

**DEVELOPMENT OF EARLY LITERACY SKILLS AND ORAL LANGUAGE
ABILITIES AMONG SPANISH-SPEAKING ENGLISH LANGUAGE
LEARNERS IN *OPENING DOORS TO LITERACY***

by

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A thesis submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Master of Science in Human Development and Family Studies

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ABSTRACT

This study examines the development of early literacy skills and oral language abilities over one academic year for 201 children from three Head Start centers participating in the Opening Doors to Literacy (ODL) project. Of this sample, 129 children were Spanish-speaking English Language Learners (ELL). During a four week period between September and October of 2009 and April and May of 2010, participants completed a battery of assessments measuring early literacy skills and oral language abilities. Paired samples t-test analyses show that Spanish-speaking ELLs had significantly higher post-test scores than pre-test scores on all measures. Additionally, one-way repeated measures ANOVA analyses revealed significant effects of home language and years of enrollment in ODL. These findings suggest that Spanish-speaking ELLs made significant gains from pre-test to post-test. Home language yielded a significant effect on the PPVT-IV and TOPEL. Furthermore, results demonstrated a significant effect for years of enrollment on some measures of early literacy and oral language abilities. Implications, limitations and directions for future research are discussed.

Chapter 1

INTRODUCTION

In recent years, the population of English Language Learners (ELLs) entering the U.S. educational system has experienced a substantial increase, having surpassed three million children (Hammer, Jia, & Uchikoshi, 2011). The population of English language learners is the fastest-growing subgroup of students in the United States (Fry, 2008). It has been projected that, by the year 2020, the number of school-age children of immigrants will increase to 17.9 million, and a significant amount of these children will have need of ELL services (Fry, 2008).

Lack of proficiency in English upon entry to school puts ELLs at higher risk for reading problems (Páez & Rinaldi, 2006). This risk is further compounded by economic disadvantage, instruction in the second language, and low levels of parental education (Anthony, Solari, Williams, Schoger, Zhang, Branum-Martin, & Francis, 2009; Páez & Rinaldi, 2006). Besides being at higher risk for reading problems, these factors also place ELLs at higher risk for “poor language skills, special education placement, academic failure in the U.S. school and dropping out of school” (Anthony et al., 2009, p. 536).

Early childhood is a crucial period of time for learning language and literacy. With the challenge presented by the increasing number of ELLs in early childhood settings, it is essential to improve knowledge of the factors that impact the development of language and literacy skills in this population (Hammer, Lawrence, & Miccio, 2007; Pérez, Tabors, & López, 2011; Snow & Tabors, 1993).

Over the course of recent years, there has been an increase of ELLs entering early childhood education settings. This trend is best demonstrated with the population that is served by the Head Start programs (Pérez, Tabors, & López, 2007). In light of these changes in demographics and the increasing presence of ELLs in early childhood education settings, Anthony and colleagues (2009) call for more research that provides a greater understanding of the development of Spanish-speaking ELLs:

Given that one of the major goals of schooling in the United States is for all students to reach proficiency in academic English, a deeper understanding of the development and optimal teaching of ELL populations is necessary. It can be argued that the U.S. education system is most in need of research that seeks to understand the development of Spanish-speaking ELL children because these children represent the most prevalent group of ELLs encountered by U.S. schools. (p. 536)

As the population of ELLs in U.S. schools continues to expand, especially in early childhood education settings, the gap in academic achievement between ELLs and their monolingual peers is incontrovertible.

Review of Literature

Demographics of English Language Learners

The term English Language Learners refers to children whose first language is not English (Páez, Tabors, & López, 2007) and who live in a home where a non-English language is spoken (Frede & García, 2010). Among researchers and educators alike, ELLs are also referred to by an assortment of other terms. The term second language learners, often used in lieu of the term ELL, is characterized as children of five years of age or less that begin to learn a second language after having established a first language (Genesee, 2010). Another term used to reference ELLs is Limited English proficient (LEP) students. As defined in Title IX of the Elementary and Secondary Education Act (ESEA), the term LEP references students between the ages of three and twenty-one who experience difficulties in “speaking, reading, writing, or understanding the English language”. Furthermore, ELLs are also widely referred to in the literature as dual language learners (DLL) (i.e., children learning two or more languages, before the age of five, simultaneously or successively) (Genesee, 2010).

According to the National Center for Education Statistics, between 1980 and 2009, the population of school-age children (ages 5-17) whose home language was not English increased by 6.5 million, an eleven percent increase (Snyder & Dillow, 2011). According to an analysis of the Integrated Public Micro Data Series (IPUMS) from the 2000 Census, Hernandez (2010) found that 21% of children, ages three to four, live in

an immigrant family with no less than one foreign-born parent. In addition, Hernandez (2010) reports that five percent of children ages three to four live in immigrant families where neither parent speaks English. These small percentages may come as a surprise to some, but Hernandez (2010) reasons that these statistics are not shocking; “These small proportions are not surprising, insofar as most immigrants come to the United States with the hope of improving their economic situation and as English language skills are necessary to work at most jobs in the United States” (p. 11). These figures and the impact that parents’ language skills have upon their own children’s language development are important to bear in mind when considering the language and literacy development of young ELLs (Hernandez, 2010).

Among children whose home language is not English and who speak English with difficulty, the largest percentage (7%) are children between the ages of five and nine (Snyder & Dillow, 2011). Data collected by the Office of English Language Acquisition for the annual Survey of State Educational Agencies in the United States indicated that enrollment of ELLs was predominant in prekindergarten through third-grade classrooms (44%). The percentage of ELLs enrolled in middle grades and high school was a smaller amount; 35% and 19%, respectively (August & Shanahan, 2006; Kindler, 2002). Within schools in the United States, the population of ELLs is most highly concentrated in early childhood education settings (Frede & Garcia, 2010), and the number continues to increase. For instance, in 2001, a quarter of Head

Start participants were ELLs and in 2009 the proportion increased to 30% (Fortuny, Hernandez, & Chaudry, 2010). However, despite being one of the fastest growing groups of students and having high enrollment rates in early childhood education settings, ELLs are considered to be one of the lowest-achieving student groups (Fry, 2008). With these statistics, the necessity of understanding the development of skills that will enable these children to succeed in educational settings is evident.

Academic Achievement of English Language Learners

The nation's population of non-English-speaking students is characterized as "diverse, multicultural, multilingual, and academically challenged" (McCardle, Mele-McCarthy, Cutting, Leos, & D'Emilio, 2005, p. 1). Despite their contributions to the classroom, which include "diverse languages" and "cultural heritage", English Language Learners (ELLs) are the student population with the highest drop-out rate and lowest achievement scores (McCardle et al., 2005; U.S. Department of Education, 2004). It has been consistently demonstrated that children from homes in which English is not the primary language are at risk for poor reading outcomes (Hammer, Lawrence, & Miccio, 2007). Researchers have recognized that teaching children to read in a language in which they have not attained verbal proficiency may represent further risk for reading difficulties (Páez, Tabors, & López, 2007; Snow, Burns, & Griffin, 1998).

In an analysis of the National Longitudinal School-Level State Assessment Score Database, Fry (2008) isolated the assessment data of public schools within five states: Arizona, California, Florida, New York and Texas. This was done because, during the academic year of 2003-2004, these five states educated approximately 70% of that nation's ELL student population (Fry, 2008). The results demonstrated that, across these five states and all grade levels, ELL students were less likely than their native English-speaking peers "to score at or above the state's proficient level" on measures of math and reading proficiency (Fry, 2008, p. iii). Kindler (2002) reported that a mere 18.7% of ELLs scored above the norm on assessments of English reading comprehension.

A number of research studies about Spanish-speaking ELLs have demonstrated that, at the beginning of preschool, these students score one to two standard deviations from monolingual norms in both English and Spanish on measures of receptive and expressive vocabulary, as well as auditory comprehension (Hammer, Jia, & Uchikoshi, 2011; Hammer, Lawrence, & Miccio, 2008; Pérez, Tabors, & Lopez, 2007). Despite making gains over the course of their time in preschool, results from the Head Start Families and Children Experiences Survey (FACES) revealed that the language and literacy abilities of ELLs at the beginning of kindergarten were below the age expectations for monolingual children (Hammer, Lawrence, & Miccio, 2007).

Development of Language and Literacy Skills in ELLs

Lesaux, Koda, Siegel, & Shanahan (2006) provide the following description of literacy development:

Literacy development is a process that begins early in childhood, long before children attend school, and involves many different skills and experiences. Before formal reading instructions, the process of becoming literate includes, but is not limited to, the development of oral language skills (e.g., vocabulary, phonological awareness), experiences with print, an understanding of the concepts of print, and the acquisition of knowledge. Many of these skills begin developing before reading acquisition and continue to develop once children learn how to read; thus, they have been shown to be related to reading both longitudinally and concurrently (p. 77).

In order to understand the literacy development in the ELL population, it is imperative to have an understanding of the development of literacy and oral language skills that are precursors to reading acquisition. Among the skills of emergent literacy skills with “demonstrated predictive utility” for all children, the National Early Literacy Panel (2007) cited alphabet knowledge, print awareness, oral language, and phonological awareness (Shanahan & Lonigan, 2010). This report also identified concepts about print and print knowledge to be among the skills that demonstrated predictive relationships with later measures of literacy. As mentioned previously, the major skills involved in the development of oral language and literacy include phonological awareness, print awareness, and vocabulary (Lesaux et al., 2006).

Phonological Awareness. Lesaux & Geva (2006) describe phonological awareness as the “ability to consciously attend to the sounds of language as distinct

from its meaning” (p.55). Phonological awareness has been demonstrated to be a critical element in the acquisition of reading skills for monolinguals and second language learners alike (Lesaux & Geva, 2008). However, researchers caution that, because two language systems are involved, understanding phonological awareness in ELLs is not a simple undertaking (Bialystok, Luk, & Kwan, 2005; Anthony et al., 2009). Much of the research available on ELLs and phonological awareness has been conducted with early elementary students, and there is a paucity of these studies conducted with preschool ELLs. For instance, Durgunoglu (1998) found that phonological awareness in English, as well as English spelling and Spanish word recognition, were significantly correlated with phonological awareness in Spanish among first graders in a transitional bilingual education program. Research tends to support a theory that phonological awareness skills transfer across languages (Anthony et al., 2009; Durgunoglu, 1998).

Vocabulary. Research has demonstrated that school progress is strongly predicted by early vocabulary knowledge (Uchikoshi, 2006). Typically, because of the limited exposure to English within their first years of life, young bilingual children, by the time they enter first grade, are already behind their English-speaking peers in terms of English vocabulary (Uchikoshi, 2006; Snow, Burns, & Griffin, 1998). Latino dual language learners score one to two standard deviations below monolingual norms in both Spanish and English receptive and expressive vocabulary as well as auditory

comprehension. Gains are made during preschool, yet the gap in achievement remains at the end of the year (Hammer, Lawrence, & Miccio, 2008; Pérez, Tabors, & López, 2003; Pérez, Tabors, & López, 2007).

