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TECHNOLOGICAL TOOLS
AND
THE READING ACHIEVEMENT OF ESL STUDENTS

THESIS AS A PARTIAL REQUIREMENT FOR A MASTERS DEGREE IN EDUCATION WITH A MAJOR IN INSTRUCTIONAL DESIGN AND EDUCATIONAL TECHNOLOGY AND A MINOR IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE

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THESIS APPROVAL PAGE

I hereby certify that I have read this study and in my opinion, it meets the acceptable canons of academic dissertation and it is completely adequate in its purpose and quality, as a thesis for the master's degree in education with a major in instructional design and educational technology, and a minor in the teaching of English as a second language.

Thesis Director

Thesis Advisor

Thesis Advisor

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Dedications

This thesis is dedicated to my family. I especially want to thank my husband Joe for being so patient, tolerant, caring, and helpful. I also want to thank my mother Sonia for wanting me to keep studying and becoming a professional. Thank you for taking care of my daughter while I was studying. I want to give special thanks to my gorgeous sisters and beautiful nieces and nephews and my wonderful and fantastic father.

I also want to thank my parents in law for their support, their blessings and their prayers.

Most importantly I dedicate this thesis to my daughter because I am doing everything for her so she can have a wonderful and bright future.

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Abstract

This study was a teacher action research that investigated how technological tools improved reading achievement and motivation of third grade ESL students. Technological tools are technological resources like computers, internet, electronic books, audio books, television, radio, etc. This study was only focused on the use of the Leap Pad Learning Platform.

This study answered the following research questions: Can technological tools like the Leap Pad Learning Platform help improve reading achievement of third grade students' participants of this study? and Can the Leap Pad Learning Platform motivate third grade students participant of this study to read in English?

The study was conducted in a small public elementary school in a rural area near a big metropolitan area. The students who participated in the study were 15 third grade students. This third grade class consisted of six girls and nine boys between the ages of 8-10. This group was selected because this is one of the youngest groups the researcher teaches and the students have very limited English proficiency. Some of these students were not fluent readers in their native language and half of them were from special education.

The researcher prepared a four week unit. This unit plan focused on understanding and applying phonics rules as well as the role of phonics in reading instruction. The lesson offered a decoding and encoding approach based on systematic phonics using multi-sensory strategies and materials. Two

instruments were used for data collection. A reading motivation questionnaire and a checklist were developed by the researcher. The researcher used a table to write the anecdotal notes of what was happening in the class each day.

Before the unit plan the questionnaire results demonstrated that the majority of the students did not like to read in English. After the unit plan was administered all of the students answered that they liked to read in English and there was a decrease of 54% of students who thought that reading in English was difficult. The researcher observed that the students were motivated when they were using the Leap Pad Learning Platform. They were excited and eager to use it every day.

The researcher could see very positive behavior that indicated that they really liked and enjoy this technological tool. After the unit plan students were able to read almost all the targeted words. There was improved achievement in word decoding after the unit. The platform was exceptionally motivating for students. Their enthusiasm made students eager to spend time on the learning activities. The researcher observed a high level of student engagement with the platform, along with growing pride and confidence as the students saw their own learning success.

The Leap Pad Platform is a good tool to improve reading achievement and motivation. Teachers need more training using this device. It is also recommended that all schools use it so all students can benefit from it. This study was done with a very limited number of students over a short period of time.

Further studies should explore the use of the Leap Pad Platform with a larger sample and for an entire school semester.

CHAPTER 1
Introduction

English is one of the most spoken languages in the world. It is required in many working fields, professions, and occupations. Different countries mandate the teaching of English to at least a basic level because English can be the key to success. Since English is fast becoming the universal language in most of the world, career choices will be greatly improved with good English skills.

Students who are learning English as a second language in an English speaking environment are called ESL students. They may be all ages, come from wide range backgrounds, and from different economic situations. The main goal of educators is to provide these students with enough basic English skills so they can express themselves in English and comprehend what they read.

Reading skills are important to be successful in school and work. In addition, reading can be a fun and imaginative activity for children, which opens doors to all kinds of new worlds for them. Reading is essential to success in society. The ability to read is highly valued and is important for social and economic advancement. In today's schools, too many children struggle with learning to read. Many educators and parents can assure that reading failure has created a tremendous long-term consequence for children's developing self-confidence and motivation to learn, as well as for their later school performance (Neuman, 2001).

Reading is an extremely complex activity and one of the most important skills in language learning. English as a second language students can become

easily frustrated when they do not understand what they read and as a result, they can become demotivated and do not want to read in English. Krashen (1983) mentions that learners with high motivation, self-confidence, a good self image, and a low level of anxiety are better equipped for success in second language acquisition.

Reading motivation is the most important component of engagement. An engaged reader is one who reads for different purposes, builds knowledge to construct new learning, and participates in meaningful social interactions around reading. "Engaged readers seek to understand; they enjoy learning and they believe in their reading abilities" (Guthrie, 2001, ¶ 1). Being an engaged reader can be associated with reading achievement. Whether children read or not, is determined by their attitudes toward reading. If children do not like to read or they think that reading is boring, their negative attitude toward reading will affect their reading improvement.

Statement of the Problem

New information and communication technologies make possible new instructional practices. Technology is redefining the nature of literacy. To become fully literate in today's world, students must become proficient in the new literacies. Semali (2001) states that today's concept of literacy goes beyond only paper to include reading from computer screens and personal devices, and include media, technology, information, and other critical literacies. Therefore,

literacy educators have a responsibility to integrate these technologies into their curriculum.

Recently the Department of Education of Puerto Rico included technology as one of the Grade Level Expectations. This document states that students will use available technology to engage in the writing and reading process. Research indicates that technology can enhance reading instruction. Because this is a relatively new field, the use of technology to enhance reading instruction is worth careful consideration.

Students in Puerto Rico are also encountering difficulties when reading in English. The results of the Puerto Rico standardized tests (Pruebas Puertorriqueñas de Aprovechamiento Académico, PPAA) indicate that a large group of students did not master the English content of this test. The reason could be that they are having problems understanding what they read in English. This study will help determine if technological tools can help improve reading achievement among ESL students from an elementary school in the rural area of Bayamón.

Purpose of the Study

The purpose of this study is to investigate if technological tools can improve the reading achievement of ESL students. Technological tools are technological resources like computers, internet, electronic books, audio books, television, radio, etc. This study was only focused in the use of the Leap Pad Learning Platform.

The Leap Pad Learning Platform from Leap Frog has been introduced to schools that are in an improvement plan in Puerto Rico. This system merges curriculum and technology using an affordable one to one platform. This platform provide students with engaging instruction and immediate feedback, using sight, sound, and touch to appeal to all the ways students learn. One to one learning provides every students and teacher access to his or her own personal portable technology device, allowing students to learn at their own pace and level. The Leap Pad Learning Platform allows children to immediately practice phonic information in interesting and fun stories. Every time students are taught new phonic information, they are given a short story that highlights the phonic rule.

Phonics instruction is a way of teaching reading that stresses learning how letters correspond to sounds and how to use this knowledge in reading and spelling. Phonics instruction can be provided systematically. Systematic phonics instruction occurs when children receive explicit, systematic instruction in a set of pre-specified associations between letters and sounds. Children are taught how to use these associations to read, typically in texts containing controlled vocabulary.

A report of the National Reading Panel (2000) stated that to become good readers, children must develop: phonemic awareness, phonics skills, the ability to read words in text in an accurate and fluent manner and the ability to apply comprehension strategies consciously and deliberately as they read. The Panel found that many difficulties in learning to read were caused by inadequate

phonemic awareness and that systematic and explicit instruction in phonemic awareness directly caused improvements in children's reading and spelling skills.

Justification

Technology is a valuable part of all students' learning and education. It can be an integral factor in the ESL student's learning. Not only can technology, and particularly the emerging technologies, assist in the acquisition of language skills, but also technology can aid in the all important task of aiding students in the mastering of curriculum content in English (Klieman 2000). When appropriate preparation and activities are utilized, technology can assist educators in meeting the special language and learning need of ESL students.

There is a need to use technological devices in the school setting. Schools and educators can utilize technology to make a difference in student reading achievement and to ensure that no reader is left behind. The Department of Education of Puerto Rico included technology as one of the components of the Curriculum Standards. Therefore the Department of Education is investing huge quantities of funds buying technological devices that can help all students.

Research Questions

This study answered the following research questions:

1. Can technological tools like the Leap Pad Learning Platform help improve reading achievement of third grade students participants of this study?

2. Can the Leap Pad Learning Platform motivate third grade students participant of this study to read in English?

Definition of Terms

The following definitions will help the reader understand how these terms were used in this research.

Conceptual:

1. Literacy - The condition or quality of being literate, especially the ability to read and write. (Anderson et al., 2002)

2. ESL (English as a second language) - Usually refers to developmental-level instruction in English language skills for non-native speakers. (Anderson et al., 2002)

3. Interactive books – These types of books are kinetic: one must open, turn, and manipulate their parts in order to properly read them. (Fasimpaur, 2004)

5. Motivation – The forces that account for the stimulation, selection, direction, and continuation of behavior. Is to create the circumstances that influence students to do what you want then to do. The way teachers want students to behave. (Biehler & Snowman, 1997)

4. Reading achievement - Ability to demonstrate success in reading. (Anderson et al., 2002)

5. Technological Tools - tools available to help individuals who struggle with learning, in this case with reading. These tools help facilitate decoding, reading fluency, and comprehension. (National Reading Panel, 2000)

6. Phonemic awareness – Being able to hear, identify, and play with individual sounds (phonemes) in spoken words. (Put Reading First, 2001)

7. Phonics - Being able to connect the letters of written language with the sounds of spoken language. (Put Reading First, 2001)

8. Vocabulary - Words that students need to know to be able communicate effectively. (Put Reading First, 2001)

9. Reading comprehension - Being able to understand and get meaning from what has been read. (Put Reading First, 2001)

10. Fluency (oral reading) - Being able to read text accurately and quickly. (Put Reading First, 2001)

Operational:

11. Leap Pad Learning Platform – Leap Frog enterprises define the Leap Pad Platform as a platform that provide students with engaging instruction and immediate feedback, using sight, sound, and touch to appeal to all the ways students learn. (Leap Frog School House, 2005).

