions at any point during the interview and survey. In addition, you may withdraw from participation in the study at any point, should you choose to do so. Therefore, participation in the study and responses are completely anonymous and confidential. A copy of the interview and survey protocol will be provided ahead of time.

Questions about the Study: Your time and effort in participating in this research study are appreciated. If you have any questions or concerns regarding this research project, you may contact me directly at (940)-536-8054 or Gary.Miller@unt.edu.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Gary Miller has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You have been told you will receive a copy of this form.

Printed Name of Participant

Signature of Participant

Date

For the Student Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

Signature of Student Investigator

Date

APPENDIX G
CAMPUS FLYER SAMPLE

Seeking Preschool & Elementary Bilingual & ESL Teachers

To Participate in Dissertation Study

Title of Study: Technology-Enhanced Classroom Environments and English Language Acquisition among Native Spanish-Speaking English Language Learners in the Preschool and Elementary Classroom

Student Investigator: Gary Miller, doctoral student from the University of North Texas, College of Education, Department of Teacher Education and Administration

Purpose of the Study: The purpose of the study is to find out how preschool and elementary bilingual and ESL teachers promote English language acquisition among their English language learners where the dominant language is Spanish through technology-enhanced classroom environments. I want to learn the perceptions of teachers regarding the emergence of new technologies and its influence on English language acquisition focusing on sociocultural interactions and learner engagement.

Study Procedures: Online questionnaires (Phase I) and face-to-face interviews (Phase II) will be conducted with preschool and elementary bilingual and ESL teachers from public school districts in Texas. The purpose of these survey instruments is to inform the research as to the impact emerging technologies play in the classroom environment on the acquisition of the English language among native Spanish-speaking students. *Selected participants will take the online questionnaire independently using a computer with Internet access. Upon completing the online questionnaire, a limited number of participants will be asked to participate in a face-to-face interview conducted by the investigator at school during mutually agreeable times.* The online questionnaire will take approximately 20 minutes to complete. The face-to-face interview session will take approximately 20 minutes and digitally recorded to provide an accurate reporting of participants' commentary.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: The study is designed to contribute to the knowledge and understanding of English language acquisition among native Spanish-speaking English language learners in a technology-enhanced bilingual and/or ESL classroom environment.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: Anonymity of participation will be safe guarded and interview transcripts and questionnaires will only include participant's assigned numbers. Thus, interview transcriptions and questionnaires will not associate names with reported comments. You can refuse to answer any questions at any point during the interview and questionnaire. Also, you may withdraw from participation in the study

at any point, should you choose to do so. Therefore, participation in the study and responses are completely anonymous and confidential. A copy of the interview and questionnaire protocol will be provided ahead of time.

Questions about the Study: *If you are interested in participating or have any questions or concerns regarding this study, you may contact me at Gary.Miller@unt.edu*

APPENDIX H
TEACHER CERTIFICATIONS HELD BY PARTICIPANTS

1. 1-6 Bilingual Generalist
2. 1-8 Spanish, 1-8 ESL and GT Endorsements
3. EC-4 Generalist, ESL Endorsement
4. EC-4 Bilingual Generalist, TELPAS Rater Certificate
5. EC-4, ESL and GT Endorsements, Special Education, Diagnostician, Principal
6. EC-6 Bilingual Generalist
7. BS in Interdisciplinary Studies, ESL and GT Endorsements
8. BS in Home Economics, EC-4 Generalist
9. EC-4 Bilingual Generalist
10. EC-8 Bilingual Generalist
11. EC-4 Bilingual Generalist, EC-4 Generalist
12. BA
13. BS in Interdisciplinary Studies, ESL Endorsement
14. EC-4 Bilingual Generalist
15. EC-6 Bilingual Generalist, ESL Endorsement
16. EC-4 Bilingual Generalist
17. 1-6 Generalist, ESL Endorsement, Elementary Mathematics
18. EC-4 Bilingual Generalist, ESL Endorsement, 4-8 English Language Arts and Reading, 8-12 English Language Arts and Reading
19. 1-6 Bilingual Generalist
20. BS Elementary Education Specialization in Reading Special Education Certificate ESL Certificate
21. EC-4 Bilingual Generalist
22. EC-12 Physical Education, EC-4 Generalist, ESL Endorsement
23. EC-4 Bilingual Generalist, ESL Endorsement
24. EC-4 Generalist, ESL Endorsement, 4-8 Generalist, ESL and GT Endorsements
25. EC-4 Bilingual Generalist
26. EC-4 Bilingual Generalist, ESL Endorsement
27. EC-6 Bilingual Generalist, 4-8 Bilingual Generalist
28. All Level Music, Elementary Composition Music, ESL Endorsement
29. EC-4, ESL Endorsement, Elementary Reading, Principal
30. EC-4 Bilingual Generalist, ESL Endorsement
31. BA in Interdisciplinary Studies, Bilingual Generalist, Masters in Educational Administration
32. 1-8 Bilingual Generalist, Principal
33. EC-4 Bilingual Generalist, 6-12 Spanish
34. EC-6 Bilingual Generalist, ESL Endorsement
35. EC-6 Generalist, ESL Endorsement
36. EC-4 Bilingual Generalist, ESL Endorsement, Psychology Certification in Early Childhood
37. EC-4 Bilingual Generalist, ESL Endorsement
38. EC-4 Bilingual Generalist, ESL Endorsement
39. EC-4 Bilingual Generalist, 4-8 Generalist
40. EC-4 Bilingual Generalist
41. EC-4 Bilingual Generalist, 8-12 Spanish
42. EC-6 Bilingual Generalist, ESL Endorsement

43. EC-6 Bilingual Generalist
44. 1-8 Bilingual Generalist, ESL Endorsement
45. EC-4 Bilingual Generalist
46. BS University of Houston Clear Lake

APPENDIX I
SECOND-CYCLE CODING ANALYSIS

Interview 1

Question #1 (1) *Describe how emerging technologies are used in your classroom to support students' acquisition of the English language.*

Category: Integrating technology tools

“TECHNOLOGY INTEGRATION”
“INTERACTIVE NOTEBOOKS”
“PUBLISH HARD COPY BOOKS”
“TRANSFERRED TO THE DIGITAL LIBRARY”
“INTEGRATING TECHNOLOGY IN MATH”
“WRITTEN GRANTS”
“PURCHASE PROPOSAL”

Category: Supporting activities for speaking, listening, & reading

“ORAL LANGUAGE PRACTICE”
“READ IT OUT LOUD”
“READ THEIR DIGITAL BOOKS”
“RECORDING THEIR VOICE”
“EXPLAINED IN THEIR OWN WORDS”
“IN THEIR OWN VOICE”
“HAVING A CONVERSATION”
“OTHERS WOULD ASK”

Category: Creating authentic work

“RECORD THEIR VOICE”
“DISPLAYED THROUGHOUT THE SCHOOL”
“REAL AUTHENTIC TYPE OF PROJECT”
“PROFESSIONAL QUALITY”
“TURNS INTO A VIDEO”
“STUDENT CREATED BOOKS”
“WRITE THEIR OWN STORIES”
“DO THEIR EDITING AND DRAFTING”
“WRITING OUT MATH”
“CREATING THEIR OWN WORD PROBLEMS”

Category: Collaborating with others

“EXPLAINING THE ANCHOR”
“HEAR EACH OTHER”
“HEAR THEIR OWN VOICES”
“COLLABORATED THIS YEAR”
“DO IT IN PAIRS”

Category: Engaging students for learning

“TAKE A LOT OF OWNERSHIP”
“BEEN REALLY GOOD”

Question #1.1 (1) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Creating authentic work

“CREATED A LOT OF THINGS”

“SEE WHAT THEY HAVE CREATED”

Category: Integrating technology tools

“FOR THE UPCOMING GRADES”

“A LOT OF CREATING INTERACTIVE”

“DO A LOT IN THE YOUNGER GRADES”

Category: Supporting activities for speaking, listening, and reading

“MOST EFFECT ON LANGUAGE ACQUISITION”

“EDUCREATIONS”

“SHOW ME PRESENTATIONS”

Question #2 (1) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Engaging students for learning

“TOUCHES WHICH ARE GREAT”

Category: Integrating technology tools

“RECORDING THEIR STORIES”

“WHILE THEY’RE MAKING IT”

“WRITING ON THE iPADS”

“DISSECT THE WORD”

Category: Supporting activities for speaking, listening, and reading

“EXPLAINING THEIR WORK OUT LOUD”

“THEN TALK ABOUT IT”

Question #2.1 (1) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“MOTIVATIONAL TOOL”

“GET REAL EXCITED”

Category: Supporting activities for speaking, listening, and reading

“TALK TO EACH OTHER”

Category: Creating authentic work

“AUTHENTIC AUDIENCE”

“AUTHENTIC AUDIENCES FOR THEIR WORK”

Question #3 (1) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: **Supporting activities for science**

“ESPECIALLY WITH SCIENCE”

Category: **Developing and clarifying concepts**

“A LOT OF ABSTRACT IDEAS”

“DIFFERENT TYPES OF PICTURES”

“AS OPPOSED TO JUST ONE”

“iPADS HAVE BEEN AMAZING”

“HAVE LINGUISTIC CLARIFICATION”

“CLARIFICATION THROUGH THE TECHNOLOGY”

“MUCH MORE MEANINGFUL FOR THEM”

Category: **Integrating technology tools**

“DO MODIFICATION WITHIN THE CLASS”