In their study of first grade bilingual children's receptive vocabularies, Umbel, Pearson, Fernández, & Oller (1992) found that children from homes in which Spanish and English is spoken scored more than one standard deviation higher than the group of children from homes in which only Spanish is spoken. The results demonstrated that being exposed to two languages in the home provided these children with the "groundwork for superior performance in the majority language" (Umbel et al., 1992, p. 1012). This article highlights the contribution of home experiences to vocabulary development, a contribution further substantiated by other researchers (Uchikoshi, 2006).

Uchikoshi (2006) found the best predictors of English vocabulary development in bilingual kindergarteners to be preschool experience, exposure to books at home, years of residence in the United States, gender, and vocabulary in the first language. The study examined the vocabulary growth rate of 150 Latino ELLs enrolled in kindergarten. Children who had attended preschool or Head Start demonstrated higher scores on measures of expressive vocabulary, as evidenced by a 5.19 point advantage, compared to their peers who did not attend preschool or Head Start (Uchikoshi, 2006).

Hubbs-Tait et al., (2002) also found that Head Start attendance was positively related to receptive English vocabulary.

Print Awareness. Research conducted with monolingual children has demonstrated print awareness to be an important skill for reading acquisition. Shanahan & Lonigan (2010) describe variables that have demonstrated moderate correlations with later measures of literacy, two of which focus on print: concepts about print and print knowledge. The researchers define concepts about print as “knowledge of print conventions (e.g., left-right, front-back) and concepts (e.g., book cover, author, text)”. Most children know a great deal about written language by the time they learn to read and, in preschool, most children grow familiar with the alphabet, are able to identify a few letters, and learn how to write their own name (Bialystok, 1997). With exposure to storybooks during their early literacy experiences, preschoolers become aware of and familiar with important components of the reading process (Bialystok, 1997). Bialystok purports, however, “...children with all of these skills are not necessarily able to read new words or unfamiliar text” (p. 429). There is a scarcity of research conducted with ELLs and concepts of print. Bialystok (1997) studied children’s understanding of print awareness in monolingual English and bilingual (French-English and Chinese-English) students. The findings demonstrated that bilingual and monolingual students, of ages four and five, differed

in their understanding of the general symbolic representation of print, with bilingual children having a greater understanding (Bialystok, 1997).

Early Interventions

A discussion of early interventions is pertinent to the present study because Opening Doors to Literacy is an Early Reading First Program implemented at three Head Start Centers in Delaware. Both Early Reading First and Head Start programs aim at improving literacy and school readiness among preschool children from low-income families. However, despite similarities, both programs also have distinct agendas and a brief discussion of the two is necessary in order to understand the context of the current study.

Head Start. The Head Start program, the nation's largest federal early childhood program, was created as part of President Lyndon Johnson's *War on Poverty* in 1965 (Kalifeh et al., 2011; Puma et al., 2010). The goals and assumptions of Head Start have evolved from overcoming poverty by improving self-sufficiency and intelligence to improving literacy and school readiness (Kalifeh et al., 2011). At its inception, the program offered 6-8 week summer sessions to approximately 500,000 low-income preschool children. Since then, it has developed into nine-month and, at times, year-long programs for children between the ages of three and five and it has served more than 23 million children (Puma et al., 2010; Kalifeh et al., 2011). Head Start serves at-risk children and families and provides them with a

comprehensive early childhood development program (National Head Start Association, 2011). In order to be eligible for enrollment in the Head Start program, children must be between the three to five years of age and the family must meet certain income limits. Eligible families include those that are receiving Supplemental Security Income (SSI) or Transitional Aid for Families with Dependent Children (TAFDC), as well as those families whose gross income does not exceed 100% of the Federal Poverty Guidelines (Puma et al., 2010).

Research about Head Start programs has demonstrated the vast amount of benefits that are afforded to children and families enrolled in these programs. The benefits range from economic benefits to educational and health benefits. For instance, data from the National Family and Children Experiences survey reveal that, by the spring of their year in kindergarten, children who had graduated from the Head Start program had reached national norms on reading assessment scores and were close to national norms on general knowledge assessment scores (Zill & Sorongon, 2004). Furthermore, the results of a Head Start Impact Study demonstrated statistically significant positive impacts on the pre-reading, pre-writing, and vocabulary skills of children enrolled in Head Start (Puma et al., 2010).

The increased presence of ELLs in Head Start is a result of increased immigration from Latin American countries, Asian countries, Middle Eastern countries, as well as the Caribbean (Puma et al., 2010). In 2001-2002, 25% (264,000)

of the children enrolled in Head Start spoke a language other than English in their homes (Páez, Tabors, & López, 2007). Of these children, 83% spoke Spanish in their homes (Páez, Tabors, & López, 2007). During the 2009-2010 program year, 36% of the children in Head Start were of Hispanic or Latin origin (National Head Start Association, 2011). From 1998 to 2002, a span of four years, the percentage of children whose home language was Spanish increased from 19% to 22% (Páez, Tabors, & López, 2007).

Early Reading First. Introduced in 2002, under the *No Child Left Behind Act of 2001*, the Early Reading First program was instituted to ensure that children begin kindergarten with the necessary skills for continued success in school. The goals of the Early Reading First program are several. The first goal is to provide support to local efforts that aim at enhancing early language, literacy, and pre-reading development particularly in low-income children of the preschool-age. ERF programs also aim at providing children with a high-quality and literature-rich environment in order for them to attain the necessary skills and knowledge for reading development and future success in school. Another goal of ERF programs is to support to development of oral language, phonological awareness, print awareness, and alphabetic knowledge through activities that are founded in scientifically based reading research. Finally, it is a goal of the program to identify children that may be at risk of reading failure by way of screening assessments (U.S Department of Education, 2009). By 2008, the U.S.

Department of Education had provided more than \$680 million to universities, school districts, and community agencies to implement an Early Reading First project.

The Present Study

Opening Doors to Literacy

Launched in 2007 by the Delaware Center for Teacher Education (DCTE) and Human Development and Family Studies (HDFS) at the University of Delaware and the New Castle County Head Start (NCCHS), the Opening Doors to Literacy (ODL) project was implemented at three of the NCCH's centers, two of which were located in Delaware Reading First school districts (Vukelich, Buell, & Han, 2007).

The goals of ODL are three-fold. One of the aims of the project is to increase the expressive and receptive vocabulary, oral language comprehension, Upper-Case Alphabet Recognition, and print awareness of the children involved. The second goal of the project is for teachers to ultimately design and enrich the classroom's physical environment to facilitate the children's development of language and literacy skills. The third aim of the project is the integration of research- and standards-based curriculum by the teachers into their existing preschool programs. The hope is for teachers to integrate new explicit teaching strategies, material, and activities into their teaching (Vukelich et al., 2007).

Head Start

The curriculum established in the three NCC Head Start centers that participated in the ODL project is *The Creative Curriculum*® (Dodge, Colker, & Heroman, 2002). This curriculum helps the teachers and administrators with the planning and implementation of programs that are developmentally appropriate for children in Head Start. These programs promote development in the social-emotional domain and learning in the following “core areas”: literacy, mathematics, science and social studies (Dodge, Colker, & Heroman, 2002). The curriculum provides descriptions on how to create a classroom environment that revolves around several interest areas. Within this curriculum, it is expected that children's development in the social/emotional, physical, cognitive, and language areas of learning are promoted by the experiences children have in the classroom, the interactions between peers, and the scaffolding provided by adults (Dodge, Colker, & Heroman, 2002).

Throughout the duration of the *Opening Doors to Literacy* project, *The Creative Curriculum*® was integrated with *Doors to Discovery* (D2D) (Wright Group/McGraw-Hill, 2002).

The Classroom’s Literacy Program. *Doors to Discovery* (D2D) (Wright Group/McGraw-Hill, 2002) was selected for its effectiveness in promoting language and literacy development among English- and Spanish-speaking low-income children (Vukelich, Han, & Buell, 2009). D2D was also selected for its alignment to both the

goals of the project and scientifically based reading research (Vukelich et al., 2009).

The program is comprised of eight thematic units on a variety of topics: Backyard Detectives; Build it Big!; Discovery Street; Healthy Me!; New Places, New Faces; Our Water Wonderland; Tabby Tiger's Diner; and Vroom! Vroom! Each thematic unit lasts one month and, within that time, each classroom's dramatic play center is transformed to supplement what is learned within the theme. *Sound, Letter, Rhyme Time*, a D2D supplemental kit, is also used to teach letter names, sounds, and rhyming (Vukelich et al., 2009).

The Children. One hundred percent of the children from the participating sites were from low-income families. During the third year of the project, 2009-2010, sixty-five percent of the children were from families whose home language was not English; with the exception of one, the home language of all was Spanish. Within the classroom children were formally instructed in English, however, all classrooms had at least one Spanish-speaking adult who translated for children when necessary.

Purpose

The purpose of this study is to examine the development of early literacy skills and oral language abilities as measured by the *Peabody Picture Vocabulary Test-IV* (PPVT-IV; Dunn & Dunn, 2007), the *Test of Preschool Early Literacy* (TOPEL; Lonigan, Wagner, Torgesen, & Rashotte, 2007), and the *Phonological Awareness*

Literacy Screening-PreK (PALS Pre-K; Invernizzi, Meier, Swank, & Juel, 2001) in Spanish-speaking ELLs enrolled in the three Head Start centers where the Opening Doors to Literacy project was being implemented. Because the purpose of assessment was to monitor the language and literacy growth in the English language of all students, including ELLs, assessments were conducted in English. Spanish-speaking ELLs are the population of focus in this study because, in comparison to their English-speaking peers, they are at higher risk for later reading difficulties. The purpose of this study is to provide further insight into the development of Spanish-speaking ELLs' early literacy skills and oral language abilities.

Research Questions

1. Over the course of one academic year (2009-2010) of Opening Doors to Literacy, did Spanish-Speaking ELLs make significant gains between pre-test and post-test on measures of early literacy skills and oral language abilities?

H_1 : Spanish-Speaking ELLs made significant gains on measures of early literacy skills and oral language abilities.

H_0 : Spanish-Speaking ELLs did not make significant gains on measures of early literacy skills and oral language abilities.

2. In year three (2009-2010) of ODL, how does the progress made by Spanish-speaking ELLs compare to the progress made by native English speakers on measures of early literacy skills and oral language abilities?

H_1 : There is a significant difference in growth between Spanish-speaking ELLs and native English speakers on measures of early literacy and oral language abilities.

H_0 : There is no significant difference in growth between Spanish-speaking ELLs and native English speakers on measures of early literacy and oral language abilities.

3. Of the Spanish-Speaking ELLs in year three (2009-2010) of ODL, is there a significant difference in performance on measures of early literacy skills and oral language abilities at the end of the pre-kindergarten academic year between children who had attended ODL for one year in and children who had attended two or more years?

H_1 : There is a significant difference in performance on measures of early literacy and oral language abilities among Spanish-Speaking ELLs at the end of the pre-kindergarten academic year between children who had attended ODL for one year and children who had attended for two or more years.

