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School Readiness Programs: Migrating Towards Success

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Abstract

The goal of the current project was to examine how effective migrant school readiness programs are in supporting a student's cognitive growth. School readiness programs within the Santa Barbara County were analyzed for three consecutive years (2014, 2015, and 2016) to measure academic performance across these years. A child's cognitive growth (i.e., school readiness) was measured using pre and post test scores taken at the beginning and end of each program. Results revealed that migrant students continue to perform below average across the years. However, multiple assessment scores show a statistical significant increase in performance, suggesting that academic improvement is possible. Results point to future implementation of migrant programs that can better accommodate for the needs of children.



Background

The Migrant Education Program (MEP) in California is funded by the federal government under The No Child Left Behind Act (NCLB) which allocates federal funds to meet the needs of economically deprived students. The federal mandate for the Migrant Education Program is contained in sections 1301-1309 of Title I, Part C (“Education of Migratory Children”). The NCLB assists States in implementing quality programs for migratory children by establishing the administrative system for the Migrant Education Program. According to the NCLB, its goal is to assist States in providing educational services for migrant children who have had their education disrupted by regular physical relocation. Services must ensure that migrant children overcome disparities such as language barriers, social isolation and health related problems that inhibit them from meeting State academic standards (NCLB, Section 1301).

Title I, Part C allocates funds to support the Migrant Education Program in each State. According to the NCLB, each State is allocated funds based on, “the average number of identified eligible migratory children aged 3 through 21 residing in the State, based on data for the preceding 3 years...” (NCLB, Section 1303). Each State in turn, allocates these funds to migrant regions based on a sub-granting formula and on the number of eligible migrant students. Each region must meet similar State level requirements to receive funding. Therefore, a migrant child must be between the ages of three and twenty-one and must have moved within the past three years to be eligible for the federally funded Migrant Education Program.

According to the NCLB, States must monitor the number of eligible migrant students by using contemporary data collected when a student was determined to be a migrant. A migrant family is one that earns half of its income from fishing or any type of agricultural employment and is regularly migrating due to seasonal work. Under Section 1309 titled Definitions, the term



migratory agricultural worker is defined as, “an individual who made a qualifying move in the preceding 36 months and, after doing so, engaged in new temporary or seasonal employment or personal subsistence in agriculture, which may be dairy work or the initial processing of raw agricultural products” (NCLB, Section 1309). The term, “qualifying move” refers specifically to “moving due to economic necessity from one residence to another residence; and from one school district to another school district” (NCLB, Section 1309).

Federal law also mandates that each State complete a State Service Delivery Plan (SSDP) that provides guidance for the Migrant Education Program in its efforts to close achievement gaps between migrant and non-migrant students. According to federal legislation, each State must identify and address the educational needs of migrant children to aid them in meeting the same State academic standards that every student is expected to meet (NCLB, Section 1306). The Migrant Education Office within the State of California designed a State Service Delivery Plan (SSDP) from 2009-2014 that addressed seven fundamental areas of focus necessary for the academic achievement of migrant students. These seven areas include School Readiness, English Language Arts, Mathematics, High School Graduation, Out of School Youth, Health, and Parental Involvement.

Significance

The No Child Left Behind Act sets an important focus on closing performance gaps between migrant children and English learners compared to other students. Unfortunately, contemporary research demonstrates that there is an abundance of risk factors that affect migrant children in their academic achievements. Risk factors include: constant living relocations in search for employment, poverty, and the lack of English in the child’s household (Branz-Spall & Rosenthal). According to these researchers, migrant parents must travel long distances in search



for agricultural employment with salaries at or below the minimum wage. In many instances, constant migration may disrupt the student's education and place them at risk for academic failure. In addition, migrant families endure harsh living conditions due to poverty (Branz-Spall & Rosenthal). Statistics on migrant children from the Santa-Maria Bonita School District demonstrates that the majority of migrant children face poverty barriers in which 93% of them do not have transportation and 50% of them are homeless (CNA, Section 4, 2015)

In addition, contemporary research shows that migrant children enter kindergarten with limited cognitive skills and are less competent in English Language Arts compared to their counterparts. According to the Santa Maria-Bonita Comprehensive Needs Assessment Report from 2011, out of 495 preschool migrant children, sixty-nine percent of them had developmental delays in cognition, language, and social development and 100% of these children spoke a language other than English at home. Contemporary literature demonstrates that children with limited cognitive abilities in kindergarten are more likely to be held back and encounter reading problems in the future. However, intervention programs that emphasize early literacy domains such as alphabet knowledge can help preschoolers avoid later reading problems (Townsend & Konold, 2010). The multiplicity of these barriers (i.e. poverty, high mobility, and linguistic barriers) can have a high effect on a child's learning abilities and academic achievements. Therefore, implementing high-quality early education programs aiming to mitigate the negative links between poverty and migration on a child's development is crucial for the educational success of migrant students.