Delimitations of the Study

The delimitations of the study were the following:

1. The participants of this research are part of a specific grade level; consequently conclusions should not be generalized to other grade levels.
2. The participants of this research will be 15 third grade students and this sample is not representative of the population. The findings of this study can not be generalized to other third grade students.

CHAPTER 2
Review of Literature

English is a very important school subject for ESL students. A large group of these students are facing reading problems. When children do not like to read, there is generally a reason. Farral and Holden (2005) say that problems are more easily addressed and remediated when children are young, and they have not experienced years of academic failure. Reading is a process that can not be rushed. Antunez (2002) stated that researchers and educators have explored the problem from various aspects, such as teaching methods, classroom environments, family involvement, and community and social environment. Different results have been found and suggestions given to help to develop children's literacy in and out of school. Early identification of reading problems combined with immediate and sustained help are the key components to ESL students' success in literacy.

Teaching in the Information Age requires that educators modify their view and transform their instructional practices to use technology's power to improve the reading ability of students. Today's students need to be guided in developing the ability to make use of technology to increase critical literacy skills. Teaching with technology allows educators to better meet the needs of students with diverse abilities while at the same time increase motivation of all students. Technology functions as a bridge to higher reading achievement by engaging students in learning that is relevant and meaningful.

Historical Background

Educational or learning technology can be defined as the application of technology for the enhancement of teaching, learning and assessment. Learning technology includes computer-based learning, multimedia materials, technological tools and the use of networks and communications systems to support learning. The presence of technology in schools has increased dramatically since previous years, and predictions are that this trend will continue to accelerate.

Learning technologies have been evolving over the last two or three decades, and have gone through many phases and approaches. Early use of computers in education was primarily found in mathematics, science and engineering as a mathematical problem-solving tool, replacing the slide rule and thus permitting students to deal more directly with problems of a type and size most likely to be encountered in the real world. In 1965 the United States Elementary and Secondary Education Act, brought new money into schools for technology. Mainframes and minicomputers were put into place in some schools, but most were used for administration or for school counseling. In 1975 Apple donated computers to schools. In 1981 the first educational drill and practice programs were developed for personal computers. In 1984, computer-based tutorials and learning games were developed by commercial software manufacturers.

In 1986, 25 % of high schools in the US used PCs for college and career guidance. In 1990, multimedia PCs were developed; schools were using

videodiscs; object-oriented multimedia authoring tools were in wide use; simulations, educational databases and other types of CAI (computer assisted instruction) programs were being delivered on CD-ROM disks, many with animation and sound. In 1994, digital video, virtual reality, and 3-D systems captured the attention of many. Object-oriented authoring systems such as HyperCard, Hyperstudio, and Authorware grew in popularity in schools; some classrooms had at least one PC available for instructional delivery, but not all teachers had access to a computer for instructional preparation. In 1995, the Internet and the World Wide Web began to catch on as businesses, schools, and individuals created web pages; most CAI was delivered on CD-ROM disks and was growing in popularity. In 1996, web graphics and multimedia tools were developed for the delivery of information and instruction using the Internet (Molnar, 1997).

With the increasing arrival of foreign students to the US schools there was a need to create tools for effective English language learning. Despite the fact that numerous ESL students were entering school, the school system was not delivering the expected and needed outcomes. The system had to maximize ESL students' success. The language needs of ESL students motivated teachers to seek new and innovative ways to educate these students (Fillmore and Snow, 2007). Teaching students to be literate was a priority in schools.

Technology offered what ESL students needed. Specialized ESL software was designed to help ESL students develop English-language listening, speaking, and reading skills. They ranged from simple, self-directed

pronunciation programs delivered on CD, to complete multimedia software suites. The common thread among these programs was their emphasis on making text-heavy information more accessible through graphics, animation, and video. Virtually all of them offered some level of interactivity, and a growing number were web-based or network-connected. Technology offered reading instruction that had immediate feedback on performance. It also provided added practice when necessary. Students were able to improve their sight word vocabulary, fluency, and comprehension. It allowed interaction with texts, attention to individual needs, and increased independence through an ability to read texts they would not otherwise be able to read. Computer software and games provided many fun opportunities for students to practice literacy skills. There were numerous software packages for improving spelling, phonics skills, grammar and sight word vocabulary.

A decade ago, access to technology was limited and wiring schools was one of the highest education priorities. Along with expanding the access to technology, it has come a growing pervasiveness of technology in society. For a generation of young people, technology, particularly the Internet, has assumed a substantial stake in their social and educational lives. However everyone can take advantage of technology. New uses of technology are constantly emerging. Technologies available in classrooms have range from simple tool-based applications (such as word processors) to online repositories of scientific data and primary historical documents, to handheld computers, closed-circuit

television channels, and two-way distance learning classrooms. Even cell phones that many students now carry with them can be used to learn.

Although the spread of technology was initially slow, it now offers many instructional aids in reading usage. Various technologies deliver different kinds of content and serve different purposes in the classroom. For example, word processing and e-mail promote communication skills; database and spreadsheet programs promote organizational skills; and modeling software promotes the understanding of science and math concepts. The role of technology in literacy and instruction can be potentially rewarding. Electronic books might help students with reading comprehension and motivation. Software can help students learn to decode. Some websites provide cloze exercises, paragraph, sentence and letter scramblers. Other websites and platforms provide phonemic awareness and instruction. Usually, various technologies are used in combination rather than as the sole delivery mechanism (Pearson et al., 2005).

Although at first technology was being used more for administrative duties now it is use in the instruction of students. It is an increasingly influential factor in education. Technology can offer powerful learning tools that demand new skills and understandings of students, and might provide new ways to engage students. It has been expanding at a magnificent rate over recent years and it is having a significant impact on every discipline (Rogers, 2004). However, while some students benefit immensely from it, the use of technology is still in its infancy in developing countries, if these are used at all, due to limited infrastructure and the attendant high costs of access (Rogers, 2004).

Conceptual Framework

This study investigated how technological tools like the Leap Pad Learning System improve ESL students reading achievement and how it increased their motivation. Students with routine access to technology learn basic skills faster and better when they have a chance to practice them using technology. One reason for this improvement is that students are engaged by the technology. As a result, they spend more time learning and practicing the basic tasks than students who approach the same tasks in a traditional paper and pencil manner. Students are more motivated to learn when technology is part of their daily school experience.

ESL students learn English best when they use English as a vehicle for studying content, not when English instruction is presented without a meaningful context (Kraus, 2000). This author made the following assumptions about teaching and learning ESL students:

- Motivation is the single most important ingredient for successful learning for both ESL and traditional students.
- Both ESL students and native speaker students will be motivated to learn when they study materials which are 1) intellectually stimulating 2) have relevance to their lives and 3) are within (or just beyond) their current level of linguistic competence.
- ESL students and traditional students each have unique knowledge and skills which can be shared to the benefit of both groups.

- Most high quality learning activities which are designed for native speakers will work with ESL students if accommodations are made for linguistic complexity and lack of background knowledge.
- Technology, when used appropriately, helps teachers create effective learning environments for their students (¶ 2).

Although reading in the first language (L1) shares numerous important basic elements with reading in a second or foreign language, the processes also differ greatly. Educators need to make significant efforts in the classroom to understand their students' reading behaviors and be able to help students understand those behaviors as well. It is therefore important that educators know as much as possible about the cultural, linguistic, and educational backgrounds of their readers since many of these factors influence reading in an L2 context.

Reading in both contexts requires knowledge of content, formal, and linguistic schema. Successful L1 and L2 readers will consciously or unconsciously engage in specific behaviors to enhance their comprehension of texts (Singhal, 2002). Reading is also a meaning making process involving an interaction between the reader and the text. Readers use mental activities in order to construct meaning from text. These activities are generally referred to as reading strategies or reading skills.

Valdez (2003) stated that the process of reading in L1 is similar, except for variables that L2 readers bring to their reading situation. These variables are prior knowledge and L2 proficiency. Since L2 learners typically have different

experiences and linguistic knowledge than L1 speakers, unknown vocabulary and diverse backgrounds prevent and interrupt the interpretative process.

Scott (2001) describes the schema theory as a process by which readers combine their own background knowledge with the information in a text to comprehend that text. All readers carry different schemata (background information) and these are also often culture-specific. This is an important concept in ESL teaching. Prereading tasks are often designed to build or activate the learner's schemata. Rather than attempting to neutralize texts, it is more suitable to prepare students by helping them build background knowledge on the topic prior to reading, through appropriate prereading activities.

Students should read appropriate leveled books. Educators must have classroom's bookshelves with books that will interest all types of students of all backgrounds. If the books available to children make sense to them, they are more likely to read (Daniel, 2005). If school libraries have books written in simplified English and cover topics that engage ESL students, then these students will be able to read in the L2 without experiencing major problems.