H_0 : There is not a significant difference in performance on measures of early literacy and oral language abilities among Spanish-Speaking ELLs at the end of the

pre-kindergarten academic year between children who had attended ODL for one year and children who had attended for two or more years.

Chapter 2

METHODS

Participants

The sample was comprised of a total of 201 children from three NCCHS centers participating in the Opening Doors to Literacy project during the 2009-2010 academic year. Approximately sixty-four percent of the children were from families whose home language was not English; with the exception of one, the home language of all was Spanish ($n = 129$). This sample consisted of 50.7% boys ($n = 102$) and 49.3% girls ($n = 99$).

Procedure

Children were assessed twice over the course of the academic year. Pre-testing occurred during a 4-week period between September and October of 2009 and post-testing took place during a 4-week period between April and May of 2010. These assessments were conducted by trained assessment specialists. The trained assessment specialists were University of Delaware graduate students. The assessment training sessions were conducted by the project evaluator. Children were tested individually in quiet spaces during regular Head Start hours.

The principal investigator of this study was a trained assessment specialist and a literacy tutor for the Opening Doors to Literacy project during the 2009-2010 academic year.

Assessments

The Peabody Picture Vocabulary Test, Fourth Edition (PPVT-IV scale), is a norm-referenced instrument that measures the receptive vocabulary of children and adults (Dunn & Dunn, 2007). The PPVT-IV is used in Early Reading First projects with the intention of collecting information on children's vocabulary development (Vukelich, Han, Buell, & Moore, 2009). The assessment is available in two forms, Form A and Form B, and each of these contains 228 test items. Each test item consists of four pictures. During the administration of this scale, the examiner provides the examinee with a stimulus word and is then asked to indicate which picture best illustrates the meaning of that word (Dunn & Dunn, 2007). The test items are grouped into 19 sets and the sets are arranged by order of difficulty (Dunn & Dunn, 2007). Because the PPVT-IV was normed on English proficient individuals, the authors suggest that it may not be "best practice" to report normative scores for individuals who are not proficient in English. Rather, the PPVT-IV can be used to assess an individual's knowledge of standard American English words and can ultimately be useful in the planning of interventions for those who desire proficiency in English (Dunn & Dunn, 2007).

The Test of Preschool Early Literacy (TOPEL) was created to measure early literacy abilities in children of ages three to five (Lonigan, Wagner, Torgesen, & Rashotte, 2007). The TOPEL consists of three subtests: (1) Print Knowledge; (2) Definitional vocabulary; and (3) Phonological Awareness. The participating children were assessed on only two of the TOPEL subtests: Definitional Vocabulary and Phonological Awareness. The Definitional Vocabulary subtest is comprised of 35 items aimed at measuring single-word oral vocabulary and definitional vocabulary. The examiner shows the child a picture and the child is then asked two questions. First, the child is asked to tell what the picture is. The second question prompts the child to describe an important attribute/feature of the picture. The Phonological Awareness subtest is comprised of 27 items that measure a child's phoneme deletion and blending abilities.

The Phonological Awareness Literacy Screening for Preschool (PALS-PreK) measures children's knowledge of name writing, alphabet recognition and letter sounds, beginning sound awareness, print and word awareness, rhyme awareness, and knowledge of nursery rhymes (Invernizzi, Meier, Swank, & Juel, 2001). The participating children were assessed on three of the tasks presented in PALS-PreK: Upper-Case Alphabet Knowledge, Letter Sounds, and Print & Word awareness.

Data Analysis

To study the gains made by Spanish-Speaking ELL's between pre-test and post-test scores on measures of early literacy skills and oral language abilities paired-samples t-tests were used. This test is most commonly used in the situation of an experiment with two "conditions" and the sample experiences both of these (Field, 2009). In this study, all of the participating children experienced the intervention and were assessed with the same three measures at the same times. Therefore, the totality of the sample of this study had participated in the two experimental conditions and in order to measure their gains over time a paired samples t-test was deemed suitable.

In order to assess the differences in growth between Spanish-speaking ELLs and native English speakers on measures of early literacy and oral language abilities, a one-way repeated measures ANOVA was utilized. The one-way repeated measures ANOVA combines the between-subjects research design and the within-subjects research design, thus resulting in a repeated measures ANOVA with, at least, one within-subjects variable and one between-subjects variable. In this study participants were assessed twice, using the same protocol, over the course of one academic year. The pre-test and post-test scores for each assessment comprised the within subjects variable for this study. The within-subjects variable has been labeled "Time". The between-subjects variable in this study is home language.

Finally, to assess differences in performance on measures of early literacy skills and oral language abilities between Spanish-speaking ELLs who had attended ODL for one year and those who had already been in ODL for at least one year and were currently enrolled in their second or third year, a second one-way repeated measures ANOVA was employed. For this analysis, the sample of Spanish-Speaking ELLs was isolated from the remainder of the sample. Therefore, the within subjects variable remained the same and the between-subject variable became length of enrollment in ODL.

Chapter 3

FINDINGS

Research Question One

Over the course of one academic year (2009-2010) of Opening Doors to Literacy, did Spanish-Speaking ELLs make significant gains between pre-test and post-test on measures of early literacy skills and oral language abilities?

In order to determine whether there was a significant difference between Spanish-speaking ELLs pre-test and post test scores on measures of early literacy skills and oral language abilities in year three (2009-2010) of ODL paired samples t-tests were employed.

PPVT-IV

Table 3.1 illustrates that the post-test scores of Spanish-speaking ELLs on the PPVT-IV were significantly higher than their pre-test scores. On average, English Language Learners had significantly higher PPTV-IV standard scores on the post-test ($M = 81.10$, $SE = 1.31$) than on the pre-test ($M = 68.34$, $SE = 1.65$), $t(122) = -11.25$, $p < .05$, $r = .71$.

Table 3.1

Comparison of Pre-Test and Post-Test Scores of Spanish-Speaking ELLs on the PPVT-IV (n = 123)

Variable	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>r</i>
PPVT-IV			-11.25**	122	.000	.71
Pre-test	68.34	18.26				
Post-test	81.10	14.50				

* $p < .05$ ** $p < .01$.

TOPEL

English Language Learners had significantly higher standard scores on the TOPEL Definitional Vocabulary sub-test on the post-test ($M = 80.02$, $SE = 1.74$) than on the pre-test ($M = 67.05$, $SE = 1.56$), $t(121) = -10.13$, $p < .05$, $r = .68$. Additionally, the results revealed that ELLs had significantly higher standard scores on the TOPEL Phonological Awareness sub-test on the post-test ($M = 89.40$, $SE = 1.42$) than on the pre-test ($M = 83.84$, $SE = 1.16$), $t(121) = -3.78$, $p < .05$, $r = .33$. Table 3.2 presents a summary of the paired samples t-test for both the TOPEL Definitional Vocabulary sub-test and the Phonological Awareness sub-test standard scores.

Table 3.2

Comparison of Pre-Test and Post-Test Scores of Spanish Speaking ELLs on Two Subtests of the TOPEL (n = 121)

Variable	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>r</i>
Definitional Vocabulary			-10.13**	120	.000	.68
Pre-test	67.05	17.23				
Post-test	80.02	19.11				
Phonological Awareness			-3.78**	120	.000	.33
Pre-test	83.84	12.76				
Post-test	89.40	15.67				

* $p < .05$ ** $p < .01$.

PALS Pre-K

On average, English Language Learners had significantly higher scores on the PALS Upper-Case Alphabet Recognition sub-test on the post-test ($M = 15.81$, $SE = .782$) than on the pre-test ($M = 5.92$, $SE = 7.47$), $t(121) = -15.29$, $p < .05$, $r = .81$. On the PALS Letter sounds sub-test, English Language Learners had significantly higher scores on the post-test ($M = 4.70$, $SE = .498$) than on the pre-test ($M = .46$, $SE = .146$), $t(121) = -9.08$, $p < .05$, $r = .64$. Furthermore, English Language Learners had significantly higher scores on the PALS Print and Word Awareness sub-test on the post-test ($M = 6.73$, $SE = .191$) than on the pre-test ($M = 3.84$, $SE = .202$), $t(121) = -$

12.81, $p < .05$, $r = .76$. Table 3.3 presents a summary of the paired samples t-test for all three PALS Pre-K subtest scores of ELLs in year three of ODL.

Table 3.3

Comparison of Pre-Test and Post-Test Scores of Spanish Speaking ELLs on Three Subtests of the PALS Pre-K (n = 121)

Variable	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>r</i>
Upper-Case Alphabet Recognition			-15.29**	120	.000	.81
Pre-test	5.92	8.21				
Post-test	15.81	8.60				
Letter Sounds			-9.08**	120	.000	.64
Pre-test	.46	1.61				
Post-test	4.70	5.48				
Print and Word Awareness			-12.81**	120	.000	.76
Pre-test	3.84	2.22				
Post-test	6.73	2.09				

* $p < .05$ ** $p < .01$.

Research Question Two

In year three (2009-2010) of ODL, how did the progress made by Spanish-speaking ELLs compare to the progress made by native English speakers on measures of early literacy skills and oral language abilities?

In order to assess the influence of time and home language on Spanish-speaking ELLs and English speaker's scores on measures of early literacy skills and oral language abilities a repeated measures ANOVA was utilized. The sample was divided by their reported home language, resulting in two groups: English and Spanish. The within-subjects variable, Time, was comprised of two levels. These two levels were pre-test and post test scores for each of the assessments.

PPVT-IV

Table 3.4a presents means and standard deviations for the two groups, English and Spanish, on the PPVT-IV and it does so separately by time period.

Results revealed the main effect for time was significant ($F = 84.655$, $df [1, 183]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .316). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 42.67$, $df [1, 183]$, $p = .000$). The main effect for home language was also found to be statistically significant ($F = 58.33$, $df [1, 183]$, $p = .000$). The obtained effect for home language represented a large effect size (i.e., partial eta squared = .242), as well. Furthermore, the home language-by-time

interaction was significant ($F = 18.718$, $df [1, 183]$, $p = .000$) and demonstrated a medium effect size (i.e., partial eta squared = .093). Post hoc comparisons for the home language-by-time interaction effect revealed that the trend was best described by a linear function.

Table 3.4a

Means and Standard Deviations Comparing Pre-Test and Post-Test PPVT-IV Standard Scores of English-Speaking students and Spanish-Speaking ELLs

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	English	62	89.31	12.70
	Spanish	123	68.34	18.26
Post-test	English	62	93.90	13.42
	Spanish	123	81.10	14.50

Note: *M* = mean, *SD* = standard deviation.

Table 3.4b summarizes the results of the Repeated Measures ANOVA that compared the progress made by Spanish-speaking ELLs to the progress made by native English speakers. Figure 3.1 provides a visual representation of the results.