Research Design

Federal and State policies establish the MEP and provide guidance in implementing effective migrant education services for migrant families. While their services focus on seven

fundamental areas, this study directs its focus on school readiness programs within a single migrant region in the State of California. Therefore, the unit of analysis will be the Migrant Summer School Readiness Program in Santa Maria Bonita School District located in Santa Barbara County (See Figure 1)

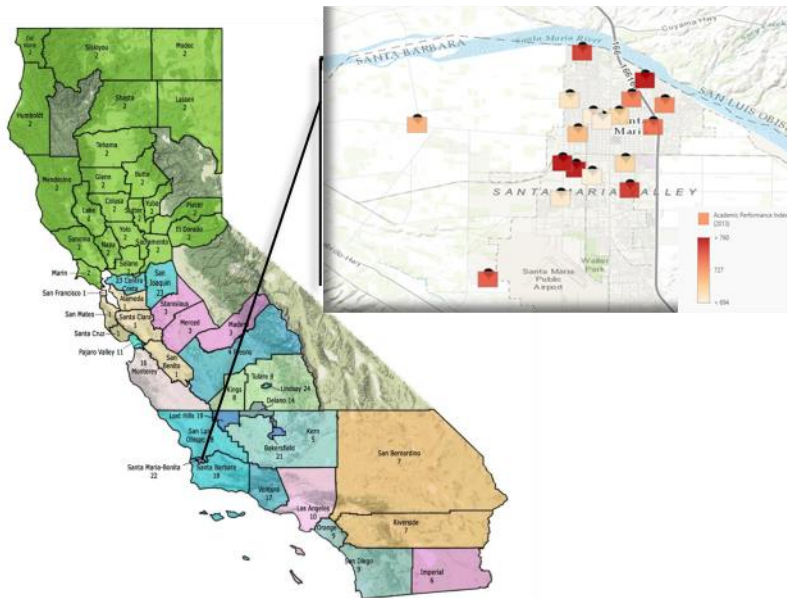


Figure 1. Santa Maria-Bonita (CDE)

This research aims to examine the effectiveness of migrant summer school readiness programs that are intended to provide high-quality early education, particularly in their efforts to support students' academic growth. The effectiveness of these programs have been previously studied through a Comprehensive Needs Assessment required by the State. The Comprehensive Needs Assessment analyzes a program's outcomes to determine whether the program was able to meet its proposed objectives. Santa Maria Bonita has three objectives they wish to accomplish for the Migrant Education School Readiness Program. The measurable objectives are the following: (1) The percentage of eligible migrant preschool children receiving a high quality early education will increase annually (2) The percentage of children who are ready for



kindergarten by the age of 5 will increase by 5 percent each year. Lastly, the percentage of migrant kindergarteners who enter kindergarten after the appropriate age of 5 will decrease annually (Region Application, 2014, p. 26). The current research differs from how migrant programs have been previously measured because it focuses directly on the children, rather than measuring the effectiveness of migrant programs at a broader level. This research therefore, takes a closer look into the program by assessing a child's cognitive growth before and after the program to determine whether the program had a positive effect on the child. A brief description of the program will be given below.

School Readiness Program

Santa Maria Bonita School District proposed to serve a total of 120-125 students aged three to five within four to five classrooms each year, respectively. However, only about 80 to 70 students participated in the Migrant Summer School Readiness Program. Students attended four hours per day for four weeks, resulting in a total of 80 hours of instruction across 20 instructional days. The majority of the migrant children had never received any academic services at the start of the program and had been identified as having developmental delays. The Summer School Readiness Program used the California Preschool Learning Foundations and Early Childhood Themes as part of their curriculum (Grant Application, 2014-2016). The California Preschool Learning Foundations are different academic domains that outline several skills a child must acquire before entering kindergarten (CDE). The program's main academic focus was cognitive/literacy, gross/fine motor skills and language development. A summary of the program's services is provided in Table 1.