“LINGUISTIC ACCOMMODATION”

“TRANSLATIONS AND STUFF”

“IT WILL TRANSLATE FOR THEM”

“COURSE DELIVERED ONLINE NOW”

“ACCOMMODATIONS IF THEY ARE A NEWCOMER”

“ESPECIALLY FOR THE ORAL TRANSLATIONS”

“DIFFERENT APPS CAN ACTUALLY SPEAK TO THEM”

Question #4 (1) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: **Accessing technology at school to support learning**

“THE TROUBLE-SHOOTING HAD TO DO”

“LIKE A DATABASE”

“EMAIL ACCOUNTS SYNCED”

“DROPBOX HAS MEMORY LIMITS”

“WAS THE MEMORY STORAGE”

“GOOGLE DRIVE”

“MAIL STUDENT PRODUCTS TO WHATEVER OUR BIG DATABASE IS FOR THEM”

“MILLIONS OF APPS OUT THERE”

“WHAT ARE THE MOST IMPORTANT ONES”

“WHAT ARE THE MOST EFFECTIVE ONES”

“TOWARDS THE HIGHER LEVEL THINKING”

“TONS OF LIKE MEMORIZATION APPS”

“THOSE HIGHER LEVEL THINKING SKILLS WE WANT THEM TO ACQUIRE”

“HIGHEST LEVEL OF BLOOMS”

“USE ACROSS CONTENT AREAS”

“CROSS-CONTENT”

“MOST EFFECTIVE”

Category: Training teachers on technology

“HAS JUST BEEN A PROCESS”

“WORKING THROUGH IT”

“A LOT OF TIME AND EFFORT”

Question #5 (1) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Providing feedback

“THE IMMEDIATE FEEDBACK”

Category: Developing and clarifying concepts

“WE DON’T USE THAT OFTEN”

“WHAT WAS THAT”

Category: Integrating technology tools

“JUST A COUPLE OF YEARS BEFORE”

“RICH VARIETY OF SCHEMA TO PULL FROM”

Interview 2

Question #1 (2) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“I USE THE SMARTBOARD”

“GO TO THE COMPUTER LAB”

“iSTATION IS A PROGRAM IN ENGLISH”

“IT ASSESS THEM”

“HAVE A CART WITH LAPTOPS”

“UTILIZE GOOGLE DOCS”

Category: Supporting activities for speaking, listening, and reading

“iSTATION FOCUSES ON VOCABULARY, SPELLING, AND COMPREHENSION”

Category: Creating authentic work

“USE IT FOR WRITING AND GRAMMAR”

“DEVELOP THEIR OWN POETRY”

“CREATE JUST A SIMPLE DOCUMENT”

“USE AS A RESEARCH TOOL”

“CREATE POWERPOINT PRESENTATIONS”

“CREATE A FORM”

“FILL IN SHORT ANSWERS”

“HAVE A CONCLUSION PARAGRAPH”

Category: Engaging students for learning

“INTERACTIVE TYPE OF TECHNOLOGY”
“BEEN VERY EFFECTIVE”
“I HAVE GUIDING QUESTIONS”
“WAS IMPORTANT IN MY LIFE”
“SENTENCE STEMS ARE WONDERFUL”
“HELPS THEM EXPRESS”
“GO DEEPER WITH WHAT THEY WERE SAYING”

Question #1.1 (2) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Integrating technology tools

“ACTIVITY IS ON THE SMART Board”
“LEARN THE ENGLISH LANGUAGE WITH THE TECHNOLOGY”
“USE THE LAPTOPS AND GOOGLE DOCS”

Category: Supporting activities for speaking, listening, and reading

“THEY’RE ABLE TO TALK ABOUT IT”
“THEY CAN DEBATE ABOUT IT OR TALK ABOUT IT”
“CAN BE A CONVERSATION ABOUT IT”

Category: Engaging students for learning

“THEY’RE ALL ENGAGED”
“JUST INTERACT WITH IT”
“SUCH A USEFUL TOOL”
“THEY’RE ENGAGED”
“WONDERFUL VISUAL FOR EVERYONE”

Category: Creating authentic work

“WRITE IT AND CHANGE IT OR EDITING AND IT’S UP THERE”
“TO CREATE THEIR SCIENCE FAIR BOARDS”

Category: Collaborating with others

“THEY WERE IN PARTNERS”
“BRINGING TECHNOLOGY INTO SOMETHING THAT IS ALREADY A FUN PARTNER PROJECT”

Question #2 (2) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Integrating technology tools

“NOT REAL SURE”
“DON’T HAVE AN ASSESSMENT TOOL”
“IS IT BECAUSE OF WHAT WE ARE TEACHING”
“BECAUSE OF THEM PRACTICING”
“I CAN’T MEASURE IT”

“I THINK IT’S EVERYTHING”
“BECAUSE OF THE SMARTPHONE THIS CHILD HAS ACQUIRED”

Category: Engaging students for learning
“DO A LOT IN THE YOUNGER GRADES”
“I’M THINKING ENGAGEMENT”
“THEY’RE ENGAGED”

Question #2.1 (2) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning
“GRAVITATE TOWARDS TECHNOLOGY”
“THEY JUST PERK UP”
“SEEM TO RELAX”
“MORE AT EASE WITH THE TECHNOLOGY”
“BIT MORE COMFORTABLE”
“WANT TO LEARN WHATEVER TECHNOLOGY THERE IS”
“EXCITED ABOUT GETTING ON THERE”

Category: Collaborating with others
“BECAUSE THEY HELP EACH OTHER”
“MAY NOT BE REAL SAVVY”
“OTHER KIDS COME AND HELP THAT STUDENT”
“TALK A LITTLE BIT MORE”

Category: Integrating technology tools
“IN COMPUTER LAB”
“LEARN HOW TO TYPE”

Category: Creating authentic work
“DONE POETRY THROUGH LAPTOPS”

Question #3 (2) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting activities for science
“STEMscopes WEBSITE”
“WE HAVE THE ONE FOR SCIENCE”
“VIRTUAL INVESTIGATIONS”
“VIRTUAL LAB”
“WEB-SURFING SCIENCE”

Category: Supporting activities for math
“THEY MIGHT HAVE ONE FOP MATH”

Category: Supporting activities for speaking, listening, and reading

“SMARTBOARD TO PRE-TEACH VOCABULARY”
“PICTURE VOCABULARY, MOST OF ITS BILINGUAL”
“ENGLISH VERSION AND SPANISH VERSION”
“LINGUISTIC SUPPORT, THERE IS A PICTURE”
“DOING A READ-ALOUD”
“GOOGLE IMAGES AS I’M READING”
“TECHNOLOGY SUPPORTS THE READ-ALOUD”

Category: Developing and clarifying concepts

“5E LESSON CYCLE FOR EACH UNIT”
“IT ASKS THEM QUESTIONS”
“THEY CAN TYPE THEIR CONCLUSIONS”
“PACKET WHICH HAS GUIDING QUESTIONS”
“ANSWER FOUR QUESTIONS ABOUT THE WEBSITE”
“LEARNING ABOUT THAT TOPIC”
“WORDS THAT THE CHILDREN DON’T REALLY KNOW”
“THEN I SHOW THEM”
“HELPS THEM UNDERSTAND”

Category: Engaging students for learning

“KEEP THEM ON TASK”
“USE A VARIETY OF MEDIA SOURCES”
“ABSOLUTELY WONDERFUL WITH ELPS”
“MY FAVORITE”
“VERY EASY FOR THEM”

Question #4 (2) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“USER-FREINDLINESS WITH THE SMART Boards”
“ALL OF A SUDDEN IT DOES NOT WORK”
“I’LL JUST STOP AND DO IT THE OLD FASHION WAY”
“SOMETIMES IT WORKS AND SOMETIMES IT DOESN’T”
“IT COULD BE THE INTERNET IS DOWN”
“LITTLE TECHNOLOGY ISSUES”
“ENDED UP WORKING OUT”

Category: Training teachers on technology

“DISTRICT DID THE TRAINING”
“COURSES THAT THE DISTRICT OFFERS”
“GET TRAINING IF THEY WISH TOO”

Category: Accessing technology at home to support school

“STUDENT ACCESS AT HOME”
“I MIGHT WANT TO ASSIGN SOMETHING”
“NOT ALL OF OUR CHILDREN HAVE COMPUTERS”

“LITTLE BIT LIMITING”

Question #5 (2) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“THE IMMEDIATE FEEDBACK”
“INDEPENDENT READING TIME”
“THEY READ RELEVANT UP TO DATE ARTICLES”
“JUST A COUPLE OF YEARS BEFORE”
“RICH VARIETY OF SCHEMA TO PULL FROM”
“THAT TARGET AWARDED”
“COMMITTEE TO LOOK AT TECHNOLOGY”
“LONG-LASTING”
“CONTINUE TO USE”

Category: Developing and clarifying concepts

“WE DON’T USE THAT OFTEN”
“WHAT WAS THAT”

Category: Supporting activities for speaking, listening, and reading

“MAKES IT EASIER”
“TALK WITH ONE ANOTHER”
“THEY’RE SPEAKING”

Category: Engaging students for learning

“USER-FRIENDLY”
“MAKES IT EASIER TO TEACH”
“THIS GENERATION OF STUDENTS”
“SOMETIMES A HIT OR MISS”
“HIGHER LIKELIHOOD OF PICKING UP ENGLISH”
“WHATEVER WE ARE TEACHING”
“ENGAGED”
“THEY WANT TO DO IT”
“ENGAGEMENT REALLY DOES IMPACT LEARNING”
“IF THEY ARE ENGAGED”