Table 3.4b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Home Language (English or Spanish) on PPVT-IV Standard Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η
Time	1	6206.37	6206.37	84.66**	.000	.316
Home Language	1	11752.87	11752.87	58.33**	.000	.242
Time x Home Language	1	1372.15	1372.15	18.718**	.000	.093
Error	183	13414.80	73.30			

* $p < .05$ ** $p < .01$.

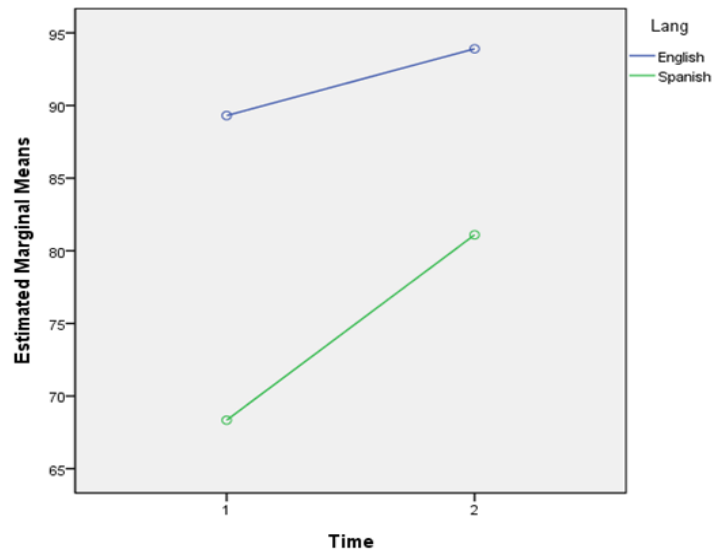


Figure 3.1 Plot of Marginal Means (PPVT-IV Standard Scores) by Home Language across Time

TOPEL

Table 3.5a presents means and standard deviations for the two groups, English and Spanish, on the TOPEL Definitional Vocabulary sub-test and it does so separately by time period. Table 3.5b summarizes the results of the repeated measures ANOVA. Figure 3.2 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 99.821$, $df [1, 179]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .358). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 99.821$, $df [1, 179]$, $p = .000$). The main effect for home language was also found to be statistically significant ($F = 66.526$, $df [1, 179]$, $p = .000$). The obtained effect for home language represented a large effect size (i.e., partial eta squared = .271), as well. Furthermore, the home language-by-time interaction was significant ($F = 6.145$, $df [1, 179]$, $p = .014$) and demonstrated a small effect size (i.e., partial eta squared = .033). Post hoc comparisons for the home language-by-time interaction effect revealed that the trend was best described by a linear function. A significant time-by-home language reveals that the change in test scores over time is significantly different between Spanish-speaking ELLs and native English speakers.

Table 3.5a

Means and Standard Deviations Comparing Pre-Test and Post-Test TOPEL Definitional Vocabulary Standard Scores of English-Speaking students and Spanish-Speaking ELLs

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	English	60	89.58	13.94
	Spanish	121	67.05	17.23
Post-test	English	60	97.40	13.39
	Spanish	121	80.02	19.11

Note: M = mean, SD = standard deviation.

Table 3.5b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Home Language (English or Spanish) on TOPEL Definitional Vocabulary Standard Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	8669.92	8669.92	99.82**	.000	.358
Home Language	1	15971.24	15971.24	66.53**	.000	.271
Time x Home Language	1	533.68	533.68	6.14*	.014	.033
Error	179	15546.95	86.85			

* $p < .05$ ** $p < .01$.

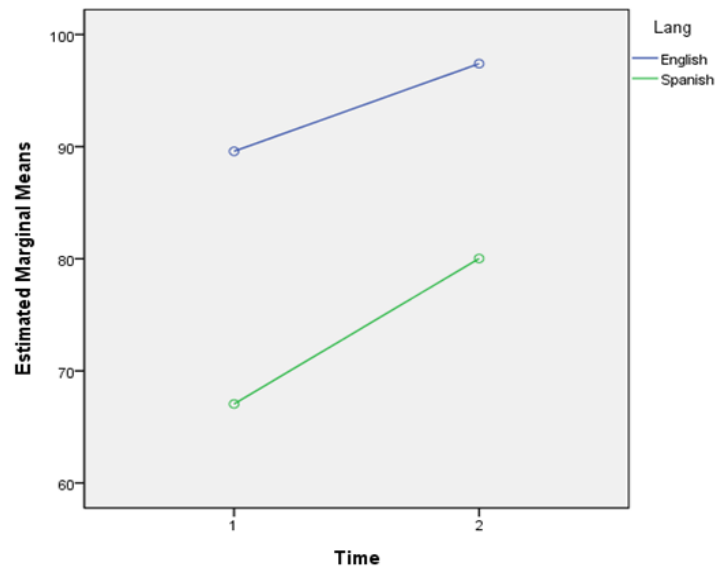


Figure 3.2 Plot of Marginal Means (TOPEL Definitional Vocabulary Standard Scores) by Home Language across Time.

Table 3.6a presents means and standard deviations for the two groups, English and Spanish, on the TOPEL Phonological Awareness sub-test and it does so separately by time period.

Results revealed the main effect for time was significant ($F = 16.148$, $df [1, 179]$, $p = .000$). The obtained effect for time represented a medium effect size (i.e., partial eta squared = .083). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 16.148$, $df [1, 179]$, $p = .000$). The main effect for home language was also found to be statistically significant ($F = 23.611$, $df [1, 179]$, $p = .000$). The obtained effect for home language represented a

rather large effect size (i.e., partial eta squared = .117), as well. Furthermore, the home language-by-time interaction was not significant ($F = .127$, $df [1, 179]$, $p = .722$).

Table 3.6b summarizes the results of the repeated measures ANOVA that was used to assess the differences in performance between Spanish-speaking ELLs and native English speakers on the TOPEL Phonological Awareness sub-test. Figure 3.3 provides a visual representation of the results.

Table 3.6a

Means and Standard Deviations Comparing Pre-Test and Post-Test TOPEL Phonological Awareness Standard Scores of English-Speaking Students and Spanish-Speaking ELLs

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	English	60	93.05	14.12
	Spanish	121	83.84	12.76
Post-test	English	60	97.70	12.35
	Spanish	121	89.40	15.67

Note: M = mean, SD = standard deviation.

Table 3.6b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Home Language (English or Spanish) on TOPEL Phonological Awareness Standard Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η
Time	1	2088.07	2088.07	16.15**	.000	.083
Home Language	1	3074.59	3074.59	23.61**	.000	.117
Time x Home Language	1	16.38	16.38	.127	.722	.001
Error	179	23146.77	129.31			

* $p < .05$ ** $p < .01$.

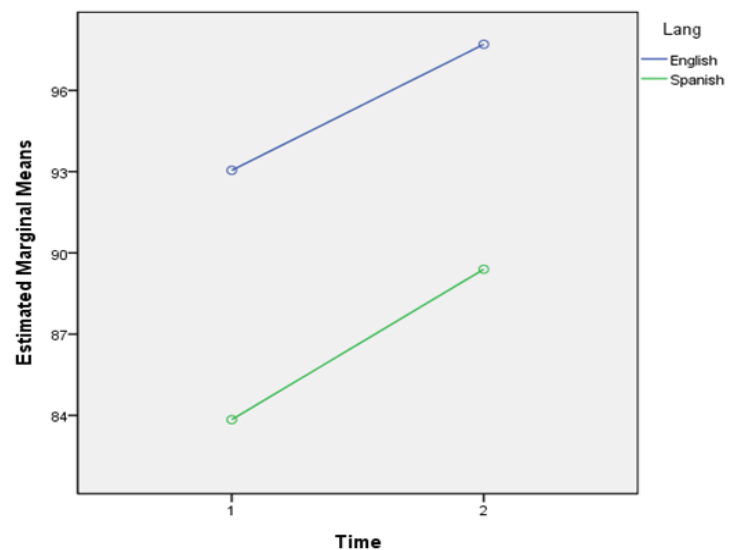


Figure 3.3 Plot of Marginal Means (TOPEL Phonological Awareness Standard Scores) by Home Language across Time

PALS Pre-K

Table 3.7a presents means and standard deviations for the two groups, English and Spanish, on the PALS Pre-K Upper-Case Alphabet Recognition sub-test and it does so separately by time period. Table 3.7b summarizes the results of the repeated measures ANOVA. Figure 3.4 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 330.848$, $df [1, 181]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .646). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 330.848$, $df [1, 181]$, $p = .000$). Alternatively, neither the main effect for home language nor the home language-by-time interaction were significant (respectively, $F = .260$, $df [1, 181]$, $p = .611$; $F = .264$, $df [1, 181]$, $p = .608$).

A significant main effect for time reveals that the dependent variable, pre-test and post-test scores, change across time independent of groups. In other words, these results reveal that regardless of home language, the scores of both Spanish-speaking ELLs and native English speakers are changing over time.

Table 3.7a

Means and Standard Deviations Comparing Pre-Test and Post-Test PALS Pre-K Upper-Case Alphabet Recognition Scores of English-Speaking Students and Spanish-Speaking ELLs

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	English	62	5.03	7.21
	Spanish	121	5.92	8.21
Post-test	English	62	15.50	8.94
	Spanish	121	15.81	8.60

Note: M = mean, SD = standard deviation.

Table 3.7b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Home Language (English or Spanish) on PALS Pre-K Upper-Case Alphabet Recognition Sub-Test Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	8496.98	8496.98	330.85**	.000	.646
Home Language	1	14.64	14.64	.260	.611	.001
Time x Home Language	1	6.78	6.78	.264	.608	.001
Error	181	4648.52	25.68			

* $p < .05$ ** $p < .01$.

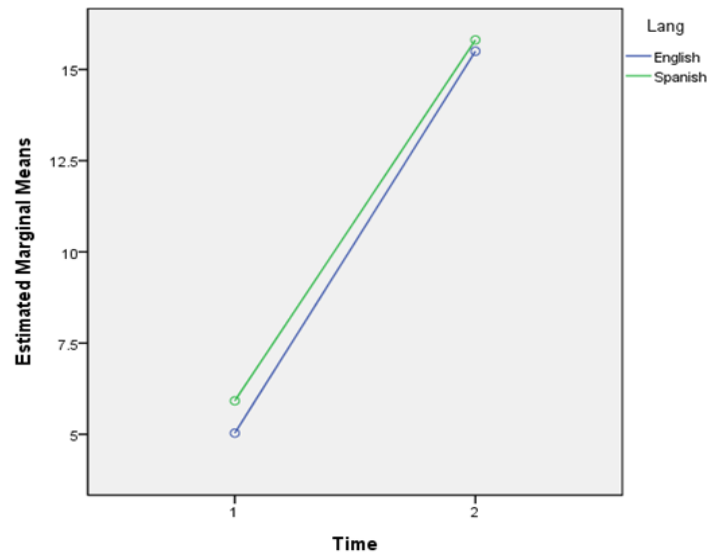


Figure 3.4 Plot of Marginal Means (PALS Pre-K Upper-Case Alphabet Recognition Scores) by Home Language across Time

Table 3.8a presents means and standard deviations for the two groups, English and Spanish, on the PALS Pre-K Letter Sounds sub-test and it does so separately by time period. Table 3.8b summarizes the results of the repeated measures ANOVA. Figure 3.5 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 114.687$, $df [1, 181]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .388). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 114.687$, $df [1, 181]$, $p = .000$). Alternatively, neither the main effect for home language nor the home language-by-time interaction were significant (respectively, $F = .027$, $df [1, 181]$, $p = .869$; $F = .027$, $df [1, 181]$, $p = .982$).