Summer School Readiness	Program 2014	Program 2015	Program 2016
Start/End Dates	Start: June 2014 End: July 2014	Start: June 2014 End: July 2014	Start: June 2014 End: July 2014
Hours/Weeks	4 hours per day, for 4 weeks (20 Instructional days)	4 hours per day, for 4 weeks (20 Instructional days)	4 hours per day, for 4 weeks (20 Instructional days)
Projected Number of Students / Actual served	Projected: 125 Served: 70-80	Projected: 125 Served: 70-80	Projected: 120 Served: 70-80
Teachers/Assistants	1 Teacher on Special Assignment 5 Preschool Teachers 10 Bilingual Instructional Assistants	1 Teacher on Special Assignment 4 Preschool Teachers 8 Bilingual Instructional Assistants	1 Teacher on Special Assignment 4 Preschool Teachers 8 Bilingual Instructional Assistants

Table 1. Summer School Readiness Program Logistics

Methods

Three consecutive years, 2014 to 2016, will be analyzed to determine how effective the implementation of summer school readiness programs were within the Santa Maria Bonita School District. A child’s cognitive growth within each summer school readiness program will be measured using pre- and post-test scores from the Peabody Picture Vocabulary Test (PPVT) and the Phonological Awareness Literacy Screening (PALS) assessments taken at the beginning and end of each program. According to the Program Evaluation Report, the PPVT and PALS assessed language acquisition, oral language and vocabulary development and biliteracy in both English and home language, respectively (Region 22 MESRP Data, 2014). The PPVT and PALS pre- and post-test scores from the year 2014 were obtained from the California Department of Education, Migrant Education Office. Additional data for the years 2015 and 2016 was requested from the Migrant Director in Santa Maria Bonita School District.



Procedure/Assessments

Children assessed in individual sessions lasted approximately 20-30 minutes each. For the PPVT assessment, the examiner showed each child a series of pages containing four different numbered pictures. The examiner uttered a word that described a picture and the child had to identify which picture best resembled the word. This assessment had a 20-160 scoring scale. Therefore, the minimum score a child could receive was a 20, the maximum score was 160 and the average score was 80. Form A was used for the pre-test and Form B was used for the post-test. It is important to note that Form B is designed on the assumption that a time frame of six months have passed since the child was assessed with form A (i.e. took the pre-test). However, the summer programs from 2014 to 2016 were lasted only 1 month (Dr. Zaske, Interview).

The PALS assessment was used to measure a student's alphabet knowledge in two subsets: uppercase letters and letter sounds. This assessment had a 0-26 scoring scale because there are twenty-six letters in the alphabet. According to Konold and Townsend (2010), the PALS assessment measures alphabet knowledge on the basis of three different sets that increase in difficulty: upper case letters to lower case letters to letter sounds. Children who have limited alphabet knowledge of only fifteen or fewer uppercase letters are excluded from taking the other alphabet sets (i.e. lower case letters and the letter sounds). Each assessment was performed in English because instruction was emphasized in English.

Research Analysis

For the purposes of this study, the PPVT and PALS assessment scoring scales were standardized on a 0 to 100 scale for all three years. As a result, the scoring scales for the PPVT (i.e. 20-160 scale) and PALS (0-26 scale) are longer the original. Rather, the student's assessment scores for both PPVT and PALS now stand on a 0 to 100 scale. The scoring scales



for the PPVT and PALS assessments were standardized on a 0 to 100 scale because the assessment’s scales differ and the purpose of this research is to compare a student’s performance across assessments. Due to the scoring scales shifting, PPVT’s original average score of 80 shifted to a 60. It is important to note that the average score of 60 applies only to the PPVT assessments and not the PALS Assessments.

The mean and standard deviation for every pre- and post-test score was calculated. In addition, a t-test was performed for each assessment (i.e. PPVT and PALS) to find the average difference between the pre- and the post-test. The t-test allowed one to conclude whether the difference between the pre-and the post-test scores was statistically significant. A statistical significance indicates whether there was a “real” difference between the pre-and post-test scores on each assessment. If the p-value obtained from the t-test is less than or equal to a 0.01 alpha level, this indicates that the change in score means is statistically significant.

