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Comparison of Play-Based Learning versus Worksheets in English Language Arts Growth

Erin Wiskus

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Erin Wiskus

Northwestern College

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Abstract

The purpose of this action research is to compare the data of kindergarten student's growth in ELA (English Language Arts) through the use of play-based learning strategies against students who utilize worksheets as part of their instruction in order to determine if one instructional method is more effective than the other in demonstrating academic growth in English Language Arts. One group of students participated in play-based learning strategies while the other group utilized worksheets as an extension of learning. Both groups were given weekly pretests and posttests in the areas of: letter identification, CVC (consonant, vowel, consonant) words, digraphs, and sight words. Fountas and Pinnell Running Records was used to determine students reading levels and to assess any growth made from May to July. Analysis of the data determined that all students made growth in each area, however there was not enough data to conclude that students who participated in play-based learning activities made more growth than students who utilized worksheets.

Keywords: English Language Arts, play-based learning, worksheets

Comparison of Play-Based Learning Versus Worksheets on English Language Arts Growth

The educational academic expectations for students have grown exponentially over the years, Common Core State Standards use rigor to drive students to meet these standards. Educators are challenged with finding the best method in which to deliver lessons that promote growth, while helping students to reach the standards. This action research project examines, which method of learning, play-based learning vs. learning through worksheets, is the most effective in demonstrating academic growth in English Language Arts.

The problem is that educators use both methods of learning without really knowing which learning method is the most effective in demonstrating academic growth. Worksheets allow educators and parents to see physical evidence of a child's learning, whereas with play-based learning, data is collected through observation. The data allows the teacher to see where students are struggling or excelling, while parents may feel in the dark on where their child is academically. Play-based learning strategies and worksheet utilization data will be collected and compared to determine if one method is more effective than the other. The purpose of this action research is to compare the data of kindergarten student's growth in ELA (English Language Arts) through the use of play-based learning strategies against students who utilize worksheets as part of their instruction in order to determine if one instructional method is more effective than the other.

Data included in this action research project focuses specifically on the areas of letter knowledge and reading growth. This study examines two groups of 9 kindergarten students in a summer school setting that meet for one hour a day four days a week. Data will be gathered from the two groups of students over a span of four weeks. Play-based learning activities will be used

with one group of students and worksheets will be used with the second group of students. Using the same assessment tools and manner of collecting data, letter knowledge and Fountas and Pinnell data collected in January and May will be compared to the data collected during the time of this study to determine which group made the most growth and which, if any teaching method was more effective.

The research for this study has been collected from peer reviewed journals within the last 10 years in Northwestern College's Dewitt Library and Google Scholarly articles. Research has been collected from curriculum websites to help identify the validity and reliability of the assessments used to track student progress. The subtopics of the literature review are: play based learning, play based learning in ELA, and worksheet in ELA.

Literature Review

Play based learning is especially important during the early years of social emotional development. When students are given a hands-on play-based activity after a lesson, they are more eager to complete the assignment. Play based learning when implemented correctly by the teacher can have a positive effect on a student's growth in ELA (English Language Arts). Students are learning important skills, while playing a game with their peers, thus making the learning process more tactile and the learning environment more "fun".

Play based learning

Children are being introduced to academics at a much earlier age, which has led to high academic expectations and stress. The increase in academic development is causing students to miss out on active play time in schools. "The challenge arises when play is taken away from the early childhood programs and is replaced by test-driven curriculums resulting from current educational policies" (Guirguis, 2018, p. 44).

Guirguis (2018) conducted a mixed methods research study examining the benefits of learning through play including preschool play and social development, play and emergent literacy skills, and play and self-regulation. The research study examined a group of two and three-year old located in Manhattan. This study focused on the importance of play in the early years as it relates to language and social skills. Guiguis' (2018) concluded from her research that learning comes naturally for children through play. Incorporating play-based activities into the academic curriculum encourages social-emotional skill development along with academic learning in students.

Likewise, researchers Kobylak and Kalyn (2017) agreed with Guirguis' (2018) research findings when they conducted a mixed methods research study on play as a pedagogical

approach after kindergarten. Kobylak and Kalyn's (2017) research study examined a group of first grade students in Saskatoon Public Schools located in Canada. The findings in their study revealed that social, emotional, intellectual, and physical components of student growth developed through the activity of play and that these components created higher levels of critical thinking skills that lingered months after the study was concluded. Kobylak and Kalyn (2017) suggest that regular implementation of the activity of play, as part of a student's school day, encourages students to become comfortable and confident in asking questions as well as encourages the student's enthusiasm toward learning.