New technologies enhance our ability to create new ideas, make discoveries, prove our theories, test our knowledge and realize our dreams like never before. Today's students have far greater technology resources quite literally at their fingertips as compared to those of earlier generations. Outside the classroom, students are harnessing the power of technology to interact with the world around them and enrich their lives. The increasing accessibility of the Internet, the arrival of high performance technologies, and widespread

acknowledgment that technology should play an important role in education are all pressuring schools to develop, implement, and evaluate technology plans.

To realize the potential benefits of technology in reading instruction, educators should carefully select tools and strategies with attributes that support learning the essential components of reading. Technology can positively influence reading achievement if educators cautiously choose tools and plan technology integration strategies (Oliver, 2003).

Books are a key part of any learning environment, and as learning environments are going digital, so too are books. Electronic books, or eBooks, are electronic versions of books. Some students are more enthusiastic about reading and, as a result, read more when using eBooks (Fasimpaur, 2004). They may be viewed on desktop computers, laptop computers, handheld computers, or proprietary devices designed to be the size of a book. When selecting a book for reading, educators need to consider language and picture support as well as the child's interest in the book topic and prior knowledge needed for understanding (Peck, 2007).

Grams (2003) affirms that a great number of students benefit immensely from technological tools especially interactive books. They provide children with fun stories they come to love, while allowing them to interact with the characters in a way that makes the experience more real and more fun. Interactive books also provide students the opportunity to learn more about computers, and can help prepare them for the use of the everyday technology that is becoming more

and more familiar all the time. With these types of books students can dramatically improve their reading skills.

A good example of technological tools that can enhance the reading process is the Leap Pad Learning Platform. This platform is a tool specifically designed for the Leap Pad interactive books. This system:

- unlocks students' learning potential with engaging, interactive instruction that keeps them on task
- offers auditory feedback and guides student learning in a clear, consistent voice
- delivers on the promise of one-to-one technology in the classroom
- facilitates a school-to-home connection with simplicity and portability.

This platform offers one-to-one learning. One-to-one learning provides every student and teacher access to his or her own personal portable technology device, allowing students to learn at their own pace and level. Unlike a traditional approach in which teachers control the learning process, giving students access to personal technology enables them to be self-directed and get highly personalized instruction. Teachers can create an individualized education plan for each child that addresses his or her unique needs. One-to-one is a way to reach all children individually and re-engage them in their studies, as well as improving technology skills needed to succeed in school and in life.

The Leap Pad Platform allows children to immediately practice phonic information in interesting and fun stories (Leap Frog School House, 2005). Every

time a child is taught new phonic information, he is given a short story that highlights the phonic rule. Phonics skills grow through reading activities, and students learn to distinguish between vowels and consonants and understand letter combinations such as blends and digraphs. Once they have mastered the main sounds, then they can read many English words.

Phonics instruction is a way of teaching reading that stresses learning how letters correspond to sounds and how to use this knowledge in reading and spelling. Phonics instruction can be provided systematically. Systematic phonics instruction occurs when children receive explicit, systematic instruction in a set of pre-specified associations between letters and sounds. Children are taught how to use these associations to read, typically in texts containing controlled vocabulary. Systematic phonics instruction improves word recognition and spelling in students from a wide range of economic and social backgrounds (Wilson, 2004). It also significantly improves students' reading comprehension. A report from The National Reading Panel in 2000 revealed that this phonics instruction was particularly beneficial to students who are having difficulty learning to read.

> Systematic synthetic phonics instruction had a positive and significant effect on disabled readers' reading skills. These children improved substantially in their ability to read words and showed significant, although small, gains in their ability to process text as a result of systematic synthetic phonics instruction. This type of phonics instruction benefits both students with learning disabilities and low-achieving students who are not disabled. Moreover, systematic synthetic phonics instruction was significantly more effective in improving low socioeconomic status children's alphabetic knowledge and word reading skills than instructional approaches that were less focused on these initial reading skills (NRP 2000 p.120).

Phonics instruction can be more effective when provided individually or to very small groups based on specific needs. It is important that instruction be interactive, in context, appropriately paced, and provide students with immediate feedback. The goal is to help children understand that there is a systematic and predictable relationship between written letters and spoken sounds (Center for the Improvement of Early Reading Achievement, 2001). Peregoy & Boyle (2000) state that English vowel sounds and their numerous spellings present a challenge to Spanish literate students learning to read English because the one-to-one correspondence between vowel letters and vowel sounds in Spanish does not hold true in English. Educators can effectively teach phonics and all of the Reading First components if they are armed with knowledge about their students and their native language.

Previous Research

Previous research has shown that technology is being used in instruction in a variety of ways and stages of literacy, including vocabulary instruction, word recognition instruction, and comprehension instruction (National Institute for Literacy, 2002). One topic that requires further study but has recently come under review by researchers is the role and impact of technology (including television and multimedia) and CAI in reading instruction and literacy.

Kleiman (2000) stated that research in technology to enhance instruction across grade levels and content areas consistently yield several important points about the effective use of technology, which provide some guidance in making

decisions about technology in K-12 reading instruction. Sherman (2004) described that critical points to consider include the following:

1. The technology needs to be a good fit to the overall instructional program, complementing and extending the existing curriculum. Technology requiring major changes in approaches by teachers generally does not succeed in improving students' learning; therefore, the match of the technology options to the schools reading program is a critical consideration.
2. The technology must address critical goals and needs in order to be worth the cost and the effort involved. Therefore, decision makers should consider questions such as: *which components of reading instruction need to be strengthened in our school?* and *Are there specific groups of students who are not learning to read well?* Then the technology options should be reviewed for whether they might help address the critical needs of the school.
3. Identifying potential software, web resources, or other technologies that fit the instructional program and address critical needs can be challenging (¶ 73).

Educational technology is now concerned with the study of learning in complete, complex, and interactive learning environments. The ideas of carefully designing instruction varying the formats in which information is presented to students, and building interactive simulations, lead naturally to the idea of constructing learning environments in which students have freedom to act (Winn,

2002). Many technology learning environments simulate some aspects of the natural environment; this allows learning to be authentic. Technology integration in foreign language teaching demonstrates the shift in educational paradigms from a behavioral to a constructivist learning approach (Wang, 2005).

The application of technology in education, and specifically of computer-assisted instruction (CAI), is a relatively new area of education research and evaluation. Current studies made by the National Institute for Literacy (NIFL, 2002) indicate that CAI is at least as effective as traditional classroom instruction in teaching individuals to read. In a review of the existing research and studies of technology and reading instruction, the National Institute for Literacy (2002) and others found several trends or methods that show promise:

- The addition of speech with computer-presented text
- The use of hypertext (or links among online materials) in learning environments
- The use of computers for word processing, and the integration of writing instruction with reading (¶ 4).

Fasting and Lyster (2005) conducted a study to evaluate the effect of MultiFunk, a computer program designed to assist reading, on the reading and spelling proficiency of struggling readers. The researchers wanted to know if the MultiFunk computer software showed effects on reading and spelling development in a group of struggling readers and spellers. The findings indicated that computerized assistive reading had the potential to aid and support the

development of basic literacy skills in a broad group of struggling readers and spellers.

A study conducted by De Jong and Bus (2004) showed that kindergarten children who have reached a stage in which they can understand stories are able to retell a story when they experience it independently in electronic form. They found that electronic books do not reduce learning about the story language. When exploring an electronic book, children were apparently as focused on the oral text as the printed text read to them by an adult.

A case study performed by Lefever and Pearman (2005) aimed to look at the behaviors exhibited by students while reading CD-ROM storybooks to determine how these behaviors affected their approach to reading. Results from this study indicate that CD-ROM storybooks have the potential to support readers and promote reading skills. Implications from this study suggest that an awareness of the benefits and limitations of CD-ROM storybooks can ensure that their use in classroom instruction provides maximum reader support without building reader dependency. This study demonstrated that students can benefit immensely from technological tools especially interactive books.

Leap Frog Schoolhouse (2004) did a case study focusing on the use of the Leap Frog Literacy Center to supplement reading instruction in Pinewood Elementary in North Carolina during the 2003-2004 school year. English language learners who lacked the essential early literacy skills needed to work independently during independent work time. At the beginning of the year, minority, limited English proficiency, and free/reduced lunch students scored

dramatically lower than English speakers students on a kindergarten entry profile measure. After using the program for a year, these students scored at nearly the same level as their counterparts. For three of the five subgroups of kindergarteners whose performance was tracked, African-American, Hispanic, and limited English proficiency students, the percentage of children scoring at or above grade level at least doubled over the course of the school year. The Literacy Center worked because it was multisensory, it used sight, touch, and hearing to promote learning. It motivated struggling readers, allowing teachers to individualize instruction and saving them time by providing immediate feedback.

Another case study conducted by Leap Frog (2005) in the Los Arcos Intervention center in Salida, California supported English language development among first through fifth grade students who had fallen behind academically. School officials used scores on language proficiency tests to identify students who would benefit most from the supplemental program offered at the center. Students attending one of the 90 minute afterschool programs spent 30 minutes in intensive small group work with a credentialed teacher, 30 minutes working on literacy intervention with AutoSkill® software, and 30 minutes working with LeapFrog SchoolHouse's LeapTrack Assessment & Instruction System, a program for grades K–5 that supports formative assessment and differentiated instruction in reading, math, and language arts. Students attending Los Arcos Learning Center gained approximately two grade levels in reading fluency, decoding, and vocabulary development. Furthermore, 43% of ELL students attending the program met their growth target on the annual California English

Language Development Test (CELDT) for the 2004–2005 academic year, while only 23% of ELL students not in the program did so. Students participating in the learning center showed significant growth over a short period of time.