Table 3.8a

Means and Standard Deviations Comparing Pre-Test and Post-Test PALS Pre-K Letter Sound Scores of English-Speaking Students and Spanish-Speaking ELLs

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	English	62	.53	1.11
	Spanish	121	.46	1.62
Post-test	English	62	4.79	5.29
	Spanish	121	4.70	5.48

Note: M = mean, SD = standard deviation.

Table 3.8b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Home Language (English or Spanish) on PALS Pre-K Letter Sound Sub-Test Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	1480.14	1480.14	114.69**	.000	.388
Home Language	1	.254	.254	.027	.869	.000
Time x Home Language	1	.007	.007	.001	.982	.000
Error	181	2335.96	12.91			

* $p < .05$ ** $p < .01$.

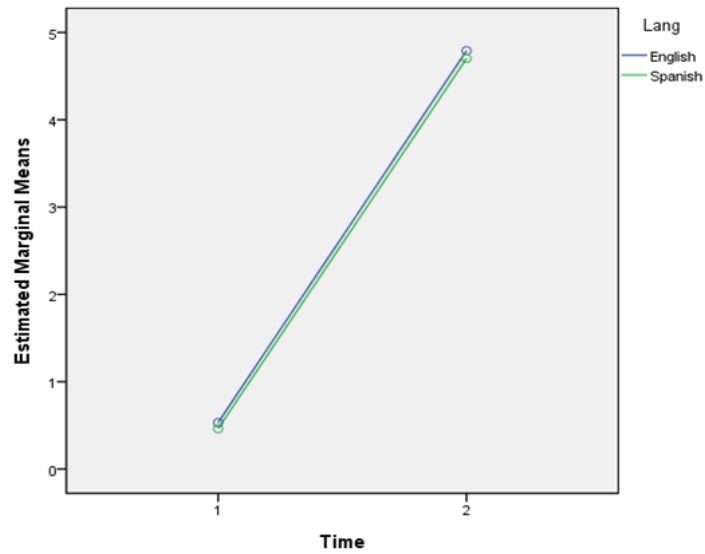


Figure 3.5 Plot of Marginal Means (PALS Pre-K Letter Sounds Scores) by Home Language across Time

Table 3.9a presents means and standard deviations for the two groups, English and Spanish, on the PALS Pre-K Print and Word Awareness sub-test and it does so separately by time period. Table 3.9b summarizes the results of the repeated measures ANOVA. Figure 3.6 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 232.045$, $df [1, 181]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .562). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 232.045$, $df [1, 181]$, $p = .000$).

Alternatively, neither the main effect for home language nor the home language-by-time interaction were significant (respectively, $F = .296$, $df [1, 181]$, $p = .587$; $F = .027$, $df [1, 181]$, $p = .869$).

Table 3.9a

Means and Standard Deviations Comparing Pre-Test and Post-Test PALS Pre-K Print and Word Awareness Scores of English-Speaking Students and Spanish-Speaking ELLs

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	English	62	4.03	2.51
	Spanish	121	3.84	2.22
Post-test	English	62	6.85	2.12
	Spanish	121	6.73	2.10

Note: M = mean, SD = standard deviation.

Table 3.9b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Home Language (English or Spanish) on PALS Pre-K Print and Word Awareness Sub-Test Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	667.56	667.56	232.05**	.000	.562
Home Language	1	1.03	1.03	.296	.587	.002
Time x Home Language	1	.078	.078	.027	.869	.000
Error	181	520.71	2.87			

* $p < .05$ ** $p < .01$.

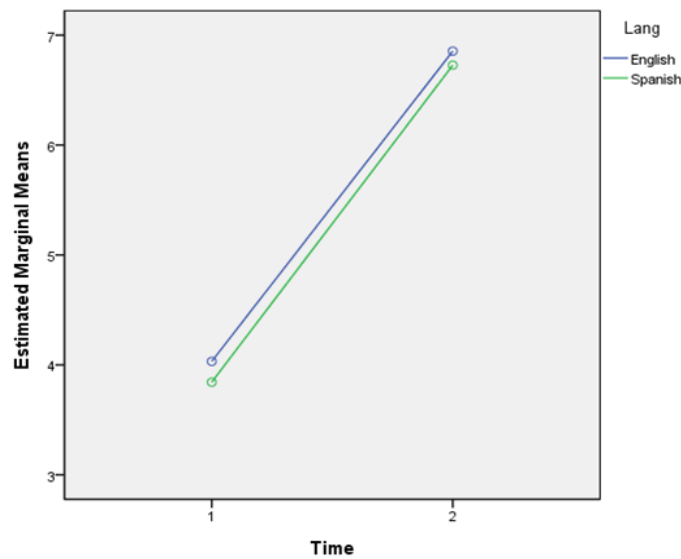


Figure 3.6 Plot of Marginal Means (PALS Pre-K Print and Word Awareness Scores) by Home Language across Time

Research Question Three

Of the Spanish-Speaking ELLs in year three (2009-2010) of ODL, is there a significant difference in performance on measures of early literacy skills and oral language abilities at the end of the academic year between children who had attended ODL for one year in and children who had attended two or more years?

In order to assess the influence of time and years of enrollment in ODL on Spanish-speaking ELLs' scores on measures of early literacy skills and oral language abilities a repeated measures ANOVA was utilized. The sample was divided by years of enrollment, resulting in two groups: one year and two or more years. The within-

subjects variable, Time, was comprised of two levels. These two levels were pre-test and post test scores for each of the assessments.

PPVT-IV

Table 3.10a presents means and standard deviations for two groups on the dependent variable and it does so separately by time period. Table 3.10b summarizes the results of the repeated measures ANOVA. Figure 3.7 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 110.672$, $df [1,121]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .478). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 110.672$, $df [1, 121]$, $p = .000$). The main effect for years of enrollment in ODL was also significant ($F = 8.260$, $df [1,121]$, $p = .005$) Alternatively, the main effect for the years of enrollment in ODL-by-time interaction were not significant ($F = .369$, $df [1, 121]$, $p = .545$). These results reveal that the score of Spanish-speaking ELLs and native English speakers change from pre-test to post-test over time, regardless of the child's home language. Furthermore, it is revealed that home language does indeed have a significant effect on scores. This means that, without taking time into consideration, the scores of Spanish-speaking ELLs are significantly different than those of native English speakers in this sample.

Table 3.10a

Means and Standard Deviations Comparing Pre-Test and Post-Test PPVT-IV Standard Scores of Spanish-Speaking ELLs by Years of Enrollment in ODL

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	One Year	80	65.28	19.60
	Two or More Years	43	74.05	13.94
Post-test	One Year	80	78.54	15.64
	Two or More Years	43	85.86	10.74

Note: M = mean, SD = standard deviation.

Table 3.10b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Years of Enrollment (One Year or Two or More Years) on PPVT-IV Standard Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	8793.37	8793.37	110.67**	.000	.478
Years of Enrollment	1	3622.24	3622.24	8.26**	.005	.064
Time x Years of Enrollment	1	29.34	29.34	.369	.545	.003
Error	121	9614.00	76.45			

* $p < .05$ ** $p < .01$.

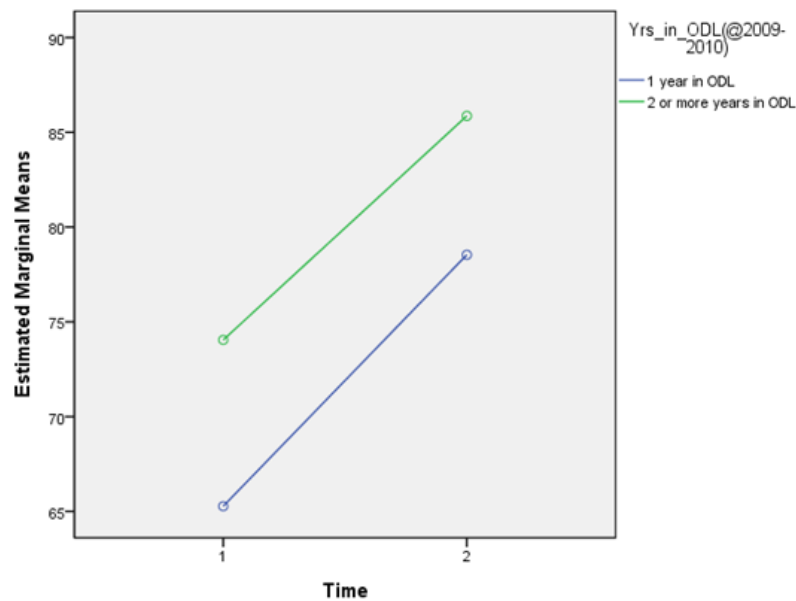


Figure 3.7 Plot of Marginal Means (PPVT-IV Standard Scores) by Years of Enrollment in ODL across Time

TOPEL

Table 3.11a presents means and standard deviations for two groups on the dependent variable and it does so separately by time period. Table 3.11b summarizes the results of the repeated measures ANOVA. Figure 3.8 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 90.897$, $df [1, 119]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .433). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 90.897$, $df [1, 119]$, $p = .000$). The main effect for years of enrollment in ODL was also found to be significant ($F = 17.212$, df

[1,119], $p = .000$) Alternatively, the main effect for the years of enrollment in ODL-by-time interaction was found to not be significant ($F = .208$, $df [1, 119]$, $p = .649$).

These results revealed that scores of the TOPEL Definitional Vocabulary change from pre-test to post-test no matter the amount of time enrolled a child has been enrolled in ODL. Furthermore, a significant effect for years of enrollment reveals that the change that there is a significant difference in scores between Spanish-speaking ELLs that had been enrolled in ODL for one year and Spanish-speaking ELLs who had attended for two or more years.

Table 3.11a

Means and Standard Deviations Comparing Pre-Test and Post-Test TOPEL Definitional Vocabulary Standard scores by Spanish-Speaking ELLs Years of Enrollment in ODL

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	One Year	78	62.42	14.21
	Two or More Years	43	75.44	18.85
Post-test	One Year	78	75.83	20.13
	Two or More Years	43	87.63	14.43

Note: *M* = mean, *SD* = standard deviation.

Table 3.11b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Years of Enrollment (One Year or Two or More Years) on TOPEL Definitional Vocabulary Standard Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η
Time	1	9080.34	9080.34	90.89**	.000	.433
Years of Enrollment	1	8533.33	8533.33	17.21**	.000	.126
Time x Years of Enrollment	1	20.77	20.77	.208	.643	.002
Error	119	11887.69	99.89			

* $p < .05$ ** $p < .01$.