Category: Accessing technology at school to support learning

“TECHNOLOGY COACH”
“NEED A LITTLE EXTRA HELP”
“HE HAD MY CLASS”
“SHOW US HOW”

Interview 3

Question #1 (3) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“WE USE TECHNOLOGY A LOT”
“WHATEVER WE HAVE WE USE”
“HAVE OUT LAPTOPS”
“OVERHEAD PROJECTOR”
“TO SHOW THEM”
“HAVE UNITED STREAMING”

Category: Integrating technology tools

“DON’T HAVE A LOT OF TECHNOLOGY”
“DON’T GET ASSES TO ANY TECHNOLOGY”
“DON’T OWN COMPUTERS”
“NOT HOOKED TO THE INTERNET”

Category: Supporting activities for speaking, listening, and reading

“PRACTICE AND LEARN TO SOME OTHER ACCENTS”

Category: Creating authentic work

“USE A LOT OF PROGRAMS ONLINE”

Category: Engaging students for learning

“LIVE PRESENTATIONS”
“WE ARE LUCKY HERE”

Question #1.1 (3) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Integrating technology tools

“MY LAPTOP”
“BRING MY iPad”

Category: Engaging students for learning

“ANSWERING THEM LIVE”
“ABLE TO ASK QUESTIONS”
“NO DISTRACTIONS”
“LIKE THE MOVIES”
“LOVE THAT WITH THE SCREEN”
“I’M SO EXCITED”

Category: Collaborating with others

“COMMUNICATE AND INTERACT”

Question #2 (3) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Engaging students for learning

“BIG SCREEN IS HUGE”
“IPAD THEY LOVE IT”
“TOUCH IT WITH THEIR FINGER”
“WRITE ON PAGES AND THEY ERASE”
“DON’T HAVE ACCESS”
“LET THEM TOUCH IT”

Category: Integrating technology tools

“LEAP FROG BOOKS”
“TECHNOLOGY IS HELPING THEM”

Category: Accessing technology at home to support school

“DON’T HAVE ACCESS AT HOME”

Question #2.1 (3) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“EXCITED ABOUT IT BEING INTERACTIVE”
“WHAT THEY LIKE THE MOST”
“WATCH THE LIVE SHOW”
“ANSWERING THEIR QUESTIONS”

Category: Collaborating with others

“YOU CAN ASK QUESTIONS”

Category: Creating authentic work

“PEOPLE WERE ANSWERING THEIR QUESTIONS IN REAL TIME”

Question #3 (3) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting multiple activities

“SCIENCE AND SOCIAL STUDIES”

Category: Integrating technology tools

“YouTube FOR TEACHERS”
“ALL KINDS OF VIDEO”

Category: Supporting activities for speaking, listening, and reading

“DON’T HAVE A LOT OF DICTIONARIES”
“TAGGED ONE WORD”
“DON’T EVEN HAVE TO HAVE DICTIONARIES”

Category: Developing and clarifying concepts

“I SHOW THEM”

“YOU NEED PICTURES OR VIDEOS”
“SOMETHING THEY CAN SEE”
“IT’S NOT JUST TRANSLATING”

Category: Engaging students for learning

“USE THE EVERYTHING”
“HAVE SONGS WITH MUSIC”

Question #4 (3) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Training teachers on technology

“DON’T HAVE ALL OF THE TRAINING”

Category: Accessing technology at home to support school

“DO HAVE COMPUTERS”
“STARTING TO USE THE SAME”
“HAVE AN APPLE, IPOD, or an IPAD”
“TELL ME THAT THEY ARE USING THESE THINGS”

Category: Engaging students for learning

“I LOVE IT”
“TRIED TO SHOW THEM”
“THEY LIKE IT”

Category: Training students on technology

“CLICK EVERY WORD”
“LEARN HOW TO DO IT”
“I FIND A NEW APP”
“THAT’S NO PROBLEM FOR ME”

Question #5 (3) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“HAVING ACCESS ON MY COMPUTER”
“OPEN ACCESS TO YouTube”
“CHANGED THE WAY I TEACH”
“WE DO SO MANY THINGS”
“APPS FOR EVERYTHING”
“FOR ME IT’S EMERGING”
“EMERGING FOR ME”

Category: Developing and clarifying concepts

“LOOK FOR A PICTURE”
“NOW HOW DO I SHOW”
“ONCE YOU KNOW HOW TO”

“JUST DOWNLOAD THE PICTURES WRITE SOMETHING”
“WITH ONE THAT’S ENOUGH”

Category: Engaging students for learning

“I LOVE IT”
“EVERYTHING IS SO EASY”
“MADE MY LIFE EASIER”
“THEY GET SO EXCITED”
“THEY LIKE THE iPad and TECHNOLOGY”
“ANYTHING THAT CATCHES THEIR ATTENTION”
“A WHOLE DIFFERENCE”
“IT WAS LIKE SO DIFFERENT”

Category: Accessing technology at school to support learning

“KINDERGARTEN WAS THE LAST ONE”

Interview 4

Question #1 (4) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Providing a safe environment

“PROVIDES A SAFE ENVIRONMENT”

Category: Providing feedback

“ABILITY TO CHECK AND CORRECT”
“KNOW EXACTLY HOW TO FIX IT”
“FEEDBACK YOU KNOW IMMEDIATELY”
“FEEDBACK AND APPLY IT RIGHT AWAY”

Category: Supporting activities for speaking, listening, and reading

“LISTENING, COMPREHENSION, ORAL RESPONDING”

Category: Engaging students for learning

“PARTICIPATE AND PRACTICE SEVERAL SKILLS”

Question #1.1 (4) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Providing a safe environment

“PROVIDES A SAFE ENVIRONMENT”
“CLOSED ENVIRONMENT”

Category: Integrating technology tools

“USE MANIPULATIVES”
“COMPUTER-BASED PROGRAMS OR SIMULATORS”

Category: Engaging students for learning

“INTERACTION BETWEEN THE HUMAN, THE COMPUTER, AND THE PROBLEM”

Category: Collaborating with others

“ABILITY TO TALK TO THEIR PEERS”

“HOW CAN WE DO IT BETTER”

Question #2 (4) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Engaging students for learning

“TAKE TO YOUR TABLE OR TO YOUR LAB”

“HAVING INTERACTIVE GAMES AND VIDEO”

Category: Integrating technology tools

“CROSS-PLATFORM”

“PROGRAMS THAT ARE RUN IN COMPUTERS AND CAN RUN IN YOUR CELL PHONE AND YOU TABLETS”

“NOT THE PACKAGE IT IS THE PRODUCT”

“THE CONTENT THAT RUNS INSIDE”

Question #2.1 (4) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“PLAYING”

“IMPORTANT ASPECTS OF A HUMAN BEING”

“GAMING IS GOOD”

“PARTICIPATING”

Category: Collaborating with others

“TO FUNCTION IN THE ENVIRONMENT”

“THEY PLAY TOGETHER THEY SOLVE THEIR PROBLEMS TOGETHER”

Category: Creating authentic work

“SOLVING PROBLEMS”

Question #3 (4) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting multiple activities

“YOU CAN USE A LOT OF STUFF”

Category: Integrating technology tools

“OPEN TECHNOLOGIES”

CROSS-PLATFORM”

“MANIPULATIVE THAT CAN ALIGN WITH A WORKSHEET THROUGH TECHNOLOGY”

Category: Accessing technology at school to support learning

“LIMITED”

“POLICIES ARE KIND OF RESTRICTING”

“TEST FIRST”

“IT MIGHT BE BLOCKED”

“CAN BE A BIG HEADACHE”

Question #4 (4) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“FRAGILITY OF THE NETWORK”

“TECHNOLOGY IS NOT VERY CONSISTENT”

“WE CAN’T USE IT”

“MAJOR THINGS THAT WE EXPERIENCE”

“THE PRIVILEGES”

“TO INSTALL ANY KIND OF SOFTWARE OR UPDATE”

“CAN’T BUY A SUBSCRIPTION”

“NOT ENOUGH DEVELOPERS WITH A BACKGROUND IN EDUCATION”

“IT’S NOT HOW THE CANDY IS MADE IT’S THE FLAVOR”

“DON’T SPECIFICALLY HAVE A BACKGROUND IN EDUCATION”

“GRADE APPROPRIATE, CHALLENGING, INTERACTIVE”

“DON’T HAVE TIME TO EXPLORE”

“DON’T HAVE ENOUGH TIME TO TEST, TO DEVELOP, TO RESEARCH”

“IT’S GROWING WITH TIME”

Category: Accessing technology at home to support school

“HOME ACCESS IS NOT VERY CONSISTENT”

“TWO PARENTS OUT OF 23 STUDENTS HAD COMPUTERS”

“DID NOT HAVE INTERNET”

“WASN’T GOING TO BE USED”

“DOESN’T KNOW HOW IT WORKS”

Question #5 (4) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Providing feedback

“MOST IMPORTANT ASPECT IS THAT IMMEDIATE FEEDBACK”

“ABILITY TO GET AN ANSWER RIGHT AWAY”

“GIVES YOU IMMEDIATE FEEDBACK”

Category: Integrating technology tools

“HOW TO LEVEL THE TECHNOLOGY TO YOUR STUDENTS”

“THE HOLY GRAIL”