Results

2014 School Readiness Assessment Scores

2014 Assessments	Average Pre-Test	Average Post-Test	Average Difference	T-Test (P-value)
PPVT (3-4 Year Olds)	27.81746032	26.88492	-0.93254	0.6252359
PPVT (5 Year Olds)	30.64102564	36.22711	5.586081	0.001386*
PALS-Uppercase Letters	18.24457594	24.35897	6.114398	0.000578*
PALS-Letter Sounds	3.747534517	7.29783	3.550296	0.077216

Table 2. Average pre and post-test means and p-value



*Note: P-values with an asterisk * indicate a statistical significant difference between pre-and post-test scores.*

Four analyses (i.e. t-test) were ran for the summer school readiness program in 2014. The PPVT for three-to-four-year olds shows a negative average change of -0.93254 from the pre- to post-test. Although the average change is negative, this is not a large difference. On the other hand, the PPVT for 5-year-olds showed an average change of 5.586081 points from pre- to post-test, which is statistically significant ($p = 0.001386$). The PALS-Uppercase Letters shows an average difference of 6.114398 and a p-value of 0.00578. Once again, the assessment score change is statistically significant. The PALS-Letter Sounds assessment average difference of 3.550296 does not show a large change between the pre-and the post-test scores. Its p-value was a 0.077216 and thus is only marginally significant.

On average, students are not meeting the standard score of 60 in the PPVT assessment score. Rather, students pre-and post-test scores are in the range of 27-36. However, assessment scores show statistical significant changes from pre- to post-test scores on two assessments (i.e. PPVT for 5 year olds, PALS Uppercase Letters). See Figure 2 below for a visual representation of the results.

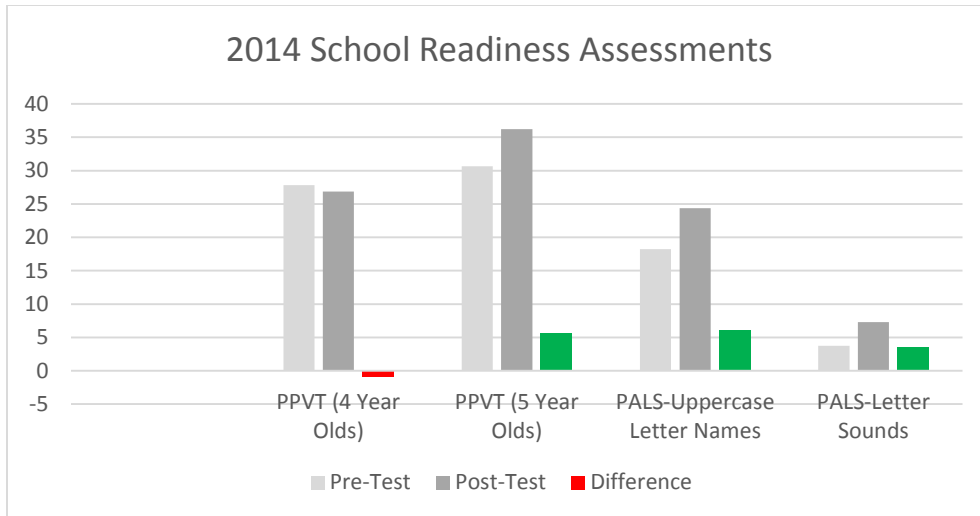


Figure 2. Pre and Post-Test Scores.

2015 School Readiness Assessment Scores

2015 Assessments (4-5 Year Olds)	Average Pre-Test	Average Post-Test	Average Difference	T-Test
PPVT	30.56723	37.16387	6.596639	0.000877*
PALS-Uppercase Letters	23.64253	26.13122	2.488688	0.529938
PALS-Letter Sounds	12.78281	11.76471	-1.0181	0.737222

Table 3. Average pre-and post-test means and p-value

Note: P-values with an asterisk * indicate a statistical significant difference between pre-and post-test scores.