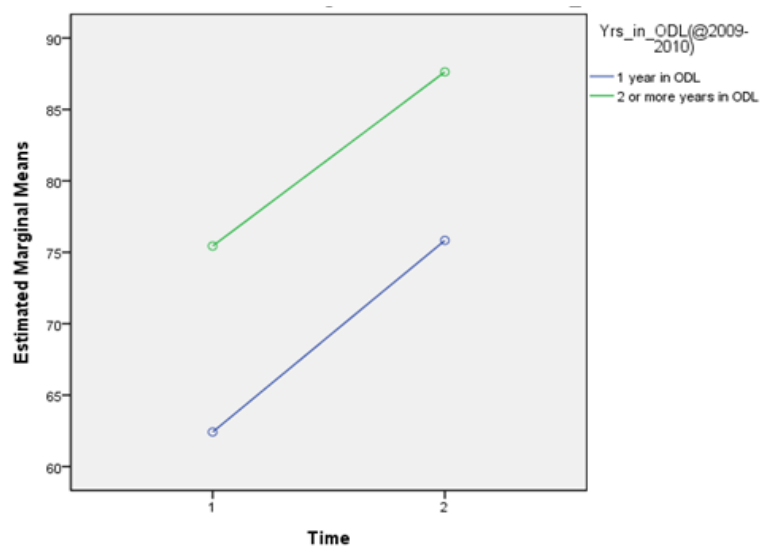


Figure 3.8 Plot of Marginal Means (TOPEL Definitional Vocabulary Standard Scores) by Years of Enrollment in ODL across Time

Table 3.12a presents means and standard deviations for two groups on the dependent variable and it does so separately by time period. Table 3.12b summarizes the results of the repeated measures ANOVA. Figure 3.9 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 20.146$, $df [1, 119]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .145). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 20.146$, $df [1, 119]$, $p = .000$). The main effect for years of enrollment in ODL was also found to be significant ($F = 10.770$, $df [1, 119]$, $p = .001$) Furthermore, the main effect for the years of enrollment in ODL-by-time interaction was significant as well ($F = .7.181$, $df [1, 119]$, $p = .008$).

These results revealed that, regardless of length of enrollment in ODL, the TOPEL Phonological Awareness scores of Spanish-speaking ELLs changed over the course of the academic year. Also, the significant main effect for years of enrollment demonstrates that, despite of the time that elapsed between pre-tests and post-tests, Spanish-speaking ELLs that had been enrolled in ODL for one year had significantly different scores than the Spanish-speaking ELLs that had been enrolled for two or more years.

Table 3.12a

Means and Standard Deviations Comparing Pre-Test and Post-Test TOPEL Phonological Awareness Standard scores by Spanish-Speaking ELLs Years of Enrollment in ODL

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	One Year	78	82.76	13.06
	Two or More Years	43	85.81	12.09
Post-test	One Year	78	85.46	15.16
	Two or More Years	43	96.53	14.11

Note: M = mean, SD = standard deviation.

Table 3.12b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Years of Enrollment (One Year or Two or More Years) on TOPEL Phonological Awareness Standard Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	2498.30	2498.30	20.15**	.000	.145
Years of Enrollment	1	2767.49	2767.49	10.77**	.001	.083
Time x Years of Enrollment	1	890.52	890.52	7.18**	.008	.057
Error	119	14757.43	124.01			

* $p < .05$ ** $p < .01$.

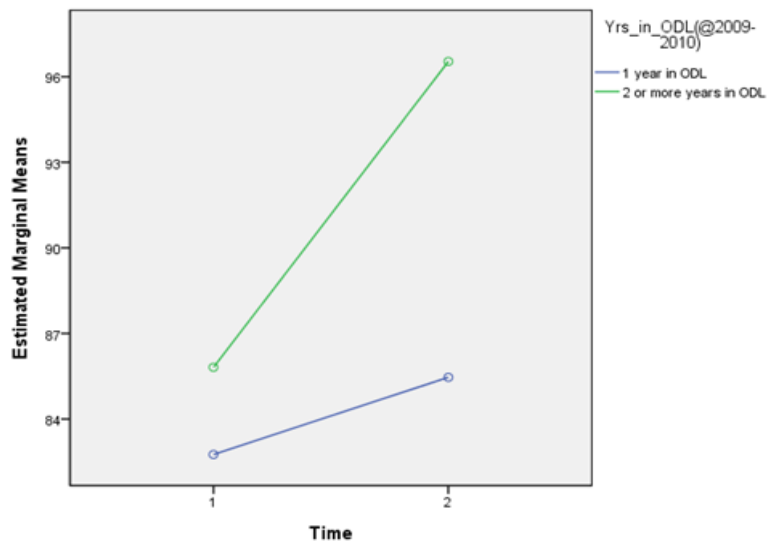


Figure 3.9 Plot of Marginal Means (TOPEL Phonological Awareness Standard Scores) by Years of Enrollment in ODL across Time

PALS Pre-K

Table 3.13a presents means and standard deviations for two groups on the dependent variable and it does so separately by time period. Table 3.13b summarizes the results of the repeated measures ANOVA. Figure 3.10 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 210.943$, $df [1, 119]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .639). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 210.943$, $df [1, 119]$, $p = .000$). The main effect for years of enrollment in ODL was also found to be significant ($F = 35.170$, df

[1,119], $p = .000$) Alternatively, the main effect for the years of enrollment in ODL-by-time interaction was not significant ($F = .083$, $df [1, 119]$, $p = .845$).

The results of the analysis on the PALS-PreK Upper-Case Alphabet Recognition task reveal that the scores of all students changed from pre-test to post-test. What this means is that, independent of length of enrollment, the scores on this task increased from pre-test to post-test. Moreover, the significant effect for years of enrollment demonstrates that there is a significant difference between the scores of Spanish-speaking ELLs enrolled in ODL for one year and those enrolled for two or more years.

Table 3.13a

Means and Standard Deviations Comparing Pre-Test and Post-Test PALS Pre-K Upper-Case Alphabet Recognition scores by Spanish-Speaking ELLs Years of Enrollment in ODL

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	One Year	78	3.18	6.48
	Two or More Years	43	10.88	8.74
Post-test	One Year	78	13.17	8.76
	Two or More Years	43	20.60	5.83

Note: *M* = mean, *SD* = standard deviation.

Table 3.13b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Years of Enrollment (One Year or Two or More Years) on PALS Pre-K Upper-Case Alphabet Recognition Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η
Time	1	5383.16	5383.16	210.94**	.000	.639
Years of Enrollment	1	3177.80	3177.80	35.17**	.000	.228
Time x Years of Enrollment	1	.982	.982	.038	.845	.000
Error	119	3036.82	25.52			

* $p < .05$ ** $p < .01$.

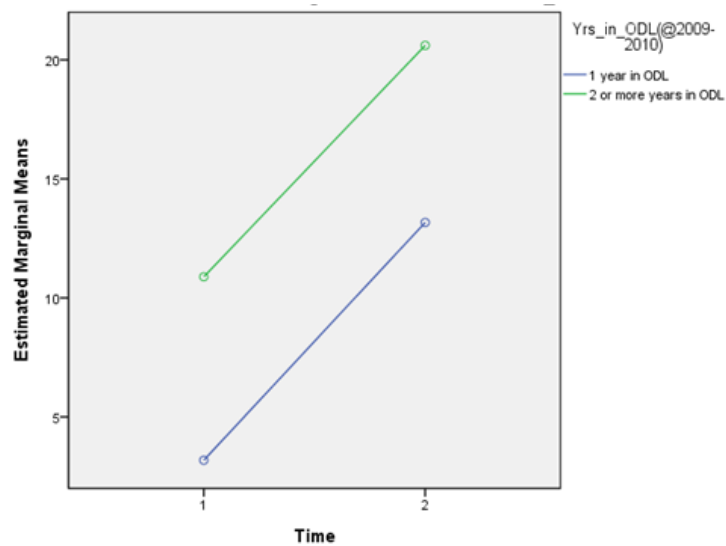


Figure 3.10 Plot of Marginal Means (PALS Pre-K Upper-Case Alphabet Recognition scores) by Years of Enrollment in ODL across Time

Table 3.14a presents means and standard deviations for two groups on the dependent variable and it does so separately by time period. Table 3.14b summarizes the results of the repeated measures ANOVA. Figure 3.11 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 112.650$, $df [1, 119]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .486). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 112.650$, $df [1, 119]$, $p = .000$). The main effect for years of enrollment in ODL was also found to be significant ($F = 12.993$, $df [1, 119]$, $p = .000$). The obtained effect for years of enrollment in ODL represented a medium effect size (i.e., partial eta squared = .098). Furthermore, the main effect for the years of enrollment in ODL-by-time interaction was found to be significant as well ($F = 19.354$, $df [1, 119]$, $p = .000$). The obtained effect for this interaction represented a large effect size (i.e., partial eta squared = .140). Post hoc comparisons for the interaction effect revealed that the trend was best described by a linear function ($F = 19.354$, $df [1, 119]$, $p = .000$).

A significant time by years of enrollment interaction reveals that the scores of Spanish-speaking ELLs enrolled for one year and those enrolled for two or more years are changing, but they are in different ways.

Table 3.14a

Means and Standard Deviations Comparing Pre-Test and Post-Test PALS Pre-K Letter Sound scores by Spanish-Speaking ELLs Years of Enrollment in ODL

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	One Year	78	.45	1.63
	Two or More Years	43	.49	1.58
Post-test	One Year	78	3.27	4.95
	Two or More Years	43	7.30	5.49

Note: *M* = mean, *SD* = standard deviation.

Table 3.14b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Years of Enrollment (One Year or Two or More Years) on PALS Pre-K Letter Sounds Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>η</i>
Time	1	1286.48	1286.48	112.65**	.000	.486
Years of Enrollment	1	229.89	229.89	12.99**	.000	.098
Time x Years of Enrollment	1	221.03	221.03	19.35**	.000	.140
Error	119	1358.99	11.42			

* $p < .05$ ** $p < .01$.

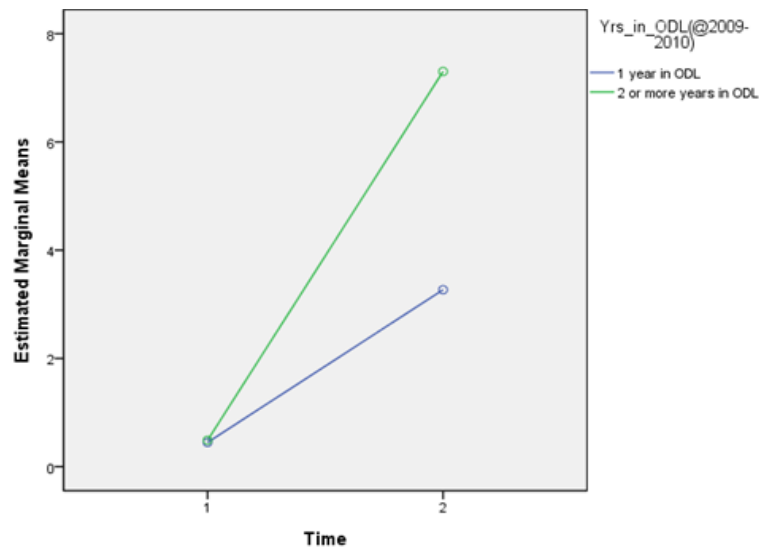


Figure 3.11 Plot of Marginal Means (PALS Pre-K Letter Sounds Scores) by Years of Enrollment in ODL across Time

Table 3.15a presents means and standard deviations for two groups on the dependent variable and it does so separately by time period. Table 3.14b summarizes the results of the repeated measures ANOVA. Figure 3.12 provides a visual representation of the results.