“MEASURE TRENDS OVER TIME”
“PULL SOME INFORMATION OUT”
“ANALYZE IT”
“BEST SUPPORT FOR THAT STUDENT”
“WELL TRIAL AND ERROR FOR MANY YEARS”
“DIDN’T HAVE TECHNOLOGY AVAILABLE”
“STRONG BACKGROUND IN TECHNOLOGY”
“DON’T HAVE THE TIME”

Category: Accessing technology at home to support school

“TIMES HAVE CHANGED”
“SYSTEMS HAVE CHANGED”
“STRONG BACKGROUND IN EDUCATION”
“INTELLIGENT SYSTEMS TO ADAPT TO THE NATIVE STUDENTS”

Interview 5

Question #1 (5) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“INTEGRATING TECHNOLOGY”
“INCREASE STUDENT ACHIEVEMENT”

Category: Developing and clarifying concepts

“TOOLS THAT ALLOW ME TO INTRODUCE”
“UNDERSTANDING NEW CONCEPTS”

Category: Accessing technology at home to support school

“ABLE TO OFFER FOR THE PARENTS”
“HAVE ACCESS AT HOME”
“PARENTS TO HAVE ACCESS AT HOME”

Category: Supporting activities for speaking, listening, and reading

“ALLOW LANGUAGE MODALITIES”
“IN THEIR NATIVE LANGUAGE”
“SAME MATERIAL IN ENGLISH”
“TO LEARN NEW VOCABULARY IN THE NEW LANGUAGE”
“TAUGHT IN THEIR NATIVE LANGUAGE”
“DEVELOPING THE LANGUAGE ACQUISITION”

Question #1.1 (5) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Integrating technology tools

“WE USE TECHNOLOGY EVERYDAY”

“HAVING ACCESS TO THE SAME INFORMATION”

Category: Engaging students for learning

“MY STUDENT’S LIFE, SPECIFICALLY IN THE CLASSROOM”

“STUDENT WILL RESPOND”

“AMAZING, IT’S GREAT!”

Category: Creating authentic work

“WE TAPE EVERYTHING”

Category: Collaborating with others

“INTERACT”

“EXCHANGE INFORMATION”

“HELPING EACH OTHER”

“TEACHING EACH OTHER”

Category: Providing feedback

“GET FEEDBACK”

“GET FEEDBACK TO REAFFIRM”

Question #2 (5) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Engaging students for learning

“ENGAGED BECAUSE THE MATERIAL IS REALLY ALIVE”

“ASK QUESTIONS”

“SOMEONE COULD ANSWER”

“SHOW ME HOW TO DO IT AND I TRY IT”

“TIME TO ASK QUESTIONS”

“INTERACT”

“COULD NOT SEE THEM”

“EVERYTHING BIGGER”

“NOT AFRAID OF MAKING MISTAKES”

“ARE NOT WORRIED”

“I LOVE THE MOST”

Category: Integrating technology tools

“TRULY CHANGED MY WHOLE CLASSROOM”

“APPROPRIATE FOR THE CLASSROOM”

“DID NOT KNOW HOW TO USE IT”

“HAVING EXPOSURE TO THIS TECHNOLOGY”

“TECHNOLOGY IS NOT JUST BEING A RECEPTOR”

“IT’S REALLY NATURAL”

“NOT ABOUT QUESTIONS TEACHERS CAN PREPARE”

“QUESTIONS THEY ARE MAKING”

“THEY CAN HAVE ACCESS”

“MY TABLET, MY PROJECTOR”
“VIDEO CONFERENCES”

Category: Developing and clarifying concepts
“THEY GOT THE CONCEPT”

Question #2.1 (5) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning
“SEE A BIG DIFFERENCE”

“THE BEST WAY”
“WANTING TO BE THE LEADERS”
“SOME WILL NOT SOCIALIZE”
“WANT TO BE BY THEMSELVES ON THE COMPUTER”
“TRY TO MOTIVATE”
“SOLVE THE PROBLEM”

Category: Collaborating with others

“IN MEXICO EVERYTHING IS ABOUT THE STUDENT”
“WHAT THE STUDENT CAN OFFER TO THE TEACHER”
“HERE IT IS ABOUT TEAMWORK”
“EVALUATES HOW THE STUDENT INTERACTS”
“ABOUT COMMUNICATING”
“INTERACTING ALL OF THE TIME”
“FRIENDS ARE HELPING”
“TECHNOLOGY ALLOWS A LOT OF THOSE KIDS TO COMMUNICATE”
“HAVE TO GIVE THEM THEIR TIME”
“DON’T WANT OTHERS TO SEE”
“EVERYBODY IS ABLE TO SEE THE SAME PROBLEM”
“OFFER A DIFFERENT PERSPECTIVE”
“SHARE A DIFFERENT WAY”
“EVERYBODY CAN BE A PART OF IT”

Category: Integrating technology tools

“HOW THE CLASSROOM IS HANDLED HERE”
“TEACHERS MOVE AROUND”
“IN MEXICO THE STUDENT WAITS”
“EVERYTHING INDEPENDENT”
“SOMETHING WITH THE CULTURE”
“WORKING INDEPENDENTLY”
“LEARNING TO INTERACT”
“WITH THE BOARD”
“PROJECTING MATERIAL FOR MATH, SCIENCE”

Question #3 (5) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting multiple activities

“SUITS THE ENGLISH LANGUAGE LEARNER’S NEEDS”

Category: Integrating technology tools

“COMPUTER TOOLS AND ONLINE COURSES”

“COMPUTER LEARNING ALLOWS LEARNING INDEPENDENT”

“TEACHER’S OWN COMFORT LEVEL IS LOW IN A SUBJECT”

“THERE ARE RESOURCES”

“OFFER THE SAME MATERIAL IN SPANISH”

“INTRODUCE EVERYTHING IN SPANISH”

CONTINUE IT IN ENGLISH”

“UNITED STREAMING”

Category: Developing and clarifying concepts

“STYLES ARE DIFFERENT”

“TO DO SOMETHING OVER AGAIN”

“NOT PUSHING THEM”

“AT A CERTAIN TIME”

Category: Supporting activities for science

“SCIENCE IS NOT MY FAVORITE”

“TECHNOLOGY I CAN FEEL THAT I AM OFFERING BETTER”

“COMPLIMENT MY KNOWLEDGE”

Category: Supporting activities for math

“I LOVE IT ESPECIALLY FOR MATH”

Category: Supporting activities for speaking, listening, and reading

“GREAT FOR SECOND LANGUAGE INSTRUCTION”

“NEW WORDS BY THEMSELVES”

Category: Engaging students for learning

“INDISPENSIBLE”

Category: Developing and clarifying concepts

“CONCEPT IS ALREADY ACQUIRED”

“JUST TRANSFER

“ACQUIRE THE VOCABULARY IN ENGLISH”

Question #4 (5) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“MANY RESOURCES”

“MAJORITY OF RESOURCES IN ENGLISH”
“DISTRICT HAS TO APPROVE”
“VERY EXPENSIVE”
“SMALL POPULATION”
“HAVE TO ADD THE LICENSE IN SPANISH”
“THEY WERE NOT AVAILABLE”
“PAY FOR THAT VERSION”
“THE ECONOMY”

Category: Accessing technology at home to support school

“PARENTS HAVE VERY LOW EDUCATION”
“DON’T HAVE COMPUTERS”
“DON’T KNOW WHAT IT IS”
“HAVE A WEBSITE”
“ASKING FOR A LETTER”
“THAT’S REALLY A PROBLEM”
“ARE MORE ACCESSIBLE”
“OFFER TRAINING FOR PARENTS”
“TEACH THEM THE BASICS”
“NOW TELL ME SEND EMAILS”
“HAPPY THAT THE WEBSITES THAT THE SCHOOL IS USING”
“CURRICULUM THEY’RE BEGINNING TO ADD”
“INCREASED SO MUCH THE MATERIAL IN SPANISH”
“OFFER DIFFERENT LANGUAGES”
“RESOURCES IN BOTH LANGUAGES”
“GETTING A WEB-COURSE”
“ACCESS TO SOME INFORMATION”
“NOW TELL ME SEND EMAILS”
“ACCESS TO SCHOOL WEBSITES”
“OPPORTUNITIES FOR PARENTS TO LEARN”

Category: Engaging students for learning

“A MUST HAVE”
“THAT WAS AMAZING”

Category: Training teachers on technology

“TRAINING IS NEVER A PROBLEM”
“WE HAVE SUPPORT”
“THEY WILL HELP ME”

Question #5 (5) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“THEY ARE DOING JUST THE OPPOSITE”
“THEY ARE LEARNING ENGLISH”
“ONLY VERY EXPENSIVE PRIVATE SCHOOLS”

“SAME RESOURCES AS AMERICAN SCHOOLS”
“HUGE DIFFERENCE”
“ALL OF THIS TECHNOLOGY TO LEARN”
“ACQUIRE A SECOND LANGUAGE IS FASTER”
“JUST EXPOSED TO SOMETHING ELSE”
“APPLYING THE WORDS”

Category: Engaging students for learning

“MORE EFFICIENT”
“MORE FUN”
“THEY LOVE IT”
“DON’T FEEL LIKE THAT THEY ARE LEARNING ANOTHER LANGUAGE”
“NOT LIKE A MUST DO”
“APPROPRIATE FUN LEARNING”

Category: Accessing technology at home to support school

“KIDS DON’T HAVE THESE KINDS OF OPPORTUNITIES”

Interview 6

Question #1 (6) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“LANGUAGE MASTER”
“INTERNET”
“DOCUMENT CAMERA”
“LISTENING STATION”
“CD PLAYER OR THE CASSETTES”
“TABLETS”
“RESPONDERS”

Category: Supporting activities for speaking, listening, and reading

“RECORDING”
“VOCABULARY”
“RECORD YOUR OWN VOICE”
“CAN HEAR ME SAY IT”
“RECORD THEMSELVES SAYING IT”
“PLAY JEOPARDY”
“WE USE OUR LAB A LOT”
“SENTENCE”
“JUST A WORD”

Category: Developing and clarifying concepts

“KNOW WHAT IT MEANS”
“THE DEFINITION OF IT”

“NEEDS TO BE CLARIFIED”
“GOOGLE IT”

Category: Engaging students for learning
“GET SO EXCITED”
“I LOVE IT!”