Three analyses were conducted for the summer school readiness program for the year of 2015. The PPVT assessment for this year showed an average change of 6.596639 points from the pre-to post-test scores and a p-value of 0.000877*. This means that there was a statistically



significant difference between pre- and post-test scores. The PALS-Uppercase Letters shows an average difference of 2.488688 and a p-value of 0.529938. As a result, the assessment scores fail to show a significant improvement in performance from pre- to post-test. The PALS-Letter Sounds assessment shows an average change of -1.0181 points from pre- to post-test score and a p-value of 0.737222. This illustrates a negative change in performance by 1 point from pre to post test scores. In other words, children performed lower after the program than when they first entered. Although the average change is negative, this is not a large difference. Overall, there is an increase in performance from pre- to post test scores in the PPVT and PALS-Upper Case Letters Assessments and a slight decrease in performance in the PALS- Letter Sounds Assessment.

The low performance outcomes for the school readiness program in 2015 is important to discuss. Research results show that similarly to school readiness programs in 2014, children who were enrolled in the program for 2015 were unable to meet the average score of 60 in the PPVT Assessment. Therefore, children continue to perform below average in 2015, suggesting that they stand at a developmental disadvantage even after the program. Another point worth noting is the difference *within* assessment outcomes (i.e. PALS Uppercase Letters vs. PALS Letter Sounds). In other words, children seem to be scoring higher on the PALS Uppercase Assessment than on PALS Sounds Assessment. This may be a result of how children were tested. The PALS Assessment measures alphabet knowledge on the basis of three different categories that increase in difficulty. Children are first tested on the upper case letters (least difficult), followed by the lower case letter category (moderately difficult) and finally, the letter sounds category (most difficult). If a child's alphabet knowledge is fewer than 15 upper case letters, they skip the rest of the categories (Konold & Townsend, 2010). However, children in this school readiness program

were tested on the least difficult alphabet set (i.e. uppercase letters) and on the most difficult alphabet set (i.e. letter sounds) despite their limited alphabet knowledge. Therefore, it can be inferred that the way children were tested explains the performance gap within the PALS Assessments. See figure 3 below for a visual representation of the results.

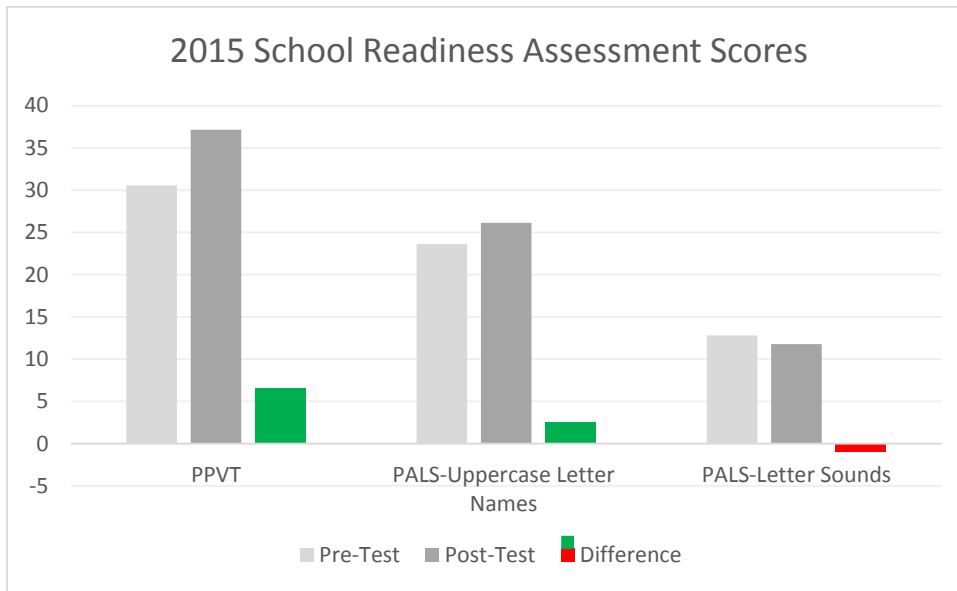


Figure 3. Pre-and-Post Test Scores

2016 School Readiness Assessment Scores

2016 Assessments (4-5 Year Olds)	Average Pre-Test	Average Post-Test	Average Difference	T-Test
PPVT	36.06469003	36.9541779	0.889487871	0.498527694
PALS-Uppercase Letters	31.61538	30.76923	-0.84615	0.703412
PALS-Letter Sounds	18.07692	15.38462	-2.69231	0.405688