Results revealed the main effect for time was significant ($F = 168.984$, $df [1, 119]$, $p = .000$). The obtained effect for time represented a large effect size (i.e., partial eta squared = .587). Post hoc comparisons for the time effect revealed that the trend was best described by a linear function ($F = 168.984$, $df [1, 119]$, $p = .000$). The main effect for years of enrollment in ODL was also found to be significant ($F = 21.191$, $df [1, 119]$, $p = .000$). The obtained effect for years of enrollment in ODL represented a large effect size (i.e., partial eta squared = .151). Furthermore, the main effect for the

years of enrollment in ODL-by-time interaction was found to be significant as well ($F = 4.068$, $df [1, 119]$, $p = .046$). The obtained effect for this interaction represented a small effect size (i.e., partial eta squared = .033). Post hoc comparisons for the interaction effect revealed that the trend was best described by a linear function ($F = 4.068$, $df [1, 119]$, $p = .046$).

A significant interaction between time, which is the time that has elapsed between pre-test and post-test, and years of enrollment demonstrates that scores are increasing over time, but the manner in which the scores increase or change is different between Spanish-speaking ELLs that have been enrolled in ODL for one year and those enrolled for two or more years.

Table 3.15a

Means and Standard Deviations Comparing Pre-Test and Post-Test PALS Pre-K Print and Word Awareness scores by Spanish-Speaking ELLs Years of Enrollment in ODL

Time	Group	<i>n</i>	<i>M</i>	<i>SD</i>
Pre-Test	One Year	78	3.50	2.25
	Two or More Years	43	4.47	2.05
Post-test	One Year	78	6.05	2.21
	Two or More Years	43	7.95	1.11

Note: *M* = mean, *SD* = standard deviation.

Table 3.15b

Repeated Measures Analysis of Variance Summary Table Comparing Effect of Time (Pre-Test and Post-Test) and Years of Enrollment (One Year or Two or More Years) on PALS Pre-K Print and Word Awareness Scores

Effect	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η
Time	1	505.56	505.56	168.98**	.000	.587
Years of Enrollment	1	113.95	113.95	21.19**	.000	.151
Time x Years of Enrollment	1	12.17	12.17	4.07*	.046	.033
Error	119	356.02	2.99			

* $p < .05$ ** $p < .01$.

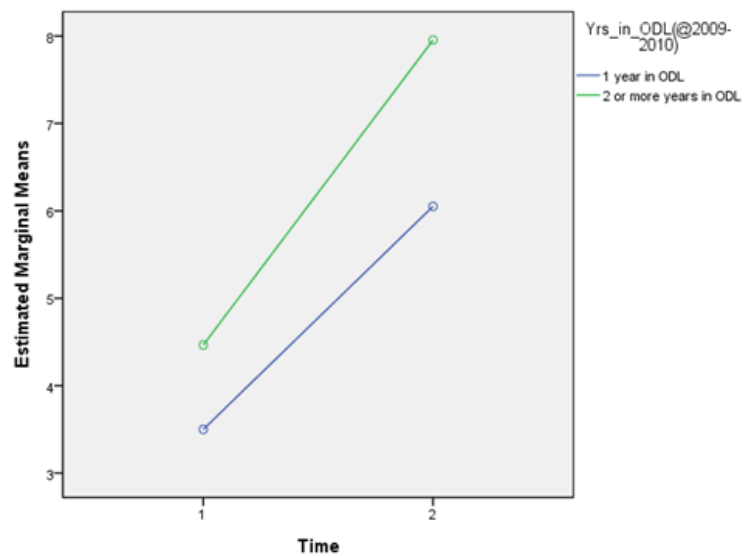


Figure 3.12 Plot of Marginal Means (PALS Pre-K Print and Word Awareness scores) by Years of Enrollment in ODL across Time

Chapter 4

DISCUSSION

The primary purpose of this study was to provide information about young Spanish-Speaking ELL's early literacy skills and oral language abilities as they entered Head Start/ODL and to explore what happened to these skills over the course of the academic year. The sample of children was comprised of Spanish-speaking ELL's and monolingual English speakers; therefore, information about these skills was provided for both populations. The early literacy skills assessed included upper-case alphabet recognition, letter sounds, print & word awareness, and phonological awareness. Oral language abilities were assessed by measuring receptive vocabulary and expressive vocabulary.

Achievement of Spanish-Speaking ELLs

The first research question sought to determine whether the sample of Spanish-speaking ELL's enrolled in Head Start during the 2009-2010 academic year had made significant gains on measures of early literacy skills and oral language abilities between the pre-test and the post-test. In order to answer this question, a paired samples t-test was conducted for each assessment. The findings revealed that, at the

time of post-testing, Spanish-speaking ELLs had significantly higher scores on all measures of early literacy skills and oral language abilities.

Early Literacy Skills. On the Phonological Awareness sub-test of the TOPEL, the average difference in scores between the pre-test and the post-test for Spanish-speaking ELLs was a 5.56 point difference. This difference indicates that Spanish-speaking ELL's, on average, made significant gains in phonological awareness. With an average post-test score of 89.40, Spanish-speaking ELLs are demonstrating age-appropriate early literacy skills. The benchmarks implemented by ODL for standardized tests were in alignment with those established by the U.S. Department of Education for children entering kindergarten. Therefore, with an average post-test score above 85, Spanish-speaking ELLs made the gains necessary to meet the ODL benchmark for the TOPEL Phonological Awareness.

The PALS-PreK tasks utilized for assessing the children were Upper-Case Alphabet Recognition, Letter Sounds, and Print and Word Awareness. The creators of this measure provide developmental ranges for four year olds that are preparing to start kindergarten. These developmental ranges have been adopted by ODL as indicators of achievement in early literacy skills. For Upper-Case Alphabet Recognition, the developmental range is 12-21. At the end of the academic year, Spanish-speaking ELLs had an average score of 15.81 on the Upper-Case Alphabet Recognition task, therefore, falling in to the developmental range appropriate for four

year olds that are preparing to start kindergarten. For Letter Sounds, the developmental range is 4-8. With an average score of 4.70 on the Letter Sounds task, Spanish-speaking ELLs are performing within the range, despite falling towards the lower end. The developmental range for the Print and Word Awareness task is 7-9 and the average score on this task for Spanish-speaking ELLs was 6.73. This indicates that Spanish-speaking ELLs, on average, are not performing within the appropriate developmental age for four year olds preparing to enter kindergarten.

These findings are important because they demonstrate that after at least one year in ODL, Spanish-speaking ELLs, on average, met the majority of the benchmarks implemented by the project. These findings, in essence, are a testament to the value and benefit of the project.

Oral Language Abilities. The PPVT-IV is a measure of receptive vocabulary. At the beginning of the academic year, Spanish-speaking ELLs had an average PPVT-IV standard score of 68.34. At the end of the year, these students had an average PPVT-IV standard score of 81.10; a 12.76 point difference. According to the U.S. Department of Education, a significant gain is a gain of four or more standard score points between the pre-test and the post-test (U.S Department of Education, 2009). Therefore, in accordance with the U.S. Department of Education, Spanish-speaking ELLs made significant gains on the PPVT-IV, suggesting significant gains in receptive vocabulary skills between pre-test and post test. Age-appropriate oral

language skills for pre-school children, as defined by the U.S. Department of Education, are denoted by a standard score of 85 or above on the PPVT-IV. With an average post-test score of 81.10 at the end of the academic year, majority of Spanish-Speaking ELLs did not meet this benchmark. One of the aims of the project was for kinder bound children to demonstrate age-appropriate skills in early literacy skills and oral language abilities as indicated by the achievement of an 85 or better on norm-referenced tests. With an average score below 85 on the PPVT-IV, Spanish-speaking ELLs are much closer to performing at an age-appropriate level than they were at the beginning of the year.

The Definitional Vocabulary sub-test of the TOPEL, which measures productive vocabulary, was used to gauge student's oral language abilities. At the beginning of the year, Spanish-speaking ELLs had an average standard score of 67.05 on the TOPEL DV sub-test. At the end of the year, the average standard score was 80.02; a 12.97 difference. This gain is considered significant, in accordance with the guidelines set forth by the U.S. Department of Education and the Opening Doors to Literacy project. However, because the post-test average standard score remains below 85, it can be concluded that among this sample, the majority of Spanish-speaking ELLs were performing below an age-appropriate level.

In summary, Spanish-speaking ELLs made statistically significant gains on the PPVT-IV, TOPEL, and PALS-PreK, but age-appropriate levels were not demonstrated on the Definitional Vocabulary, Letter Sounds, and Print & Word Awareness tasks.

Differences by Home Language

The second research question sought to reveal the differences in growth between Spanish-speaking ELLs and native English speakers on measures of early literacy skills and oral language abilities. It was hypothesized that both groups would make significant gains on measures of early literacy skills and oral language abilities, but, despite these gains, a gap in achievement would still remain between Spanish-speaking ELLs and their English-speaking peers.

For the PPVT-IV, the results revealed that change in scores over time differed between Spanish-speaking ELLs and English-speaking students and this difference was statistically significant. However, the development of receptive vocabulary seems to follow a linear trajectory in both groups. Growth in receptive vocabulary for Spanish-speaking ELLs was occurring at a more rapid rate than native English speakers. The results revealed in this analysis are consistent with the findings of Hammer et al., (2008), who found that children's development "essentially followed linear trajectories" (p. 30).

For the TOPEL Definitional Vocabulary sub-test, the results demonstrated that gains are being made over time by each group and they are different from one another.

Compared to the plot of marginal means for the PPVT-IV, it is evident that the growth in expressive vocabulary does not occur at as rapid of a rate for Spanish-speaking ELLs. The differences in trajectories between receptive vocabulary and expressive vocabulary addresses the idea that as Spanish-speaking ELLs are exposed to receptive language uses, such as listening and reading, their productive language uses develop (Castro, Paez, Dickinson, & Frede, 2011). Therefore, it is reasonable to see a more rapid rate of growth in receptive vocabulary because as Spanish-speaking ELLs are exposed to more receptive language uses, their productive vocabulary and language uses develop.