Category: Supporting technology at school
“TECH GUY COMES”
“EVERYTHING RUNS SMOOTHLY”

Category: Creating authentic work
“WORD PROCESSING”
“PROCESS OF PLANNING AND WRITING AND DRAFTING, EDITING”
“WE’RE READY TO PUBLISH”

Question #1.1 (6) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Integrating technology tools
“EDUCATION CITY”

Category: Engaging students for learning
“GAMES THEY PLAY AGAINST EACH OTHER”
“THEY LAUGH”
“GET SO EXCITED”
“EXCITED WITH THE INTERACTION”
“HAS BEEN PHENOMENAL”

Category: Creating authentic work
“TERMS AND VOCABULARY ARE USED”
“WITH THE WRITING”
“EDITING THEMSELVES”

Category: Collaborating with others
“PEER CHECK, PEER EDITS”
“HAVING CONVERSATIONS”

Question #2 (6) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Engaging students for learning
“KIDS ARE USED TO NOW”
“EYE-HAND COORDINATION”
“TALKING ABOUT COMMERCIALS”

“MAKES A DIFFERENCE”
“I LOVE SEEING”
“MEMORABLE”
“IN A FUN WAY”

Category: Integrating technology tools

“THE TABLET”
“GOOGLE”
“YouTube”
“RESPONDERS”
“ANYTIME THAT YOU USE A TECHNOLOGY”
“THEY IMPROVE”
“THE PROCESSING THAT THEY’VE DOING THROUGH WRITING”
“MEDIA AND USING COMMERCIALS”
“IF WE HADN’T HAD ACCESS”

Category: Developing and clarifying concepts

“INTERESTING WAY OF DEVELOPING”
“CONNECTION BEING MADE”
“CONNECTIONS THERE”

Question #2.1 (6) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“REALLY COOL”
“POSITIVE THINGS GOING ON”
“SUCCESS GOING THROUGH AND IT’S WITH TECHNOLOGY”
“THEY USE THE WORDS THAT I’VE USED”
“EVERYBODY CAN BE SUCCESSFUL”
“ON THEIR OWN OR I’M JUST GUIDING THEM A LITTLE

Category: Collaborating with others

“SHOWING EACH OTHER HOW TO MANEUVER WITHIN A SYSTEM”
“COMMUNICATION”

Category: Integrating technology tools

“USING THE TABLET”
“ESPECIALLY IN THE LAB”

Category: Developing and clarifying concepts

“CONNECTIONS ARE STARTING TO BE MADE”

Question #3 (6) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting multiple activities

“LANDFORMS IN SCIENCE AND SOCIAL STUDIES”

Category: Integrating technology tools

“SMART Board VIDEOS”

“WITH THE RESPONDERS”

“YOU CAN GO FIND”

“I TEACH IN A TRIO”

“INCORPORATE ALL THE SUBJECTS”

“CONNECTED TO THE RESPONDER AS A REVIEW”

Category: Supporting activities for math

“TEACHING A MATH CONCEPT”

“THEY GOT IT IN MATH CLASS”

Category: Supporting activities for social studies

“DOING SOCIAL STUDIES LANGUAGE IN EVERYTHING”

Category: Supporting activities for speaking, listening, and reading

“TEACHING NOUNS”

Category: Engaging students for learning

“PRETTY AMAZING”

Question #4 (6) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“GRANTS”

“LEAD US KIND OF IN A DIRECTION”

“WHERE YOU CAN GO TO TRY”

“FOR ACTIVITY TIME”

“CONNECTIONS SOMETIMES ARE RUNNING SLOW”

“PROBLEM WITH OUR SERVER”

“JUST THE BASIC THINGS”

“TRYING TO FIND A LAB SETTING”

“NEXT YEAR WHEN WE HAVE ANOTHER GRADE”

“TAKES A LITTLE BIT LONGER FOR FIRST GRADERS TO TYPE”

“COUPLE OF SESSIONS LONG TO GET IT COMPLETED”

“CONCERNED ABOUT IN THE FUTURE”

“WE’RE FORTUNATE”

“DOES TRY TO PROVIDE TECHNOLOGY”

“BEEN AWESOME”

“MOBILE LAB”

“WITH THE (SCHOOL) CONSOLIDATION HAVE A MOBILE LAB”

Category: Engaging students for learning

“FEEL LIKE WRITERS”

Category: Training teachers on technology

“OUR TRAINING THAT WE’VE HAD HAS BEEN GREAT”

“HE’LL COME AND HE’LL TRAIN”

“DO THE CLASS”

“HE’LL WATCH”

Question #5 (6) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“IPHONES and iPADS”

“HAVE TO KEEP UP”

“GETTING EXPOSURE THROUGH IS WHEN THEY ARE AT SCHOOL”

“PROVIDING THESE OPPORTUNITES”

“IN THE CLASSROOM SETTING”

“BRING YOUR OWN”

Category: Engaging students for learning

“ONLY EXPOSURE THEY HAVE”

“THEY ARE TEACHABLE NOW”

“IT’S SECOND NATURE, IT’S LIKE PAPER AND PENCIL USED TO BE”

“MAKES A DIFFERENCE”

“MAKE AN IMPACT”

Category: Accessing technology at home to support school

“SOME STUDENTS IN OUR SCHOOL DON’T HAVE TECHNOLOGIES AT HOME”

Interview 7

Question #1 (7) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“SMART Board”

“SMART EXCHANGE WEBSITE”

“iSTATION”

“THREE iPADS”

“iPODS FOR MUSIC”

Category: Supporting activities for speaking, listening, and reading

“LOTS OF TECHNOLOGY”

“PULL ESL NEWCOMERS”

“I USE TECHNOLOGY EVERYDAY”

“INTERACTIVE GAMES”

“HELLO, HELLO”

“SHOW ME”

“OWN TWITTER ACCOUNT”
“WILL READ WORDS FOR THEM”
“FIND WHICH LEVEL”
“HELP SUPPORT”
“READ WORDS FOR THEM”
“TEACHES THE ALPHABET”
“WHATEVER LEVEL THEY NEED”
“TEACHING ENGLISH”
“RECORDS THEIR VOICE”
“LOTS OF MUSIC TO HELP ENGLISH ACQUISITION”
“ESL FUNDS”

Category: Developing and clarifying concepts

“VERY BASIC AND IT GETS HARDER”
“TAKE A PICTURE WITH THE iPad”
“FIND A SONG FOR EVERYTHING”

Category: Collaborating with others

“EMAIL OUT TO THEIR TEACHER”
“PARENTS”

Category: Creating authentic work

“GO FIND SOMETHING THAT STARTS WITH”
“THEY HAVE TO WRITE”

Category: Engaging students for learning

“CHILDREN CAN TOUCH”
“CAN DRAW ON IT”
“LOTS OF GAMES”

Question #1.1 (7) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Integrating technology tools

“Star Fall”
“Cool Math Games.com”
“ON FRIDAYS GAME DAY”
“CHOOSE A GAME TO PLAY”

Category: Engaging students for learning

“AT THE BEGINNING”
“HAVE TO LEARN WORDS”
“INTERACT SOCIALLY”
“WANT TO PLAY THE SAME GAME”
“HELP ME!”
“HOW TO, HOW TO”

“FIRST TIME YOU EVER HEAR THEM”
“MOTIVATED TO PLAY THAT GAME”
“REALLY COOL”
“AMAZING”

Category: Collaborating with others

“SPEAK NO ENGLISH”
“FIRST I EVER HEAR THEM SPEAK”

Question #2 (7) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Integrating technology tools

“YouTube”
“School House Rocks”
“SHOW SONGS”
“INTRODUCE A SONG ON THE SMART Board”
“SMART Board PROBABLY IS VERY IMPACTFUL”

Category: Engaging students for learning

“LEARNING GAMES”
“CAN REINFORCE”
“WATCH THEM GO UP”
“TECHNOLOGY THEY WRITE ON, INTERACT WITH”
“SO EXCITED”
“CHILDREN LOVE IT”

Category: Developing and clarifying concepts

“INTRODUCE A NEW TOPIC LIKE NOUNS OR VERBS”

Question #2.1 (7) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“SHE WANTS TO BE ABLE TO SPEAK SO SHE CAN DO THAT”
“HOW TO OPERATE”
“NOT REALLY FAMILIAR”

Category: Collaborating with others

“WATCH THE KIDS DO IT”
“SHOW ME! SHOW ME!”