Leap Frog (2004) made seven-month experimental study investigated the effectiveness of the Language First! English Language Development program among 377 K-2 students from 43 classrooms in Phoenix, Arizona. Students using the program significantly outperformed their control counterparts on a measure of vocabulary development, a critical component of English language learning. Furthermore, over the course of this study, more than 60% of students using the Language First! program transitioned into higher levels of English language proficiency, compared to less than half of the control group students.

This teacher action research contributes to the use of technology in education since it investigates how technological tools especially the Leap Pad Platform improve students reading achievement. It also explores if this tool motivates students to read in English. No other research has been made on this topic in Puerto Rico. The results of this study can be use by the Department Education to see how they can incorporate this tool to the curriculum so it can be used on a daily basis instead of being used sporadically. This engaging and effective tool can support English language development in native Spanish speakers. The results of this study can demonstrate the effectiveness of the Leap Pad Platform in teaching essential English language development skills, preparing limited English proficient students for greater academic and personal success.

CHAPTER 3
Methodology

Research Design

This research took place in a school setting. This study was an action research. Action research searches for solutions to everyday, real problems experienced in schools, or it looks for ways to improve instruction and increase student achievement. It works to improve student's skills, techniques, and strategies. It is about how can educators change their instruction to impact students. In this study the researcher will explore if technological tools can improve the reading achievement of ESL students. The technological tool used in this research will be the Leap Pad platform (See Appendix A).

In 2000, Masters stated that action research originated with Kurt Lewin, an American psychologist. Lewin argued that in order to understand and change certain social practices, social scientists have to include practitioners from the real social world in all phases of inquiry. Gabel (1995) states that action research has been described as an informal, qualitative, formative, subjective, interpretive, reflective and experiential model of inquiry.

MacLean & Mohr (1999) stated that teacher action research is inquiry that is intentional, systematic, public, voluntary, ethical, and contextual. According to MacLean & Mohr (1999, p. 7-9) teacher researchers do the following:

- Develop questions based on their own curiosity about their students' learning and their teaching

- Investigate their questions with their students systematically documenting what happens
- Collect and analyze data from their classes including their own observations and reflections
- Examine their assumptions and beliefs
- Discuss their research with their colleagues for support as "critical friends" to validate their findings and interpretations of their data
- Present findings to others
- Talk to their students
- Give presentations
- Write about their research, participate in teacher research web sites, online forums, and email communications (p. 7-9).

Variables

The three variables the researcher explored were reading achievement, reading motivation and the Leap Pad platform. Reading achievement can be defined as the ability to demonstrate success in reading. Motivation is essential to learning and performance, particularly in technology-mediated environments where students must take an active role in their learning. The shift in education from an instructor-centered to a learner-centered focus requires learners to be self-directed and motivated. The motivational needs of learners are often overlooked, and there is need for more literature examining motivation in technology mediated learning environments.

Context and Sample Description and Selection

This research was carried out within the context of the researcher's environment, with the students and at the school in which the researcher works. It is a public small elementary school in a rural area near a big metropolitan area of Bayamón. This school has 210 students and 21 teachers. It has three English teachers. One teacher for K-3 level, another teacher for 3-6 level and the other teacher is a Title I teacher. The school has only one group per grade except first and third grade that have two groups of each one. The majority of the students from this school come from low socio-economic backgrounds. Most of the parents only completed high school. This school is in its third year of improvement plan because the majority of the students have not shown adequate English achievement on the Puerto Rico standardized test, PPAA.

The students who participated in the study were 15 third grade students. This third grade consisted of six girls and nine boys between the ages of 8-10. The researcher worked with the third grade that is a class size reduction group. This group was selected because this is one of the youngest groups the researcher teaches and the students have limited English proficiency. They are low proficient. Some of these students were not fluent readers in their native language and half of them were from Special Education. The English grades of the students in the first semester were as follows (See Table 1):

Table 1. Students' Grades

A	B	C	D	F
2	2	5	3	3

Instruments and Data Collection

Two instruments were used for data collection. A reading motivation questionnaire and a checklist were developed by the researcher (see Appendix B and C). A panel of seven ESL teachers validated the content of the checklist and the questionnaire.

The questionnaire determined the interest and motivations students had towards reading. Motivation can affect their performance in different achievement areas, including reading. The questionnaire had visual cues to accommodate students who had reading difficulties. It had eight statements about how they felt towards reading in English. Students had to put an X over the picture that best represented how they felt. The alternatives were: yes, no or I don't know. The questionnaire was administered to the whole group at the same time by the researcher.

The researcher evaluated each student individually with a formal assessment before the unit to asses what words with long vowel sound students could read. The researcher assessed each student individually with an informal assessment. The teacher asked each student to read each word from a 4x5 flashcard that she prepared. The teacher marked on the checklist Yes, if they read correctly, and No, if it was incorrect. They were asked to read of 25 words, five with each long vowel sound (a,e,i,o,u). After the lesson unit another checklist was used to assess if the students could read the targeted words.

The researcher observed students throughout the 16 days unit as they engaged in the learning activities using the Leap Pad Platform and took anecdotal notes. She wrote narrative comments in a table.

Treatment

The Leap Pad platform is an interactive electronic tool that allows book and activity cards to talk. Using stylus, or special pen, students can manipulate the Leap Pad platform to hear entire book pages to hear single words and isolated sounds, to sound out words, and to work through interactive learning activities. The Leap Pad platform and its decodable text provide a rich engaging experience for the student reader. Three options appear on each spread of a Leap Pad story: “Say It”, “Sound It” and “Spell It.” In “Say It” mode, the Leap Pad platform reads individual words as they are touched with the stylus. This feature helps students learn how to decode words and reinforces correct pronunciation. In “Sound it” mode, the Leap Pad platform pronounces phonemes either in isolation or blended as the stylus is moved over the words. Students can use this feature to help them decode words by sounding them out. In “Spell It” mode, the Leap Pad platform says letter names as the letters are touched with the stylus. This feature reinforces letter recognition and spelling. The Leap Pad platform reads an entire page of the story when the ear icon is touched. This feature provides many of the benefits associated with reading aloud.

The researcher prepared a four week unit (see Table 2). This unit plan focused on understanding and applying phonics rules as well as the role of

phonics in reading instruction. The lesson offered a decoding and encoding approach based on systematic phonics using multi-sensory strategies and materials. It promoted active learning that integrated Leap Frog School House Technology that included visual, auditory, tactile and kinesthetic elements. It also provided instructional strategies that inspire and energizes students as they learn. The Leap Pad Platform uses fun interactive stories that ask students to identify letters, sounds, words, and pictures.

Table 2. Unit Plan

	Objectives Students will be able to:	Activities
Day 1	Say the long vowel sound a in words with the CVC pattern. Read and write words with the long vowel a and in the CVC pattern.	Display the poster "Nate" and have students tell what they see happening in the art. Have students repeat Nate, bake, cake, and plate several times. Write the words *shape, tape, cake,* and *plane* on the board. Say the words and have students repeat them. Put the phonics cards on the board. Students have to put the cards with long a sound in a basket.
Day 2	Identify words with long a sound (CVC) pattern.	Let students enjoy listening to the story *Dan's Game.* Have students turn to page 2 and find the word late. Have them write the word on a sheet of paper. Work together finding rhyming words for late. Have them look through the book for other words that rhyme with late.
Day 3	Identify and decode words with the sound of long a.	Let students listen to the story. Have them use the Say It, Sound it, and Spell It feature at the end of each page.
Day 4	Say the long vowel sound e in words with the CVC pattern. Read and write words with long vowel e.	Display the poster "Can You Guess". Sing the rhyme. Have students repeat the words tree, green, and breeze. Write the words jeep, bee, feet and on the board. Say the words and have students repeat them. Put the phonics cards on the board. Students have to select the cards with long e sound.
Day 5	Identify words with long e sound.	Let students enjoy listening to the story *A Year on My Street.* Have students write words that rhyme with me and we.

	Objectives: Students will be able to:	Activities
Day 6	Identify and decode words with the sound of long e.	Let students listen to the story. Have them use the Say It, Sound it, and Spell It feature at the end of each page.
Day 7	Say the long vowel sound i in words with the CVC pattern. Read and write words with long vowel i.	Display the poster "I Like Yummy Food". Sing the rhyme. Have students repeat the words nice, slice, and bite. Write the words bike, hike, fine, and ride on the board. Say the words and have students repeat them. Put the phonics cards on the board. Students have to select the cards with long i sound.
Day 8	Identify words with long i sound (CVC) pattern.	Let students listen to the story *Lil Can't Miss.* Have students write words that rhyme with bike and hike.
Day 9	Identify and decode words with long I sound.	Let students listen to the story. Have them use the Say It, Sound it, and Spell It feature at the end of each page.
Day 10	Say the long vowel sound o in words with the CVC pattern. Read and write words with long vowel o.	Display the poster "Oh Visit My Home". Have students repeat the words dome, rope, and hope. Write the words bone, rose, nose, and stone on the board. Say the words and have students repeat them. Put the phonics cards on the board. Students have to select the cards with long o sound.
Day 11	Identify words with long o sound (CVC) pattern.	Let the students list to the story *Rose and Hope.* Have students write words that rhyme with bone and nose.
Day 12	Identify and decode words with the sound of long o.	Let students listen to the story. Have them use the Say It, Sound It, and Spell It feature at the end of each page.
Day 13	Say the long vowel sound u in words with the CVC pattern. Read and write words with long vowel u.	Display the poster "The Dude Ranch". Have students repeat the words mule, rule, and June. Write the words tube, tube, and tune on the board. Say the words and have students repeat them. Put the phonics cards on the board. Students have to select the cards with long u sound.
Day 14	Identify and write words with long u sound (CVC) pattern.	Let the students list to the story *At the Lake in June.* Have students write words that rhyme with bone and nose.
Day 15	Identify and decode words with the sound of long u.	Let students listen to the story. Have them use the Say It, Sound It, and Spell It feature at the end of each page.
Day 16	Assessment	Administer the informal assessment to see how many words students can read. Record the results on the checklists.