In contrast, the analysis of the TOPEL Phonological Awareness sub-test did not reveal an interaction. Rather, the effect of home language and time were independently significant. A statistically significant main effect for time indicates that the dependent variable, test scores, change across time – independent of the groups in the study. Conversely, a significant main effect for home language demonstrates that the dependent variable changes across home language groups independent of time.

The results of the repeated measure analysis of variance for the PALS-PreK Upper-Case Alphabet Recognition task demonstrated a significant effect for “Time”, but not for “Home Language”, nor a significant interaction between the two. This indicates that test scores change across time, independent of home language. Similar

results were revealed for the remaining two tasks of the PALS-PreK (Letter Sounds & Print and Word Awareness); only “Time” had a significant effect.

Years of Enrollment

The third research question sought to determine whether or not there was difference in performance on measures of early literacy skills and oral language abilities at the end of the pre-kindergarten academic year between Spanish-speaking ELLs who had attended ODL for one year and Spanish-speaking ELLs who had attended ODL for two or more years.

The results for the PPVT-IV revealed an important effect for time and years of enrollment, but a time by years of enrollment interaction was not found. These results indicate that test scores change significantly across time independent of years of enrollment in the study. Furthermore, the significant main effect for years of enrollment indicates that test scores change across groups, independent of time.

For the TOPEL Definitional Vocabulary, there was not a significant interaction between time and years of enrollment. However, each variable had a significant effect independent of one another. Conversely, for the TOPEL Phonological Awareness sub-test, the time by years of enrollment interaction was found to be significant.

The results for the Upper-Case Alphabet Recognition task did not reveal a significant interaction effect, rather, the main effects for time and years of enrollment were found to be significant. However, a significant interaction was found between

time and years of enrollment for the PALS-PreK Letter Sounds and the Print & Word Awareness tasks.

The difference between being enrolled in ODL for one year and being enrolled for two or more years is evidenced by the differential rate of growth between the two groups. Over the course the second or third year of enrollment in ODL, Spanish-speaking ELLs knowledge of letter sounds experienced a vast increase. This could be attributed to the fact that in order to learn letter sounds a child must first know letter names. It seems as though upon entrance to a second year or third of ODL, Spanish-speaking ELLs have the foundation from which to learn letter sounds and their knowledge of letter sounds rapidly grew over the course of additional year.

These findings reveal that at the end of a second year in ODL, Spanish-speaking ELLs were better prepared to enter kindergarten compared to those enrolled in ODL for just one year. With the exception of one task, children who were enrolled in ODL for two years were performing within the appropriate developmental ranges and were better prepared for kindergarten. The findings from this analysis demonstrate the benefit of enrollment in ODL for more than one year.

Implications

The findings of the present study reveal significant implications and directions for future research on the development of early literacy skills and oral language abilities of Spanish-speaking ELLs.

The analyses conducted to address the first research question revealed that, after one year in Head Start and ODL, Spanish-speaking ELLs on average had significantly higher post-test scores than pre-test scores on all measures of early literacy skills and oral language abilities. In his article on the predictors of English vocabulary development in bilingual kindergarteners, Uchikoshi (2006) proclaims the necessity of investigating whether preschool experiences benefit ELL children. The results from this study suggest the effect of enrollment in Head Start and participation in an early literacy intervention such as ODL among Spanish-speaking ELL's. Furthermore, these results are consistent with other studies in which it was found that for children considered to be "high-risk", Head Start attendance was positively related to receptive English vocabulary (Hubbs-Tait et al., 2002).

Bialystok (1997) studied the effects of bilingualism and biliteracy on children's emerging concepts of print and found that bilingual children had a better understanding of the "general symbolic representation of print" than their monolingual peers. When analyzing the interaction effect of home language and time on measures of early literacy skills and oral language abilities, the results of the PALS-PreK

revealed that at the end of the academic year, Spanish-speaking ELLs and monolingual English speakers had similar average scores, more so than on any of the other measures. Although the aim of this study was neither to replicate the findings of Bialystok (1997) nor to assess the effects of bilingualism or biliteracy on children's emerging concepts of print, some parallels can be drawn. One of the implications made by Bialystok (1997) was that there is a transfer of metalinguistic and cognitive concepts across systems for bilingual children. These implications and findings shed light on the possibility that the metalinguistic and cognitive concepts that the Spanish-speaking ELLs in our study had at the beginning of the year may have provided them with a foundation that led to their successful acquisition of these concepts in English over the course of the academic year.

In comparing the differences in growth between Spanish-speaking ELLs and native English speakers, it was revealed that the changes made over time differed significantly between groups on measures assessing receptive and expressive vocabulary. For the remaining measures, significant interactions were not reported. The resulting figures of this analysis revealed the persistence of a gap in achievement between Spanish-speaking ELLs and native English speakers. The gap narrowed dramatically in the analysis of the PALS-PreK tasks, in which it was found that only time had a significant effect on scores.

The third question aimed at understanding the differences in achievement between Spanish-speaking ELLs enrolled in ODL for one year and those enrolled for two or more years. The results revealed that children enrolled in Head Start and the ODL program for two or more years not only had significantly higher post-test scores than those of their peers who had only been enrolled for one year, but were performing within the appropriate developmental range and demonstrated age-appropriate skills on all measures.

The value of extended participation in Head Start/ODL is demonstrated in these results. After one year in the program, children make great gains on measure of early literacy skills and oral language abilities. Yet, after one year in the program, Spanish-speaking ELLs performed below the benchmarks that are deemed appropriate for kinder bound children. However, it has been demonstrated that after a second year in Head Start/ODL the participating Spanish-speaking ELLs had met these benchmarks and were performing at a level deemed appropriate for kinder bound children. The context of this study is unique because children were enrolled in Head Start and, additionally, participated in an Early Reading First intervention. Future research should investigate the value of extended participation in both Head Start and Early Reading First projects.

The results of questions one and three suggest that preschool experiences do benefit the Spanish-speaking ELLs in this sample. After one year of enrollment, significant gains were made by Spanish-speaking ELLs on all measures of early literacy skills and oral language abilities, but, on average, these students were not yet performing at the age-appropriate level for pre-school children as established by the U.S. Department of Education. Nevertheless, results of question three demonstrated that after two or more years of enrollment, Spanish-speaking ELLs had reached benchmarks instituted by both ODL and the U.S. Department of Education and were performing at age-appropriate levels on measures of early literacy skills and oral language abilities.

Farver, Lonigan & Eppe (2009) studied effective early literacy skill development for young Spanish-speaking ELLs and the results of the study suggested that “a targeted early literacy intervention can improve Spanish-speaking preschoolers’ preliteracy skills” (p.703). The intensity and quality of intervention seems to play an important role in the successful language and literacy development of ELLs as is evidenced by the significant gains made by the Spanish-speaking ELLs over the course of one academic year, and the performance at age-appropriate levels of those Spanish-speaking ELLs that had been enrolled in ODL for two or more years. Furthermore, the effectiveness of the intervention can be seen in the significant gains

made by the participants in the domains of receptive and expressive vocabulary, phonological awareness, letter name and sound knowledge, and print awareness.

To expand the understanding of Spanish-speaking ELLs' development of early literacy skills and oral language abilities future research could adopt a number of different methods and procedures in order to better study the phenomena. For instance, it would be of value to assess children an additional time over the course of the academic year. A third point of data collection has the potential of providing much more valuable information on the growth and development of Spanish-speaking ELLs' early literacy skills and oral language abilities. A third point of data collection would also lend itself to more complex statistical analyses which, in turn, may lead to more definitive conclusions.

Limitations

In an attempt to promote better future research on the development of early literacy skills and oral language abilities among Spanish-speaking ELLs, the limitations of this study must be noted. First, the uniqueness of our sample may not have allowed for the results to be easily generalized to the greater population of English Language Learners. Our sample consisted of only English speakers and Spanish-speaking ELLs. Certainly, Spanish-speaking ELLs are a very diverse group of ELLs. Furthermore, the children participated in both Head Start and ODL. Future research should aim at studying a more culturally diverse sample of pre-school

English language learners because studying children of different linguistic and ethnic backgrounds might result in different findings.

Second, assessments were conducted only in English. Future research should attempt to assess ELLs in their native language and the language they are learning. Assessing children in both languages will provide researchers and teachers with more information on the child and this information may lend itself to later analyses of cross-linguistic transfer. The skills that children enter school with form a foundation for their future learning, and the extent of their skills in their first language may be related to their skills in their second language (Anthony et al., 2009). Having an understanding of the relationship between a child's first and second language would "help inform instructional practice for ELL children" (Anthony et al., 2009). Further, Anthony et al., (2009) note that "understanding cross-linguistic relations in emergent literacy skills is also important for recognizing developmental factors that may indicate at-risk status for later reading difficulties in young ELLs" (p. 539).

Third, information on the home literacy activities and practices of participants needs to be collected. Having information on how the development of a new language and the maintenance of the first language are being supported in the home could potentially bring to light a number of new research questions that could be of great value in this field of study. Uchikoshi (2006) suggests that exposure to books at home

is one of the best predictors for English vocabulary development in bilingual kindergarteners.

Moreover, information about parents' education and abilities in their native and second language may be of value in future research. Having a more comprehensive understanding of a child's environment outside of school could be of great value in the study of English language learners.

Conclusion

The number of English language learners, specifically Spanish-speaking ELLs, has increased dramatically within the past few years and continues to grow at a rapid rate. These children are considered to be "at-risk" as a result of their lack of proficiency in English, and this risk is further compounded by other environmental factors. Understanding the development of Spanish-speaking ELLs' early literacy skills and oral language abilities in English can help inform policies and educational strategies that may ultimately lead to their success in school. The findings of this study suggest the value of enrollment in high quality and intense early intervention programs, in this case a combination of Head Start and an Early Reading First project. Perhaps, one intervention may not be enough for a population with dual risk factors; home language and low income. Over the course of the academic year, the gap in achievement between native English speakers and Spanish-speaking ELLs on

measures of early literacy skills and oral language abilities was minimized as a result of a combined intervention. This gap narrowed further when isolating the children who received tutoring and those who did not. In other words, native English speakers and Spanish-speaking ELLs who received tutoring had comparable average scores at the end of the year on measures of early literacy skills and oral language abilities. In addition, the results suggested that enrollment in Head Start and ODL for two years or more is beneficial for Spanish-speaking ELLs; at the end of their second year of enrollment Spanish-speaking ELLs had average scores that fell within, if not above, appropriate developmental ranges. Continuing research on the development of early literacy skills and oral language abilities among English language learners is crucial for the development and implementation of programs and interventions that will lead to ELLs' future success in school.

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Appendix
LETTER OF EXEMPTION



RESEARCH OFFICE

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DATE: August 18, 2011

TO: Luisa Silva, M.S.
FROM: University of Delaware IRB

STUDY TITLE: [264836-1] Development of Early Literacy Skills and Oral Language Abilities among English Language Learners in Opening Doors to Literacy

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: August 18, 2011

REVIEW CATEGORY: Exemption category # 4

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Jody-Lynn Berg at (302) 831-1119 or jlberg@udel.edu. Please include your study title and reference number in all correspondence with this office.