Category: Integrating technology tools

“ESPECIALLY WITH THE iPADS”

Category: Supporting activities for speaking, listening, and reading
“SHE LEARNS SUCH IMPORTANT WORDS”

Question #3 (7) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting activities for speaking, listening, and reading
“PULL THE NEWCOMERS”
“GOING INTO THE CLASSROOMS”
“STUDENTS CAN BRING THEIR OWN DEVICES FROM HOME”
“MY ESL STUDENTS PUT THOSE APPS ON THEIR iPADS”

Category: Supporting multiple activities
“SUPPORTING THEM IN ALL ACADEMIC AREAS”

Category: Integrating technology tools
“IPODS OR iPADS”
“HAVE MY iPad”
“IT IS CRITICAL”
“SO POWERFUL”
“TYPE IN A PHRASE”
“APPS THAT ARE WONDERFUL AT HELPING TRANSLATE”
“IT TRANSLATES IT”
“HELPS THEM IN THE CLASSROOM WHEN I’M NOT THERE”
“CAN HEAR IT”

Category: Supporting activities for social studies
“STUDYING AMERICAN HISTORY”

Category: Engaging students for learning
“AMAZING”
“OH MS. ALLSHOUSE THIS APP DOES”
“KNOW WHAT’S GOING ON”

Category: Developing and clarifying concepts
“I CAN SHOW THEM A PICTURE”
“FIND A GOOGLE IMAGE”
“SHOW THEM”
“BACKGROUND KNOWLEDGE”

Question #4 (7) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Supporting activities for speaking, listening, and reading
“PICKING THE BEST OF THE BEST”
“THAT’S THE HARDEST THING”

“PICKING AND SAVING THE BEST”

Category: Accessing technology at school to support learning

“FABULOUS TECHNOLOGY TEAM”

“JUST SO MUCH”

Category: Training students on technology

“I WANT TO DO ALL OF THEM”

“ALSO WANT MY STUDENTS TO MASTER”

“ONES THAT WORK”

“DO ON THEIR OWN”

Category: Engaging students for learning

“BE TOTALLY CONFUSED”

Question #5 (7) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“HOW YOU CAN DIFFERENTIATE”

Category: Engaging students for learning

“ALL WONDERFUL”

“WONDERFUL TIME IN EDUCATION TO SEE THIS CHANGE”

“SO EASIER NOW”

Interview 8

Question #1 (8) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“iTOUCHES”

“iPADS”

“VOCABULARY APPS”

“SMART Board”

“WORLD BOOK KIDS”

“PebbleGo”

“A LOT OF DIFFERENT THINGS”

“A VARIETY OF ACTIVITIES”

“LOTS OF LISTENING, SOME READING”

“SEVERAL DIFFERENT PROGRAMS”

“LISTENING TO READING”

“SMART Boards FOR INTERACTIVE LESSONS”

Category: Engaging students for learning

“ABLE TO TOUCH IT, MOVE IT”

“GETS THEM UP AND MOVING”
“PICTORIAL-IZED”
“I REALLY LIKE USING THE SMART Board”

Category: Developing and clarifying concepts

“HAS LOTS OF PICTURES”
“HEARING IT AND SEEING IT”

Category: Supporting activities for speaking, listening, and reading

“WHOLE BODY INVOLVED IN THAT LANGUAGE ACQUISITION”

Category: Creating authentic work

“LOTS OF RESEARCH”
“RESEARCH PROGRAMS THAT ARE REALLY DESIGNED FOR LOWER-LEVEL VOCABULARY”
“GET COMFORTABLE WITH PRODUCING IT”

Question #1.1 (8) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Supporting activities for speaking, listening, and reading

“DUAL LANGUAGE CLASS”
“APPROXIMATELY HALF NATIVE ENGLISH SPEAKERS, THE OTHER HALF ARE NATIVE SPANISH SPEAKERS”
“IN SPANISH, BUT ALSO USE THE ENGLISH”
“THEY HEAR THE ENGLISH TO PAIR IT UP”
“SOCIAL LANGUAGE FIRST”

Category: Engaging students for learning

“ANYTHING ELECTRONIC”
“COMPUTER PUTTING IT IN FRONT OF THEM THAT REALLY HELPS”
“MORE COMFORTABLE PUTTING IN PICTURES AND TYPING”
“LITTLE SAFER THAN SPEAKING”
“ONE OF THEM IS JUST DYING TO SPEAK ENGLISH”
“ASK THE SPANISH KIDS, ‘HOW DO I SAY?’”
“THE OTHER ONE KIND OF FITS THAT TYPICAL MOLD”
“DOESN’T WANT TO SPEAK UNTIL SHE KNOWS EXACTLY HOW TO CORRECTLY”
“DOESN’T WANT TO ASK ANYBODY FOR HELP”
“SHE ONLY WANTS TO SPEAK ENGLISH”

Category: Collaborating with others

“BRINGS UP CONVERSATIONS”
“IT STARTS CONVERSATIONS BETWEEN THEM”
“MAKE SURE WHEN YOU TRANSLATE THAT YOU GIVE THEM BOTH SIDES”
“GROUP WORK OR PARTNER WORK”
“THE MORE THEY TALK TOGETHER”

“WILL SPEAK SPANISH TO THE KIDS ALL DAY LONG”
“ENGLISH IS VERY RESERVED”

Category: Creating authentic work
“RESEARCH WE DO”

Question #2 (8) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Integrating technology tools

“SMART Board”
“LAPTOPS OR THE iPADS”
“HAVE THREE DESKTOPS”
“FOUR LAPTOPS”
“THEY’RE KIND OF SMALL, THEY’RE HARD FOR THE KIDS”
“HAVE iPADS THAT WE CAN CHECK OUT”

Category: Engaging students for learning

“GROUP LESSONS HAS BEEN THE BIGGEST IMPACT”
“INDIVIDUALLY WITH ME”
“PORTABLE”
“PICK UP THAT LAPTOP AND GO SOMEWHERE ELSE”
“CAN WE GO IN THE HALLWAY?”
“LAPTOPS AND THE iPADS HAVE BEEN THE BEST”
“ITOUCHES OK”

Category: Collaborating with others

“KIDS WORKING TOGETHER IN PARTNERS, IT GETS REALLY LOUD”

Question #2.1 (8) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“OH, ABSOLUTELY!”
“HOW AMAZING!”
“MORE ABOUT ANIMOTO”
“KIDS ON PREZI”
“POP UP AS BEING LIKE THE PREZI EXPERTS”

Category: Collaborating with others

“KNOW WHO’S THE EXPERT IN CERTAIN PROGRAMS”
“THEY ARE MORE COMFORTABLE ASKING EACH OTHER THAN THEY ARE EVEN COMING TO ME”

Category: Integrating technology tools

“THEY’RE CONSTANTLY CHANGING”

Category: Supporting activities for speaking, listening, and reading

“THEY REALLY ARE THE BEST TEACHERS FOR EACH OTHER BECAUSE THEY KNOW EACH OTHER’S LANGUAGE”

“SOMETIMES THEY KNOW MORE ABOUT EACH OTHER THAN I KNOW”

Category: Creating authentic work

“TALK ABOUT THEIR ART WORK”

“BELOW THE PROBLEM THERE’S A QR CODE”

“CHECK THE QR CODE TO GET THE ANSWER”

Question #3 (8) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting activities for speaking, listening, and reading

“THE VISUALS THAT ARE AVAILABLE”

“THEY CAN SEE IT AND HEAR IT”

Category: Integrating technology tools

“THERE WAS A LIMITED AMOUNT OF WHAT YOU HAD ACCESS TO”

“LIMITED SUPPLY WE HAD IN OUR OWN LIBRARY AT SCHOOL”

“NOW THERE’S A WORLD OUT THERE”

“A THREE MINUTE VIDEO ON YouTube”

Category: Engaging students for learning

“EXTREMELY VALUABLE”

“MORE COMFORTABLE AT REPEATING AND SHARING”

“WHEN YOU READ OUT OF A BOOK”

“UP IN FRONT OF THE CLASS”

Category: Developing and clarifying concepts

“WHAT IS THAT WORD OR WHAT DOES THAT MEAN?”

“CONFLICT WITH KIDS WHO DESIRE PERFECTION”

“WHEN THEY CAN HEAR IT AND SEE IT”

“KIND OF GET THE GIST”

“MY THING IS, ALWAYS ASK QUESTIONS”

“LET’S FIND OUT WHAT THAT MEANS”

Category: Creating authentic work

“KIDS RESEARCHING”

Category: Collaborating with others

“I’M GOING TO LEARN ABOUT THIS AND I’M GOING TO TEACH THE REST OF THE CLASS”

Question #4 (8) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“TAKE A LITTLE WHILE”

“WE HAVE A LOT AT OUR SCHOOL”

“WE HAVE FACILITATORS”

“WILL COME IN AND HELP ME”

“PARENT ACCEPTANCE, NEVER AN ISSUE”

“TELL THEM ABOUT THE FILTERS REASONS WE’RE GOING TO BE USING IT”

“A LOT OF TEACHERS USE EDMODO”

“TECHNOLOGY TIME, BRING THEIR STUFF FROM HOME”

“IF YOU DON’T HAVE OR YOUR PARENTS WON’T ALLOW YOU TO BRING YOUR TECHNOLOGY FROM HOME, WE’LL CHECK SOME OUT OF THE LIBRARY”

Category: Training students on technology

“TRAINING OF STUDENTS, I WOULD LOVE TO SEE”

“MORE AVAILABILITY WOULD BE MY NUMBER ONE THING”

“FOR EACH CHILD TO HAVE AN iPad”

“LEARNING CURVES FOR TEACHERS”

“TEACHERS THAT HAVE BEEN AROUND”

“INSTRUCTOR OF TECHNOLOGY”

“SPREAD PRETTY THIN”

“SOMEBODY ON CAMPUS ALL OF THE TIME”

“TEACH A LESSON ON SOMETHING”

“COME IN HERE AND HELP ME SHOW THE KIDS HOW TO USE THIS CAUSE I DON’T REALLY KNOW”

Category: Supporting activities for speaking, listening, and reading

“I DON’T KNOW HOW TO MAKE A LOT OF THESE THINGS”

“I KNOW HOW TO BORROW AND I KNOW HOW TO USE THEM”

Category: Engaging students for learning

“THAT WOULD BE JUST AMAZING”

Category: Training teachers on technology

“TRAINING IS DEFINITELY BEHIND THE CURVE”

“ESPECIALLY WITH US OLDER TEACHERS”

“EXPECT US TO KNOW THESE THINGS”

“KINDLE THIS, KINDLE THAT, WHAT IS A KINDLE?”