This study took place during the month of January of the 2007-2008 school year. It lasted four weeks. Each week the students worked with a long vowel. Every time students were taught new phonic information, they were given a short story that highlighted the phonic rule. The Leap Pad platform allows children to immediately practice phonic information in interesting and fun interactive stories.

Procedure

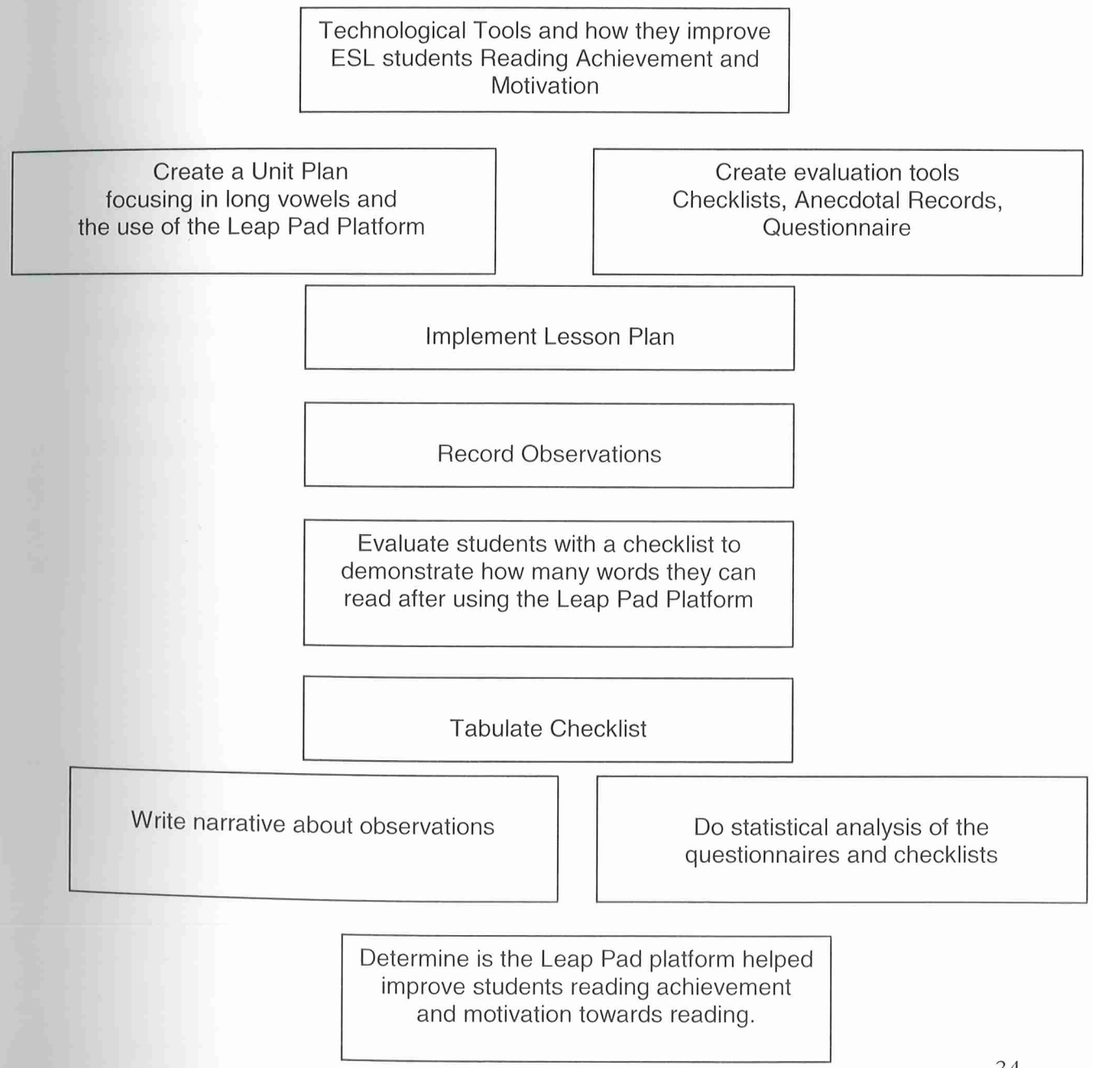
The researcher requested the consent of the school principal to carry out the investigation in the school setting (see Appendix D). Parents received a letter (see Appendix E) asking for their authorization to allow the students to participate in the research. This letter stated the purpose of the study, duration, benefits and confidentiality of student's identity.

The researcher used a table to write the anecdotal notes of what was happening in the class each day. The reading motivation questionnaire was administered to the whole class before the unit plan was carried out. It took only one day to administer. The teacher read all the statements to the students first in English and then in Spanish. An explanation on how to use the Leap Pads was given to the students. Students used the Leap Pads the second day of the unit plan.

On the last day of the unit plan students were sad because this was the last day that they were going to use the Leap Pads. After the unit plan was completed another checklist was used to assess what words they could read

correctly. Each student was assessed individually. The researcher showed the words printed on cards to the students and the students had to read the words one by one. When they read the words the researcher put a checkmark next to the words the students were able to read. It took two days to assess the students.

Figure 1. Sequential Pattern of Activities of the Study



Data Analysis

The data from the questionnaires and checklists were analyzed and tabulated using frequencies and percentages. This data was displayed using bar graphs.The researcher used content analysis to analyze the anecdotal notes and it was reported using narrative text. Content analysis is a set of procedures for collecting and organizing information that allows one to make inferences about the characteristics and meaning of written and otherwise recorded material.

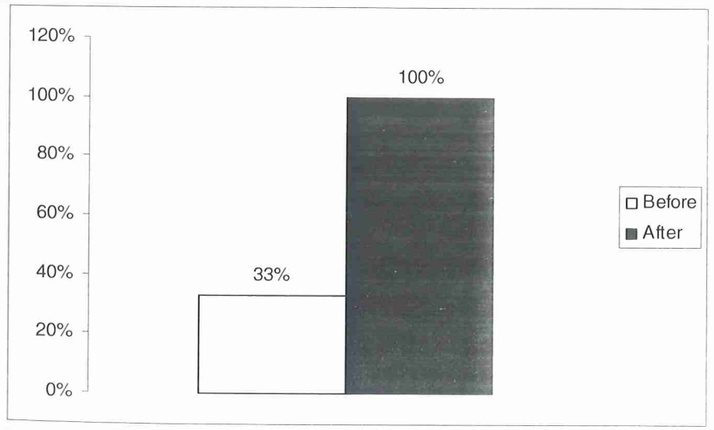
CHAPTER 4
Results

This action research investigated if technological tools like the Leap Pad Learning Platform improved reading achievement among third grade ESL students. It also investigated if this tool motivated students to read in English. The third grade class used for this research consisted of a total of 15 students.

Before and after the lesson unit was implemented, a reading motivation questionnaire was administered to the students. This questionnaire determined the interest and motivations students had towards reading. The questionnaire consisted of eight statements.

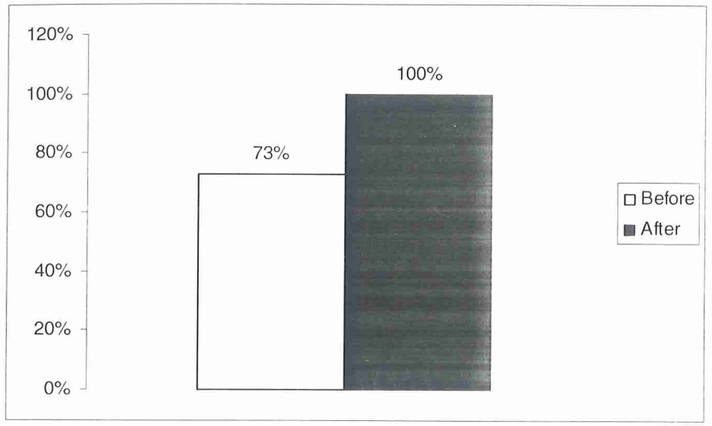
Before the unit was implemented, 33% of the students reported in the first item of the questionnaire that they liked to read in English After the unit was implemented all of the students answered positively to this item. There was a difference of 67% of increase after the unit plan was completed (see Figure 2).

Figure 2. I like to read in English.



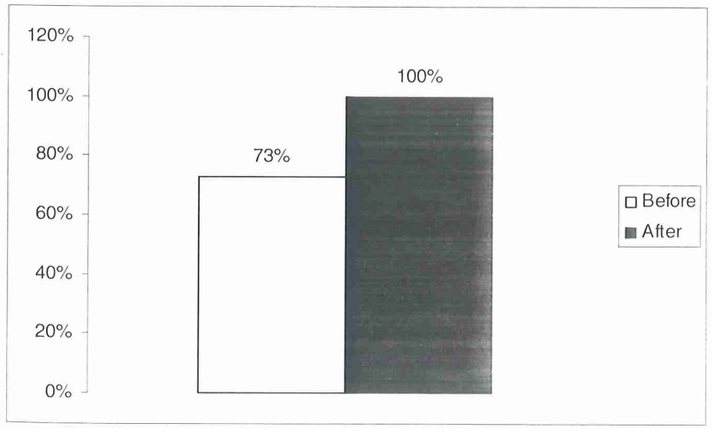
Before the unit 73% of the students answered that they liked to read stories in English. After the unit all of the students answered affirmatively to this item (see Figure 3). There was a 27% increase after the unit.