Researchers Pyle, Prioletta, & Poliszczuk (2018) expanded upon the idea of play-based learning by conducting a study to determine if play-based pedagogies had an effect on core literacy skills in kindergarten students. The study included 12 kindergarten teachers, five whom dichotomized play and learning, using free play in their classrooms and seven teachers who integrated a variety of types of play in their classroom to promote reading and writing skills. The findings of this study concluded that play-based activities benefit student growth in the following developmental domains: physical, language, social, emotional, and cognitive.

Although play-based activities and learning are encouraged by researchers, Jay and Knaus (2018) identified in their research, six challenges that deter teachers from implementing play-based learning in the classroom including: resources, time, environment, curriculum and assessment, behavior, and experience. Their qualitative research findings were from their study where they examined seven kindergarten and first grade classrooms in Australia over a one-year time span. The challenges of play-based learning, although important, are minor compared to the many benefits it can offer.

Worksheets in English language arts

Worksheets serve a visual purpose; they show parents that their child completed work or provide teachers with data. Ransom and Manning (2013) conducted a qualitative research study on the effect of worksheets versus other learning strategies. Their research expresses some concerns when it comes to utilizing worksheets in the classroom. Students who are emergent readers may struggle with reading the directions. Ransom and Manning (2013) add that children who have mastered the skill the worksheet is addressing will have little trouble and benefit little because they already know the material, while students who lack in that skill set will not perform well and the worksheet will not provide an opportunity to better understand the skill. It is hard to meet the needs of all students when utilizing one worksheet for the whole class. Ransom and Manning (2013) express the importance of meeting children at their developmental levels to achieve new educational goals. Worksheets can create static tasks for students, not allowing them to think creatively or use their problem-solving abilities.

Lee's (2014) quantitative study on 4th grade students and the relationship between worksheets and academic achievement, finding that the demand of reading required by worksheets may cause a barrier for students with low reading abilities. Lee (2014) found more issues with worksheets: the format of texts, reading demand, openness of questions, the challenge of tasks and the relationship between students' interests and tasks. Worksheets can be purposeful, but the teacher must put effort into finding or creating these worksheets to ensure their students success.

A study conducted by Yıldırım, Kurt, and Ayas (2011) found contradicting results on the use of worksheets in the classroom. Using mixed methods, a group of 44 eleventh grade students in Trabzon, Turkey were taught six, 45-minute lessons to determine what effect worksheets have on students' achievement on factors affecting chemical equilibrium. The findings concluded that

worksheets increased a student's achievement and that worksheets can be developed for other topics that are difficult to understand.

Methodology

Research Questions

- Does play based learning improve students ELA comprehension?
- Is play based learning more effective than worksheets in increasing students ELA comprehension?
- Do students prefer play-based learning activities or worksheets?

Data was collected using mixed methods. Through observation, qualitative data was collected during play-based learning time. Quantitative data was collected through the use of assessments, pretests, and posttests. Five independent variables in this study are: play based learning activities, worksheet activities, and the time-of-day lessons are being delivered, pretests, and posttests. Pretests and posttests are independent variables in this research because the tests change weekly. A progression of letter knowledge, blending and segmenting CVC words, blending/segmenting of digraphs and grade level sight words will be assessed.

The dependent variable in this study includes Fountas and Pinnell Running Records. Data was collected through quantitative data techniques. Fountas and Pinnell assessments use a point sheet to track students reading and comprehension accuracy. Fountas and Pinnell provides print outs that teachers can mark on as a student reads to track accuracy. After reading, students are asked comprehension questions, these are called running records. Records are kept in independent student files.

Participants

This action research was conducted on kindergarten students ranging from five to six years old, in a classroom setting in East Troy Wisconsin during a four-week session of summer school. Summer school consists of two 1-hour sessions. Each session consists of 9 students. Session one has 3 male students and 6 female students. Session two consists of 4 male students and 5 female students. For this action research two male and two female students were chosen at random from each session. Students 1-4 are from session one and students 5-8 are from session two.