“IF YOU REMEMBER THE MIMEOGRAPH MACHINE, YOU MIGHT NEED A LITTLE HELP WITH THE iPad”

“SO MUCH VALUE IN DOING IT”

“I ALSO HAVE NO FEAR IN ASKING THE KIDS”

“WILL YOU SHOW ME HOW TO DO THIS?”

“MORE EXPERT IN SOME THINGS”
“REAL HESITANT AT FIRST TO GIVE THEIR KIDS INTERNET ACCESS”
“ONCE YOU EXPLAIN TO PARENTS, THEY’VE BEEN VERY ACCEPTING”
“CHECK OUT SOMETHING FROM THE SCHOOL”

Category: Accessing technology at home to support school

“REALLY ON THE SHORT SIDE”
“ESPECIALLY WITH MY SECOND LANGUAGE LEARNERS”
“NOTEBOOKS THAT KIDS CAN CHECK OUT AND TAKE HOME”
“DOING A LOT OF FLIP STUFF”
“KIDS GO HOME AND WATCH THINGS AND EITHER TO PRETEACH OR REINFORCE”
“MANY CHILDREN DON’T HAVE ACCESS TO THAT AT HOME”
“A LITTLE BIT LEFT OUT IF I DO THAT”
“LOW-INCOME FAMILIES USUALLY THAT’S OUR SECOND LANGUAGE LEARNERS DON’T HAVE AVAILABLE AT HOME”
“INTERNET READY WHICH WOULD BE EVEN HARDER”
“DON’T USUALLY HAVE INTERNET ACCESS”
“THE BIG ONE, STUDENT ACCESS AT HOME”

Question #5 (8) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“CAN’T REALLY THINK OF ANYTHING, AMAZING HOW FAR WE’VE COME”
“I’M EMBRACING A LOT OF TECHNOLOGY, IT’S A LEARNING CURVE”
“WE HAD ONE COMPUTER LAB, ARCHAIC APPLE COMPUTER THAT DID JUST A COUPLE OF THINGS”
“I’VE SEEN A LOT OF CHANGE”

Category: Engaging students for learning

“THE TOUCH OF YOUR FINGER”
“WE WOULD HAVE A COMPUTER IN OUR HAND”
“THE STUDENTS HELP, THEY DO!”

Interview 9

Question #1 (9) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Supporting activities for speaking, listening, and reading

“DUAL LANGUAGE PROGRAM”
“TEACH IN ENGLISH MATH”
“LANGUAGE OF THE DAY”
“LOT OF VOCABULARY”
“JUST TEACH MATH IN ENGLISH”

“TECHNOLOGY TO IMPART INSTRUCTIONS”
“WIRED FOR TECHNOLOGY”
“FOR RE-TEACHING”
“CAN GO TO THE COMPUTER”
“MANY OF THE THINGS WE LEARN ARE ON THE COMPUTER PLAYING GAMES”
“CREATED VIDEOS”
“ENTER RESPONSES”
“SURVEY”
“LEARNED MY ENGLISH AS AN ADULT”
“NATIVE ENGLISH SPEAKERS”
“ANOTHER WAY TO HEAR ENGLISH”

Category: Supporting activities for science

“enVisionMATH”
“ON THE BIG SCREEN”
“WITH YOUR SLATE”

Category: Engaging students for learning

“TAKES AWAY THE FEAR”
“THEY CAN WRITE THEY CAN HEAR”
“KNOW ALL THE SITE WORDS”
“KIDS ARE LEARNING ENGLISH FASTER”
“GRASPS IT INSTANTLY”
“IT’S AMAZING”
“I HAVEN’T TAUGHT”
“THEY DON’T NEED ME”
“I’M THE FACILITATOR”
“IT’S UP TO THE TEACHER TO USE IT”

Category: Integrating technology tools

“ActiveInspire”
“38 iTOUCHES”
“APPS THEY CAN USE”
“CHANNEL ON YouTube”

Category: Collaborating with others

“WHOLE GROUP SITUATION”
“CHANCE TO PARTICIPATE”

Category: Accessing technology at home to support school

“SUPPORT AT HOME”
“DON’T HAVE MUCH TECHNOLOGY AT HOME”
“EVERYBODY IS HAVING THIS THING (SMARTPHONE)”
“POST A VIDEO EVERYWHERE”
“CAN USE IT (SMARTPHONE) EVERYWHERE

Question #1.1 (9) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Supporting activities for speaking, listening, and reading
“PART OF MY CENTERS”

Category: Collaborating with others
“INTERACTION”
“BILINGUAL PARTNERS”
“ONE STRONGER IN ENGLISH”
“TEACHING THE OTHER”
“IF YOU DIDN’T HAVE THAT TECHNOLOGY THE KIDS WOULDN’T HAVE IT”

Category: Integrating technology tools
“BOOKS ONLINE”
“HAVE A CART (NETBOOKS)”
“TUMBLE BOOKS”
“SO MUCH AVAILABLE”

Question #2 (9) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Collaborating with others
“INTERACT”

Category: Engaging students for learning
“OWNERSHIP”
“MORE INTERESTED”
“WHERE THE LEARNING IS HAPPENING”
“LIKE THEY KNOW”
“LEARN BY THEMSELVES”
“NEED THE SAME THING”
“I DON’T TEACH THEM”

Category: Integrating technology tools
“TOUCH”
“TEACHER EXPECTS TO JUST LOOK HERE AT THE BOOK AND LOOK AT ME”

Question #2.1 (9) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Collaborating with others
“KIDS SPEAK SPANISH”
“DUAL LANGUAGE CLASS”

Category: Supporting activities for speaking, listening, and reading

“IN THE REGULAR CLASSROOM”

“WOULD SEE IT MORE”

“KIDS SPEAK ENGLISH”

“TWO-WAY PROGRAM”

Question #3 (9) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting multiple activities

“SCIENCE, SOCIAL STUDIES THERE ARE ALSO VIDEOS”

Category: Integrating technology tools

“GREAT VIDEOS MOST ARE IN ENGLISH”

“SOME IN SPANISH”

“MY WAY TO ENRICH”

“CONCEPTS ARE THE SAME”

“THINGS ONLINE”

“Learning.com TO LEARN TECHNOLOGY”

“TECHNOLOGY TEKS”

Category: Supporting activities for science

“ESPECIALLY FOR SCIENCE”

“SCIENCE STEMscopes”

Category: Supporting activities for speaking, listening, and reading

“PROVIDE THE ENGLISH”

“VOCABULARY”

Category: Integrating technology tools

“SAFARI”

“UNITED STREAMING”

“HAVE iTOUCHES”

“WEBSITES”

“USING THE BROWSER”

Category: Engaging students for learning

“THEY LOVE THE COMPUTERS”

Question #4 (9) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“LEARNED HERE”

“THE BUDGET, THE LICENSE”

“Active Expressions SET PER GRADE LEVEL”

“HAVE TO TAKE MY HUB”

“THE ONLY ONE TO USE IT”
“NOT USER FRIENDLY”

Category: Accessing technology at home to support school

“ACCESS AT HOME”
“DON’T HAVE IT”

Category: Training teachers on technology

“TRAINING”

Question #5 (9) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students’ language acquisition?*

Category: Integrating technology tools

“SEE HOW EVERYTHING CHANGES”
“KIDS ARE LEARNING ENGLISH FASTER”
“USE WHAT YOU HAVE”
“WE NEED MORE TECHNOLOGY”
“WE HAVE PLENTY”
“NOT TAKEN ADVANTAGE OF”

Category: Engaging students for learning

“ENGLISH BECAUSE IT IS MORE AVAILABLE BECAUSE OF THE TECHNOLOGY”

Category: Supporting activities for speaking, listening, and reading

“ONLY ENGLISH THAT I HAD AVAILABLE”
“GO TO THE MOVIES”
“NOW WITH CABLE”
“INTERNET”
“SPEAK IN ENGLISH PREFER”
“I NEVER HEARD ANYBODY UNTIL I CAME TO THIS COUNTRY”
“I COULD READ AND WRITE IN ENGLISH PERFECTLY”
“COULD NOT SPEAK OR UNDERSTAND”

Category: Accessing technology at school to support learning

“SCHOOLS HAVE MORE RESOURCES”

Interview 10

Question #1 (10) *Describe how emerging technologies are used in your classroom to support students’ acquisition of the English language.*