Figure 3. I like to read stories in English



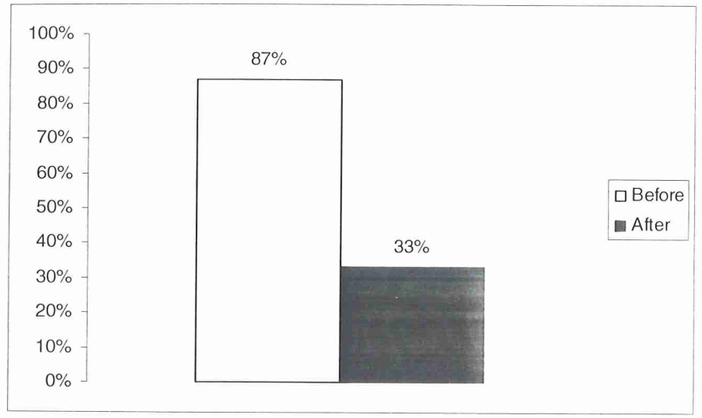
In the third item before the unit, 73% of the students answered that they liked to read magazines or comics in English. After the unit plan the exact same number of students answered affirmatively (see Figure 4).

Figure 4. I like to read magazines or comics.



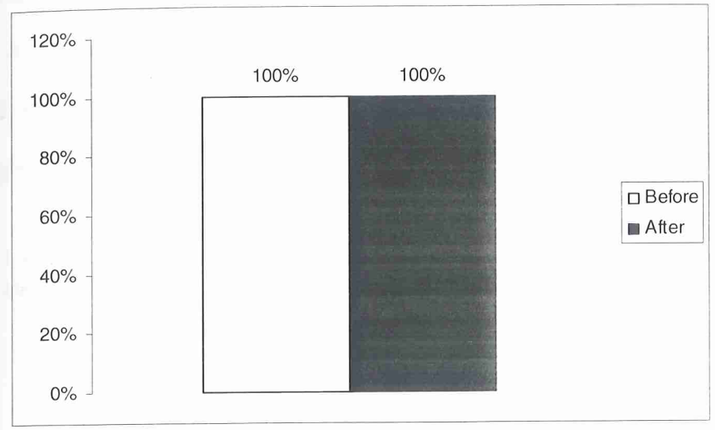
In the fourth item students had to answer if they thought reading in English was difficult. Before the unit, 87% agreed with this statement. After the unit, 33% agreed. There was a decrease of 54% of students who thought that reading in English was difficult (see Figure 5).

Figure 5. I think reading in English in difficult.



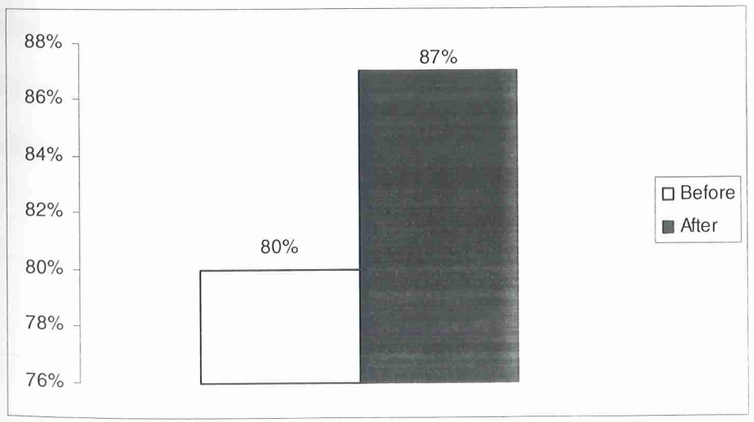
In the fifth item students had to answer if they thought that learning to read in English was important because it will make them more educated persons. All 15 students answered yes to this statement before and after the unit plan (see Figure 6).

Figure 6. Learning to read in English is important because it will make me a more educated person.



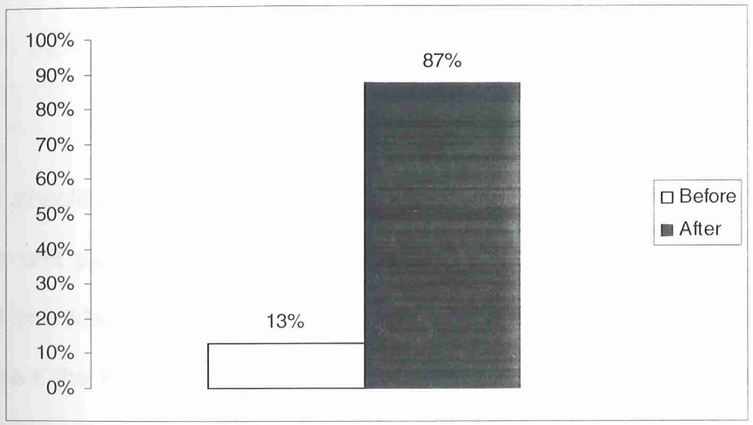
Before the unit was implemented in the sixth item, 80% of the students answered that they liked to read in English when the content was interesting. After the unit 87% answered that they would. There was an increase of 7% (see Figure7).

Figure 7. I like to read in English when the content is interesting.



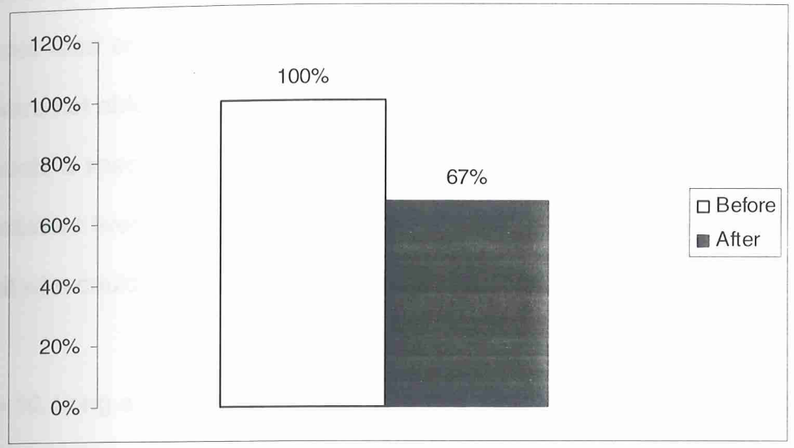
In the seventh item 13% answered that they would voluntarily read in English. Eighty seven percent answered that they would not read when it was not required as homework or assignment. After the unit 87% of the students answered that they would read when it was not required, they would do it voluntarily (see Figure 8).

Figure 8. I would read in English even if is not required as homework or assignment.



In the eight item, before the unit was implemented, all of the students answered that they liked watching TV better than reading. After the unit, 67% preferred reading over television. There was a s decrease of 33% for television as opposed to reading (see Figure 9).

Figure 9. I like watching TV better than reading.

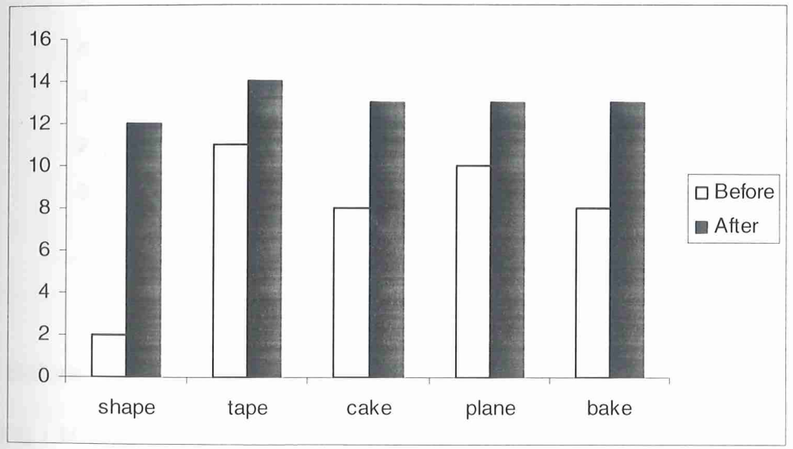


A checklist was used by the teacher to assess the students before and after the unit plan was administered. Each student was assessed individually. The first checklist was used by the teacher on January 24 & 25. It was used to determine if the students would read words with long vowel sound. After the unit plan was implemented another checklist was used on February 18 & 19, to verify if they could read words with long vowel sound. Students had to read words written of cards. The results of the checklists demonstrated that the students could read almost all the words that were presented in the unit plan.

Before the unit plan only 52% of the students could read words with long a sound. Eighty seven percent could not read the word shape correctly. Twenty percent could not read the word tape. Forty seven percent could not read the words cake and bake correctly and 33% could not read the word plane (see Figure 10).

After the unit students were able to read 87% of the words with long a sound. Only 13% could not read long a words. Twenty percent of the students could not read correctly the word shape, 7% could not read the word tape and 13% were not able to read the words cake, plane, and bake. The thirteen percent represents a special education student has reading problems in Spanish and the other student lives in a foster home. Overall there was an increase of 60% after the unit who could read words with long a sound (see Figure 10).

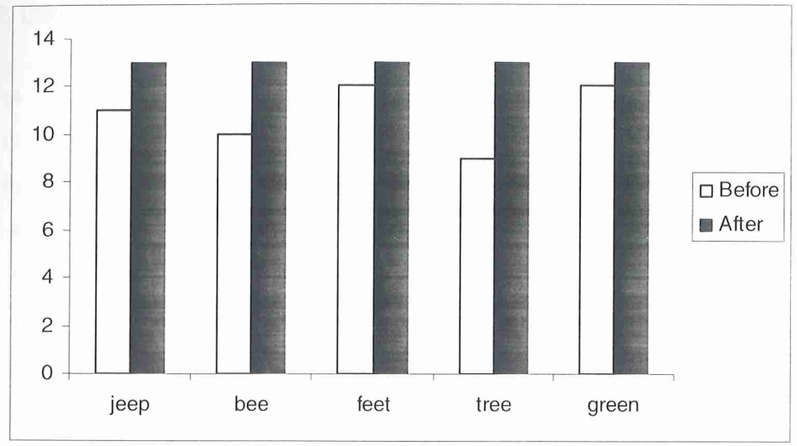
Figure 10. Long a sound frequency before and after the unit plan.