Plan and timeline

Each session was given two pretests at the beginning of the week and two posttests at the end of the week. In week one activities and tests consisted of letter knowledge and 1-2 letter sight words. Week two focused on consonant vowel consonant (CVC) words and three letter sight words. Digraphs and grade level sight words were covered in week three. During week four, any additional sight words were covered and Fountas and Pinnell Running Records were performed. Each pretest/posttest consists of 10 problems and points were given for each part of identification. Grade level sight word tests consisted of 10 words; scores were determined using a point system. Student scores were recorded on a point sheet and imported into EASY CBM to track and monitor progress. Pre and posttests were created by the researcher and have no data of validity or reliability. Fountas and Pinnell Running Records are both reliable and valid. “After two and a half years of editorial development, field testing, and independent data analysis, the Fountas & Pinnell Benchmark Assessment System texts were demonstrated to be both reliable and valid measures for assessing students’ reading levels” (Fountas and Pinnell Benchmark Assessment System, n.d.).

Dependent and Independent Samples T-Test were used to analyze the data. The Dependent Samples T-Test is used to compare the data collected from pretests and posttests from both groups. To compare the Fountas and Pinnell Running Records data the Independent Samples T-Test is performed to determine if one group had different scores compared to the other group. These statistical tests help to answer the research questions of:

- Does play based learning improve students ELA comprehension?
- Is play based learning more effective than worksheets in increasing students ELA comprehension?
- Do students prefer play-based learning activities or worksheets?

IRB

My action research project falls under Northwestern's Educational Practice Exemption. Part §46.104 on Exempt Research, section 1 states: Research, conducted in established or commonly accepted educational settings, that specifically involves normal educational practices that are not likely to adversely impact students' opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods (§46.104 Exempt Research, 2018). My research meets these requirements because my research is being conducted in a school, using groups of students who have been determined by their primary grade level teachers in an instructional environment, comparing two instructional techniques.

Part §46.104 on Exempt Research, section 2 states: Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

(i) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects (§46.104 Exempt Research, 2018).

Student data is collected by using:

1. summative assessments
2. Fountas and Pinnell

Student names and information will remain confidential. No harm will come to any student while conducting this research. “For the purpose of this provision, benign behavioral interventions are brief in duration, harmless, painless, not physically invasive, not likely to have a significant adverse lasting impact on the subjects, and the investigator has no reason to think the subjects will find the interventions offensive or embarrassing” (§46.104 Exempt Research, 2018). My students are not at risk of being in danger or suffering academically.

Findings

Data Analysis

Quantitative data was collected through independent samples t-test to determine if there was a significant difference in scores between two groups of students. Students 1-4 belong to Session 1 and students 5-8 are a part of Session 2. Session 1 students used play-based learning to determine if it improved students ELA comprehension while Session 2 used worksheets.

Table 1

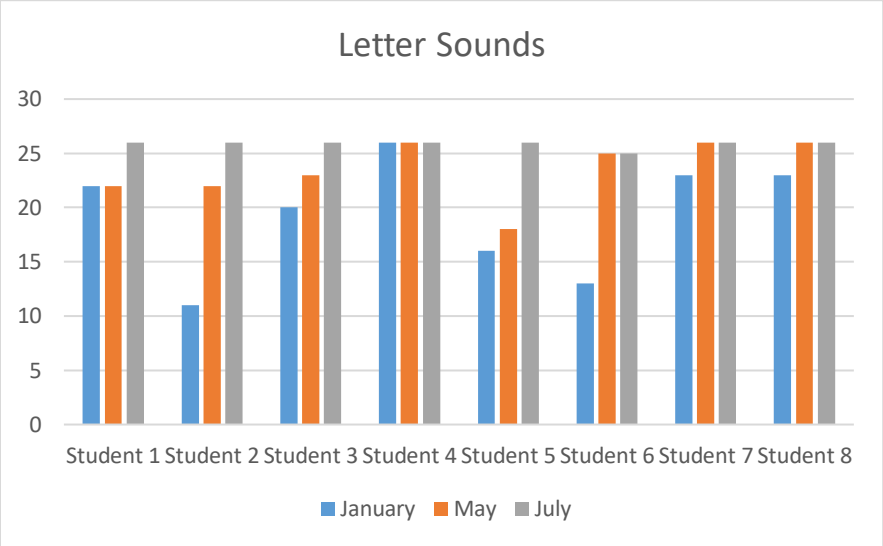


Table 1 shows students' scores from January, May, and July. Students were assessed on all 26 letter sounds in the alphabet. All students either made progress or had previously mastered the skill set. Session 1 averaged 26 points (M = 26, SD = 0) on the July assessment, making a 12% growth from May to July, while Session 2 averaged 25.75 points (M = 25.75, SD = .5) making an 8% increase in growth from May to July. Results of the independent samples t-test show statistically significant results t(6) =1, p>.36 indicating that students who participated in play-based learning and worksheets showed no significant difference in growth for letter sounds.