Category: Integrating technology tools

“iPAD”
“iPHONE”
“ALL ACROSS THE BOARD”
“USING OUR ELMO’S”
“IT PRONOUNCES EVERYTHING”

“HOW DO YOU PRONOUNCE THIS?”
“VISUAL”
“KINESTHETIC”

Category: Developing and clarifying concepts

“STORY WALKS BECAUSE THEY NEED THE VISUAL”

Category: Supporting activities for speaking, listening, and reading

“LOOKING AT THE WORDS”

“HEARING IT”

“HELPS WITH THEIR PRONUNCIATION”

“IPAD A LOT OF MY KIDS BECAUSE OF THE GOMEZ & GOMEZ PROGRAM”

“CERTAIN THINGS WE TEACH IN ENGLISH”

“THINGS WE TEACH IN SPANISH”

“MATH IN ENGLISH”

Category: Engaging students for learning

“EASIER FOR THEM TO GRASP”

“REALLY EXCITED WHEN THEY GET TO USE TECHNOLOGY”

“HAVEN’T SPOKEN ENGLISH AT HOME”

“EXCITED, TO WORK ON THE IPAD”

“DIFFERENT TYPES OF LEARNERS”

“HARDER TIME BECAUSE THEIR ARE NOT FROM AN ENGLISH SPEAKING
BACKGROUND”

“GETTING TO FEEL IT, HEAR IT, TO SEE IT”

“NOT JUST, ‘I’M GOING TO COLOR THIS OR I’M GOING TO CUT THAT, I’M DOING
IT, I’M ACTUALLY DOING IT”

Question #1.1 (10) *Describe how technology use in your classroom provides meaningful interactions with others in learning the English language.*

Category: Supporting activities for speaking, listening, and reading

“GETTING THEM TO TALK TO EACH OTHER AS WELL WITH THE BILINGUAL
PROGRAM”

“BILINGUAL PAIR TO INTERACT”

“IT’S THE ENGLISH DOMINANT AND THE SPANISH DOMINANT”

Category: Engaging students for learning

“LOOK AT THIS!”

“HEY LOOK AT THIS APP”

“WHAT APP ARE YOU ON?”

“EVERYBODY CAN SEE IT”

“REALLY TALK ABOUT IT”

“THEY PICK IT UP, THEY KNOW HOW TO DO EVERYTHING!”

“IT’S AWESOME”

“THEY’RE SO EXCITED TO SHOW IT”

“COOL TO SEE THEM INTERACTING”
“THEY’RE SO EXCITED”
“EXCITED BECAUSE IT’S BIG”

Category: Collaborating with others

“THEY WANT TO SHARE WITH EACH OTHER AND THEY WANT TO SHOW IT”
“KEEP YOUR VOICE DOWN”
“WHAT ARE YOU DOING?”

Category: Integrating technology tools

“TOUCHES OR iPADS OR THE TOUCH SCREEN COMPUTERS”
“BOOKS ON THE BIG SCREEN”
“IT’S THE WHOLE WALL”

Question #2 (10) *Describe which emerging technologies have made the most impact with your students in acquiring English.*

Category: Integrating technology tools

“HAVING THE BIG SCREEN”
“HUGE SCREEN WITH THAT ELMO”

Category: Engaging students for learning

“IT’S NOT ALWAYS THE TEACHER”
“WORKING ALONG SIDE WITH ME”

Category: Collaborating with others

“WORK IN PAIRS TO READ A BOOK”

Category: Integrating technology tools

“THE READING CENTER”
“LET ME PUT IT ON THE SCREEN, SIT AT YOU DESK AND WORK WITH ME”
“NOT, MS. LIMA IS GOING TO DO THIS FOR YOU AND THEN YOU’RE GOING TO DO IT”
“I AM FACILITATING IT FOR YOU AS WE’RE WORKING TOGETHER”
“TECHNOLOGY HELPS ME DO THAT”

Category: Developing and clarifying concepts

“SEE THE WORDS AS THEY’RE LISTENING”
“ENGLISH JOURNALS”
“LET ME SHOW YOU THIS AND LET’S PASS IT AROUND”

Question #2.1 (10) *Describe how the desire to communicate with others motivates students’ interest for learning technology.*

Category: Engaging students for learning

“VERY QUIET AT THE START OF THE YEAR”

AS SOON AS YOU SEE THEM ON THAT iTOUCH OR ON THAT IPAD OR THAT TOUCH SCREEN”

“GET SO EXCITED”

“DOES MOTIVATE THEM TO LEARN TECHNOLOGY A LOT QUICKER”

“START USING IT”

“EVEN IF THEY’RE NOT GETTING IT”

“WANT TO BE DOING IT”

Category: Collaborating with others

“LOOK AT THEIR FRIENDS”

“WANT TO BE ABLE TO TALK ABOUT IT”

“LET ME HELP YOU”

“THEY WANT TO HELP EACH OTHER”

Category: Integrating technology tools

“WHAT COMES NEXT?”

“WHAT DO I DO?”

Category: Supporting activities for speaking, listening, and reading

“EVEN THE LOWEST KIDS, THEY CAN SHOW SOMEBODY ELSE”

“OK, ONCE YOU LEARN IT, TEACH YOUR PARTNER”

“LOW KIDS TEACHING THE HIGH KIDS”

Question #3 (10) *Describe how emerging technologies in the classroom have provided linguistic support and accommodations for helping make other instructional content areas accessible.*

Category: Supporting multiple activities

“SCIENCE AND LANGUAGE ARTS ARE IN SPANISH, STARTING THEM OFF RIGHT, THEIR FOUNDATION”

“GOES THROUGH ALL AREAS”

“SCIENCE AND SOCIAL STUDIES, DOING THEME RELATED, PUT THAT ON THE BIG SCREEN AND HAVING VIDEO”

“HELPS ACROSS THE BOARD”

Category: Integrating technology tools

“I’M IN TO TECHNOLOGY BUT I NEVER THOUGHT THAT I WOULD LIKE IT THAT MUCH FOR THE KIDS”

“WANT THEM TO LEARN HOW TO TURN THE PAGES OF A BOOK”

“ACTIVE GAMES”

Category: Supporting activities for speaking, listening, and reading

“IMPROVING BECAUSE THEY’RE GETTING THAT EXTRA TECHNOLOGY”

“HELPS THEM LEARN A LITTLE BIT BETTER”

Category: Integrating technology tools

“PEOPLE (PROGRAM FOR BILINGUALS)”

Category: Engaging students for learning

“FOR STRUGGLING KIDS”

“GET EXCITED DOING IT”

“GETTING TO PLAY A GAME THAT NOBODY ELSE IS”

“MORE EXCITED ABOUT WHATEVER CONTENT AREA WE ARE DOING”

“INTERACTION ON THE COMPUTER”

“SMALL GROUP WITH ME OR MY ASSISTANT”

“ENGAGEMENT”

“ZONED INTO THAT TECHNOLOGY”

Question #4 (10) *Describe what difficulties you have encountered while using technology in language acquisition instruction.*

Category: Accessing technology at school to support learning

“NOT ALWAYS WORKING”

“INTERNET IS DOWN”

“A LOT OF PREPPING”

“DON’T HAVE IT SET UP”

“TAKES TOO MUCH TIME”

“LET’S SCRAP THAT”

“ACT OUT SOMETHING INSTEAD OF USING TECHNOLOGY”

“NOT SET UP THE EASIEST WAY POSSIBLE”

“GETTING SMART Boards”

“NOT EVERY CLASS HAS A SMART Board”

“GO TO SOMEONE ELSE’S ROOM”

“TRANSITION IS HARD TO DO”

“ALL OF THE FUN GAMES ARE IN LANGUAGES WE CAN’T UTILIZE BECAUSE WE DON’T HAVE IT IN SPANISH”

Category: Supporting activities for speaking, listening, and reading

“WEBSITE UPDATED, DON’T PRINT OUT THINGS ANYMORE”

“PROVIDING CLASSES”

“LOT OF MATH, WITH THE SMART Board”

“NOT A LOT OF LANGUAGE ARTS STUFF IN SPANISH”

“JUST FINDING THE RIGHT TECHNOLOGY AND GETTING IT”

Category: Accessing technology at home to support school

“STUDENT ACCESS AT HOME”

“SOME PARENTS DON’T HAVE COMPUTERS”

“EMAIL ACCOUNTS AT THE LIBRARY”

“HOW TO SET UP A FACEBOOK”

“HOW TO SET UP AN EMAIL ACCOUNT”

Question #5 (10) *As we conclude our interview, is there anything you wish to add about how emerging technologies in the classroom have impacted students' language acquisition?*

Category: **Integrating technology tools**

“I WANT TO GET THE iTOUCHES!”

“LITTLE DO THEY KNOW THEY'RE LEARNING”

“APPS WE HAVE ARE EDUCATIONAL”

“THEY DON'T KNOW HOW THEY'RE LEARNING WHEN THEY'RE DOING IT”

“I THINK IT REALLY BRINGS THEM TO ANOTHER LEVEL OF LEARNING USING TECHNOLOGY”

Category: **Engaging students for learning**

“NEW EXPERIENCE EVERYDAY”

“HELPS THEM MAYBE GET RE-ENCOURAGED ON DOING SOMETHING THAT WE ARE DOING CONSTANTLY”

“KEEPS THEIR EXCITEMENT LEVELS UP”

“IMPACTS THEM EVERYDAY”

“KEEPS THEM WANTING TO LEARN A LITTLE BIT MORE”

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