Table 4. Average pre and post-test means and p-value

Finally, three analyses (t-tests) were performed for each assessment within the school readiness program of 2016. The PPVT assessment had an average change of 0.889487871 points from the pre-to post-test scores and a p-value of 0.130619. There was no statistical significant change from the pre-to the post-test scores. The PALS-Uppercase Letters shows an average difference of -0.84615 and a p-value of 0.703412. This illustrates a negative change in performance by -0.84615 points from pre to post test scores, on average. Although the change in performance is negative, it is not a large difference. The PALS-Letter Sounds assessment's shows an average difference of -2.69231, illustrating a negative pre- and post-change in assessment scores, with a p-value of 0.405688. Overall, the assessments for the school readiness of 2016 fail to show a statistical significant change (i.e. increase in scores) from the pre-to post-test. See Figure 4 below for a visual representation of the results.

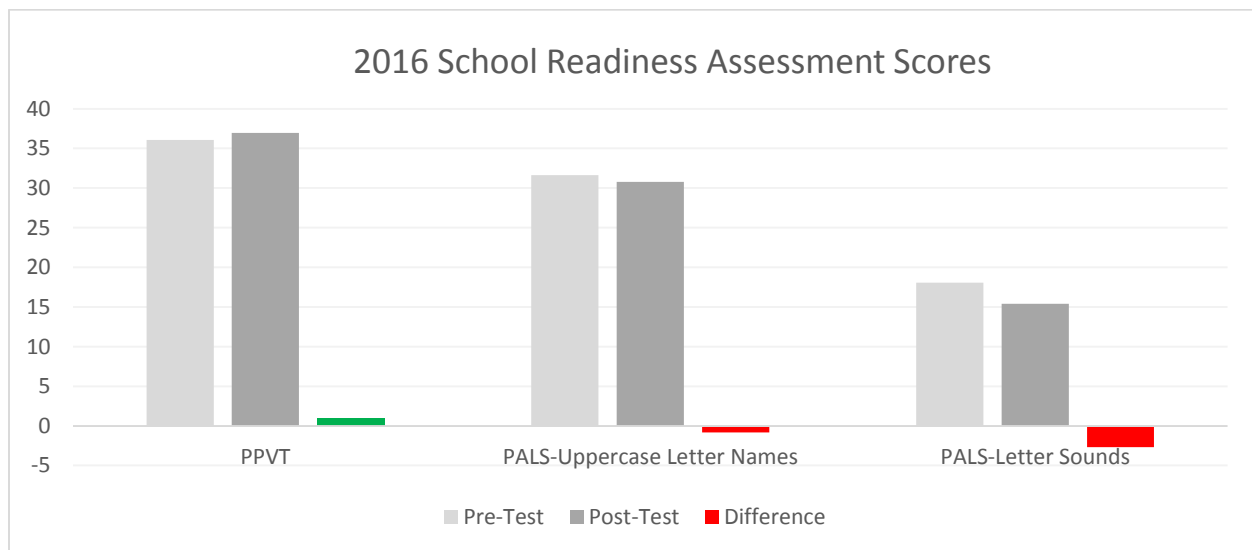


Figure 4. Pre-and-Post Test Scores

Additionally, similar to school readiness programs in 2014 and 2015, children enrolled in 2016 were unable to meet the standard score of 60 for the PPVT assessment. As a result, research results show an annual trend of children being unable to meet the standard score across

all summer school years (i.e. 2014-2016). Moreover, the PPVT assessment average scores for 2016 had the lowest improvement overall relative to the other years assessed. However, if the average starting score (i.e. pre-test) and the average ending score (i.e. post-test) is compared annually, results show that on average, students in 2016 started at higher level than previous years. See figure 5. for a visual representation. The lack of improvement from pre-to-post test scores maybe be a result of children starting the program with a higher cognitive ability compared to previous years. Therefore, it is possible that the curriculum in place fails to challenge the student's existing cognitive abilities. Further research is needed to confirm this statement.