Before the unit 72% of the students were able to read words with long e sound. Twenty seven percent could not read the word jeep correctly. Thirty three could not read the word bee. Twenty percent could not read the words feet and green. Forty percent could not read the word tree.

After the unit plan, 87% of the students could read all the words with long e sound; however two students could not read them. This 13% were the same students discussed previously (see Figure 11). There was an increase of 15% of students who could read the words with long e sound after the unit plan.

Figure 11. Long e sound frequency before and after the unit plan.

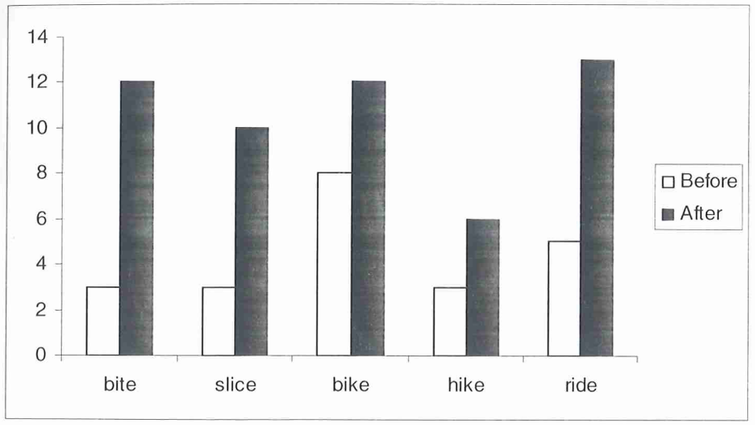


Before the unit plan only 29% of the students could correctly read words with long i sound. Eighty percent of the students could not read the words bite, slice and hike. Forty seven percent could not read the word bike and 67% could no read the word ride.

After the unit plan 82% of the students could read words with long i sound correctly. Eighteen percent could not read words with this vowel sound. Twenty percent could not read the word bike and bite. Thirty three percent could not correctly read the word slice. Students read this word pronouncing the s like “es”.

Sixty percent had problems reading the word hike. They did not read the h and read “ike”. The h in Spanish is silent and sometimes they get confused with the h and the j. this is common for Spanish speakers. Almost all students read the word ride correctly although 13% could not. There was an increase of 53% of students who could read words with long e sound (see Figure 12).

Figure 12. Long i sound frequency before and after the unit plan.

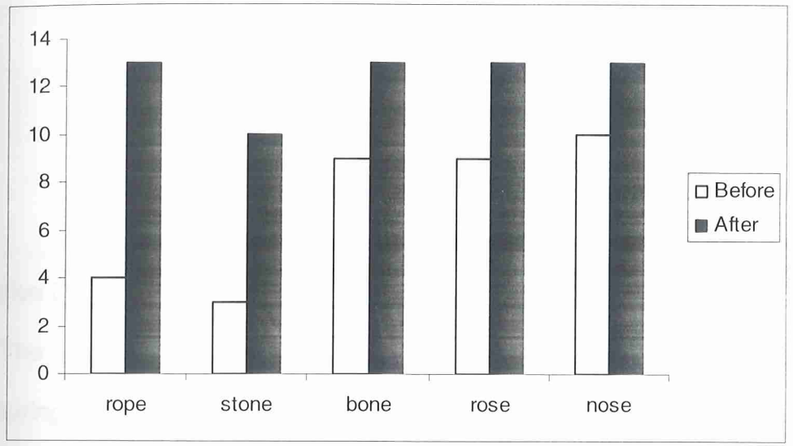


Before the unit plan 47% of students could correctly read words with long o sound. Twenty seven percent of the students could not read the word rope. Twenty percent could not read the word stone. Forty seven percent could not read the words bone and rose. Thirty three percent could not read the word nose.

After the unit plan 83% could read words with long o sound correctly. Seventeen percent could not read these words or had problems reading them. Eighty seven percent read the words rope, bone, rose, and nose correctly. Thirty three percent had problems reading the word stone. They did the same thing

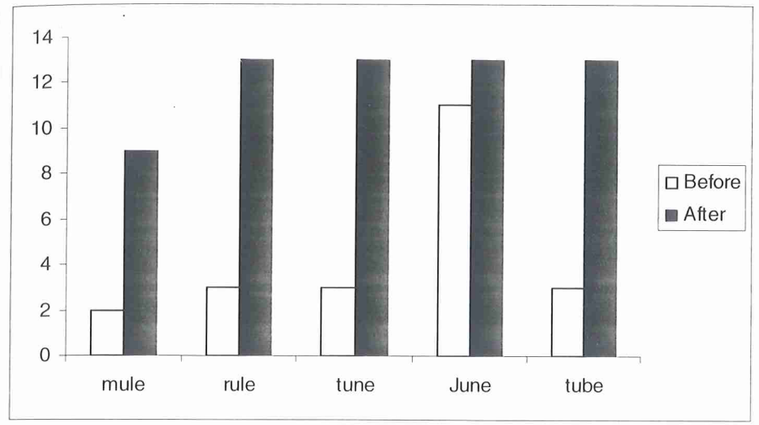
when they read the word slice. The pronounced the s like “es”. There was an increase of 36% of students who could read words with long o sound (see Figure 13)

Figure13. Long o sound frequency before and after the unit plan.



Before the unit plan 19% of the students could read words with long u sound correctly. Eighty percent could not read the words rule, tune and tube. Eighty seven percent would not read the word mule and 20% could not read the word June. After the unit plan 83% of the students read words with long u sound correctly. Forty percent could not read correctly the word mule. Eighty seven percent read correctly the words rule, tune, June, and tube (see Figure 14). There was an increase of 64% of students who could read words with this long vowel sound.

Figure 14. Long u sound frequency before and after the unit plan.



Qualitative Data

The implementation of the lesson unit lasted 15 days. The lessons were given during scheduled time. In that period of days a small number of students were absent. No school irregularities were presented. There were no interruptions of class time.

The Leap Pad Platform encountered some technical setbacks do to battery malfunctions and misuse of books. All Leap Pads are equipped with four double A batteries. Some of these were discharge do to prolong use by other students. Due to this malfunction some time was taken to connect the Leap Pad to the AC adapter. Three books were bent because they were not stored appropriately. When books are bent the special pen these books used, the stylus, does not communicate properly with the Platform. Everything else went accordingly to the plan.

Students were attentive to instructions given by the researcher. They were anxious to use the Platform. The lessons were given with minor interruptions. Students worked silently however when they were excited about something impressive from the book, they expressed their emotions.

This study investigated if the Leap Pad Learning Platform motivated students to read. The researcher could see how motivated students were by the behavior that was observed. Students were more eager to use the platform as the days went by. They were always asking “Are we going to use the Leap Pads today? or When are we going to use the Leap Pads? On the days the platform was not used they were sad and said comments like, “Oh teacher please let us use the Leap Pads, please” They were also asking when they were going to use a new book. A very satisfying experience was witnessing students that previously had little interest in reading, doing so with excitement. Every single one of the usually talkative students was completely immersed reading. Students were very involved and engaged with reading that they lost track of time. After observing how students behaved, the researcher observed that there was a relationship between reading motivation and reading achievement by looking at the results of questionnaire, and informal assessment.

Chapter 5
Conclusions and Recommendations

This teacher action research investigated if technological tools like the Leap Pad learning platform improved reading achievement of third grade ESL students. It also explored if technological tools like the Leap Pad Learning Platform motivated students to read. The subjects of this research were third grade ESL students from a rural school in Bayamón. A unit plan was carried out and it was focused on long vowel sounds. After a new vowel sound was introduced the students practiced each vowel sound using the Leap Pad Learning Platform.

Before the unit plan was administered a reading motivation questionnaire was administered to the students to determine what their reading interests were and to see how they felt towards reading in English. Before the unit plan the questionnaire results demonstrated that the majority of the students did not like to read in English. They answered that they liked to read stories, magazines and comics. Students at this age are highly visual and that is probably why they prefer to read stories, magazines and comics since they have a vast amount of images. Students also answered that reading in English was difficult for them. They also said that English was very important because it will make them more educated persons. Apparently, they seem to be aware of the instrumental value of English. Having strong English language skills is critically important to succeeding in the future. These skills are essential to obtain better job opportunities.

Students stated that they would not read voluntarily. They read only when it was assigned and not when it was for pleasure or enjoyment. All of the students answered that they preferred to watch television better than reading. Watching TV or videos out of school hours sometimes is the most common recreational activity of children. One possible reason could be that it is a struggle for parents to find time to read with children. Another reason may be that children do not have appropriate reading material based on their interests and reading levels. Children can achieve more success in early reading skills if they have experience with books and other print media, and are read to as they grow up.

After the unit plan was administered all of the students answered that they liked to read in English and there was a decrease of 54% of students who thought that reading in English was difficult. After the unit 87% answered that they would voluntarily read in English when the content was appealing and everyone said that English was important to them.