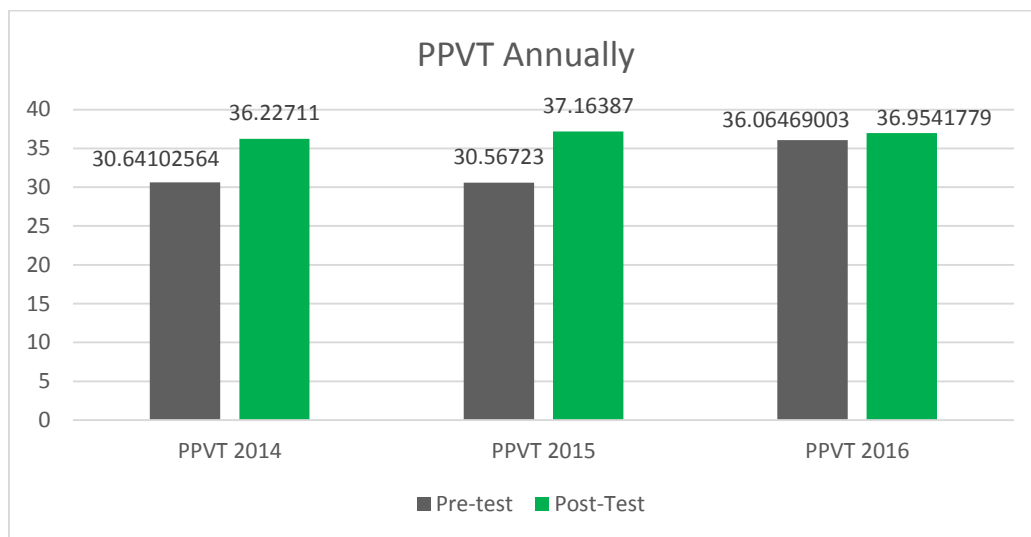


Figure 5. Pre- and post-test scores from 2014 to 2016

Conclusion

The research aimed to assess how effective migrant school readiness programs are in supporting a student's cognitive growth. Multiple reoccurring trends were found across the years the programs were implemented. Most importantly, a trend that occurred for all three years was the failure to meet the standard score of 60 for the Peabody Picture Vocabulary Test (PPVT).



Students pre-and post-test scores ranged from 27-36 even after undergoing the school readiness program. The continued trend of performing below average suggests that these migrant children stand at a developmental disadvantage which can have long-term effects. Long-term effects may include grade retention, enrollment in special education, and a decrease in the likelihood of graduating high school (Barnett, 1998). Additional annual trends in the current data found gaps within the PALS Assessments that measured vocabulary knowledge. This gap may be due to the incorrect way the assessment was utilized in measuring student's cognitive abilities. However, further research is required to determine the resulting factors for the gaps within the PALS assessments.

Although there were many instances of low performance in the PALS assessments, this research shows that academic growth is possible within these summer school readiness programs. For example, Children showed a statistically significant improvement in both PPVT and PALS assessments for the years 2014 and 2015. Therefore, it is safe to conclude that academic growth within these programs is possible. A study of all school readiness programs within the State of California is needed to conclude how well they are supporting migrant children's cognitive growth. Data included in this research only oversees one school readiness program and not an entire set of school readiness programs within the State of California. In addition, multiple factors were found to affect the implementation of the program and possibly the child's cognitive growth. These contributing factors are described below.

What one can conclude from this research about the specific barriers encountered when administering the program is limited. An interview with the director of the Santa-Maria Bonita District was conducted to characterize how the program was implemented but no observation of the actual implementation was made. Children entered the Summer School Readiness Program



academically behind and lacked the necessary social skills to succeed in the program. The majority of the students had never received academic instruction or had been in a classroom setting. As a result, students had to learn the basics at the start of the program. They were taught to wash their hands, follow the rules, and master holding their pencils, crayons, and color pencils (Dr. Zaske, Interview, 2016). Teachers had to guide the students into becoming independent preschoolers and acclimate to the school environment. According to Dr. Zaske (2016), it was very difficult for students to become accustomed to a classroom setting without the presence of their parents. However, a significant number of migrant parents could not stay due to work responsibilities.

Two major barriers were identified as possible factors for affecting student' performance: program barriers and parent barriers. The program barriers consisted of poor teacher development as well as the limited time period that the program lasted. To be more specific, teachers struggled in advancing a student's academic growth because children started the program with developmental delays and the program only lasted one month. Secondly, parent barriers included a parent's seasonal work and transportation. Transportation was an issue for many parents to take their children to the program and their agricultural work hindered them from staying in the program to participate in activities with their children.



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