The researcher observed that the students were motivated when they were using the Leap Pad Learning Platform. They were excited and eager to use it every day. When they would not use the platform they were disappointed and sad. Every time they were working with the platform they were enthusiastic and animated. They were full of life and energetic. The researcher could see very positive behavior that indicated that they really liked and enjoy this technological tool. After the unit plan students were able to read almost all the targeted words. There was improved achievement in word decoding after the unit.

A few students were absent during the implementation of the unit plan. The teacher worked during her free hour with the students who were absent the previous days. A few students were late to the class since the unit plan was administered in the first period but they were able to catch up without problems.

Students were not going to use the Leap Pads when a new vowel sound was introduced. During those days they were anxious, disappointed and sad because they could not wait for the next day to use the platform. Students asked everyday when they were going to use the Leap Pads. When they saw that the Leap Pads were ready to be used they were joyful and excited.

A few Leap Pads had problems with their batteries. AC adapters had to be used. The classroom used by the researcher had numerous electrical outlets so it was easy to plug the platforms although it took time away from the lesson. A few headphones did not worked properly but they were replaced immediately. Three books were bent because they were not stored properly.

This study demonstrated that the Leap Pad Learning Platform can improve students reading achievement specially decoding skills that are an essential skill of reading achievement. Students were able to read almost all the words that they practiced in the unit plan after they used the platform. This tool also motivated students.

The platform's interactive and engaging learning activities, language support, and immediate teacher feedback helped the ESL students that participated in the research build listening and reading skills, easing their path towards English literacy. The researcher observed students improvement in

phonemic awareness and listening comprehension since they had to follow directions given by the platform. Only a few students asked the teacher for assistance.

The platform was exceptionally motivating for students. Their enthusiasm made students eager to spend time on the learning activities. The researcher observed a high level of student engagement with the platform, along with growing pride and confidence as the students saw their own learning success.

The researcher would choose the Leap Pad Learning Platform over other reading materials because of the improved motivation and competence students developed from mastering this marvelous tool. Also, students learned to entertain themselves with reading. This interactive tool allows children to read and learn independently and at their own pace. Developing readers can benefit greatly from the this kind of technological tool, any time a word presents a reading challenge by pointing to it with the pen the word is read. The Leap Pad Learning Platform is appropriate for both struggling and proficient students. Students can choose when they want help reading words; they are less dependent on an adult's help. Using this interactive, learning platform with highly motivating, leveled learning activities, builds critical skills for gaining proficiency in English.

Technology can immensely help ESL students. Technology provides students with another strategy for success. It can add excitement and creativity to lessons that might otherwise be routine. Educators are the key to the effective use of technology in schools.

Recommendations

The Leap Pad Platform is a good tool to improve reading achievement and motivation. Teachers need more training using this device. It is also recommended that all schools use it so all students can benefit from it.

Future Research

Further areas for future and experimental enquiry might be to:

- correlational studies to explore the relationship between reading motivation and reading achievement
- further evaluate the use of different technologies with students of varying abilities
- look at the motivational effects of different types of technologies
- investigate if educators have enough training and expertise with technology to modify the curriculum and methods of instructions to suit education needs
- consider the use of technology and authentic texts for ESL students with different levels of content difficulty.

This study was done with a very limited number of students over a short period of time and that may have affected the results. Further studies should explore the use of the Leap Pad Platform with a larger sample and for a entire school semester.

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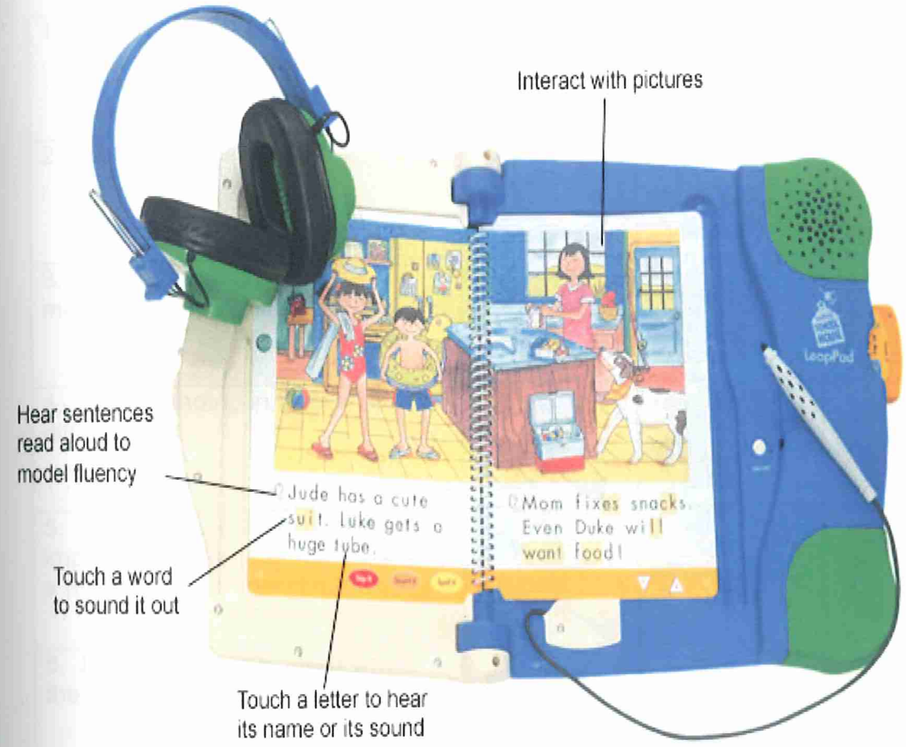
Appendices

Appendix A. Leap Pad Learning Platform

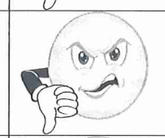
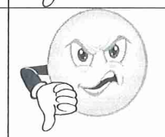
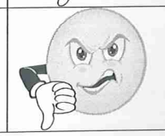


Appendix B. Reading Motivation Questionnaire

Girl ___ Boy ___

Read the following statements.

Write X over the picture that best represents how you feel.

	Yes	No	I don't know
1. I like to read in English.			
2. I like to read stories in English.			
3. I like to read comics or magazines in English.			
4. I think reading in English is difficult.			
5. Learning to read in English is important because it will make me a more educated person.			
6. I like to read in English when the content is interesting.			
7. I would voluntarily read in English even if is not required as homework or assignment.			
8. I like watching TV better than reading.			

Appendix C. Long Vowel Checklist

Name _____

Long Vowel Checklist

Place a checkmark beside each word the student reads. Place an X besides the words the students are not able to read.

Words	Yes	No	Comments
Long a sound			
shape			
tape			
cake			
plane			
bake			
Long e sound			
jeep			
bee			
feet			
tree			
green			
Long i sound			
bite			
slice			
bike			
hike			
ride			
Long o sound			
rope			
stone			
bone			
rose			
nose			
Long u sound			
mule			
rule			
tune			
June			
tube			

Appendix D. Authorization Letter

Estimada Directora:

Actualmente estoy en el proceso de completar una maestría en la Universidad del Sagrado Corazón, Recinto de Santurce. La misma es una maestría en tecnología con una concentración en sistemas de instrucción y una sub-especialidad en inglés. Durante este trimestre he estado desarrollando los primeros tres capítulos de una tesis que es parte de los requerimientos de graduación de la institución.

Siendo yo maestra de inglés y la tecnología el enfoque principal de esta maestría estoy muy interesada en investigar los efectos que ha causado la revisión que hizo el Departamento de Educación en el año 2000 en torno a la Ley Orgánica 149 (julio de 1999), en relación a la integración de la tecnología y el nuevo enfoque que se dio a la misión del Programa de Inglés como consecuencia de la revisión de esta ley.

Por ese motivo es que me propongo desarrollar una investigación para la tesis que llevará el título de Technological Tools and the Reading Achievement of ESL Students. En la misma pretendo investigar como las herramientas tecnológicas específicamente el Leap Pad Learning Platform, ayuda a mejorar la comprensión de lectura en inglés y como esta herramienta motiva a los estudiantes. Los resultados se publicarán y se podrán a disposición del Departamento de Educación y de la Universidad del Sagrado Corazón para futuras investigaciones.

Por este medio le estoy solicitando su autorización para llevar a cabo este estudio con el tercer grado. Se les solicitará la autorización a los padres y encargados de los estudiantes para que le permitan a estos participar de la investigación.

Agradezco de antemano toda la ayuda que me pueda brindar.

Cordialmente,
Valerie Ann Rivera Román

Appendix E. Parent Consent Letter

Estimados padres, madres o encargados:

Mi nombre es Valerie Rivera maestra de inglés y soy estudiante de maestría de la Universidad del Sagrado Corazón. Como requisito para completar mis estudios debo realizar un proyecto de investigación. En el mismo investigaré como las herramientas tecnológicas ayudan a la comprensión de lectura en inglés. Se estará utilizando con los estudiantes una unidad temática sobre el sonido de las vocales en inglés utilizando la plataforma Leap Pad. El sistema de aprendizaje Leap Pad fomenta la lectura en inglés utilizando libros interactivos. Al finalizar la unidad se le administrará una lista de cotejo para verificar las palabras que los estudiantes puedan leer correctamente.

La investigación se realizará con estudiantes de tercer grado durante este semestre. Por tal motivo les solicito su autorización para su hijo(a) al igual que sus compañeros puedan participar. La participación es totalmente voluntaria y confidencial y no afectará negativamente al estudiante, al contrario contribuirá a su aprovechamiento académico.

Al final de esta carta puede indicar si autoriza o no a su hijo(a) a participar de este proyecto. Agradezco de antemano su ayuda y cooperación.

Sinceramente,

Valerie Rivera

Yo _____ (autorizo, no autorizo) a mi hijo(a) _____

a participar del proyecto de investigación descrito arriba.

_____ _____