Table 2

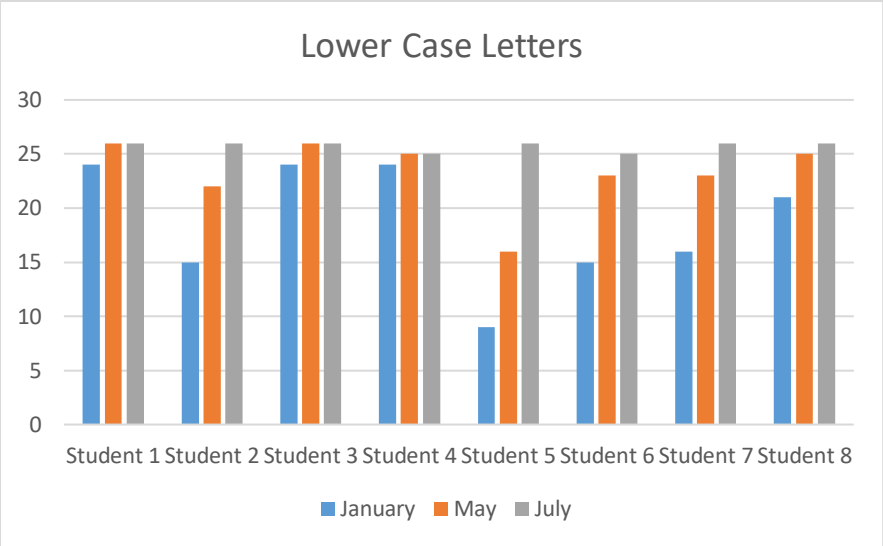
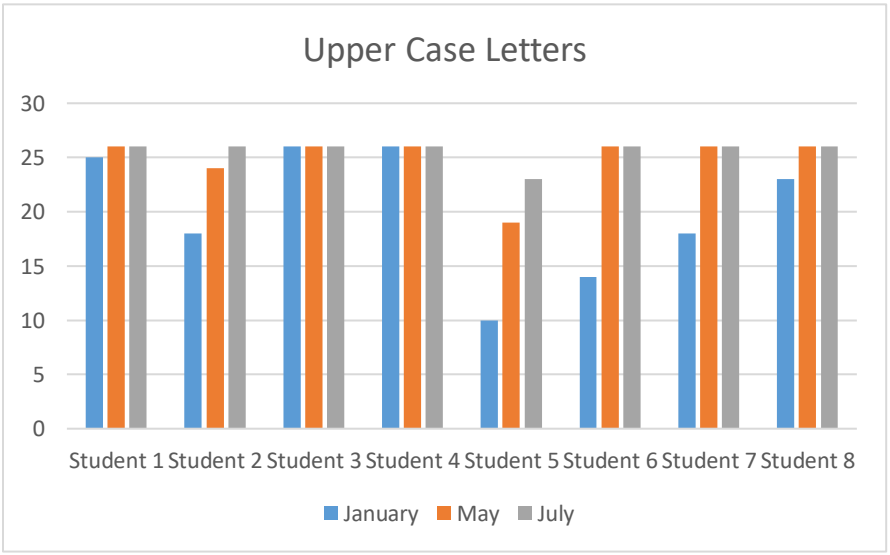


Table 2 shows students' scores from January, May, and July on lower case letter recognition. Students were assessed on all 26 letters in the alphabet. All students made progress from May to July. Session 1 averaged 25.75 points (M = 25.75, SD = .5) on the July assessment. Students made a 4% growth from May to July. Session 2 averaged 25.75 points (M = 25.75, SD = .5) and made a 15% growth from May to July. Results of the independent samples t-test show statistically significant results t(6) = 0, p>1 indicating that students who participated in play-based learning and worksheets showed no significant difference in growth for letter recognition of lower-case letters.

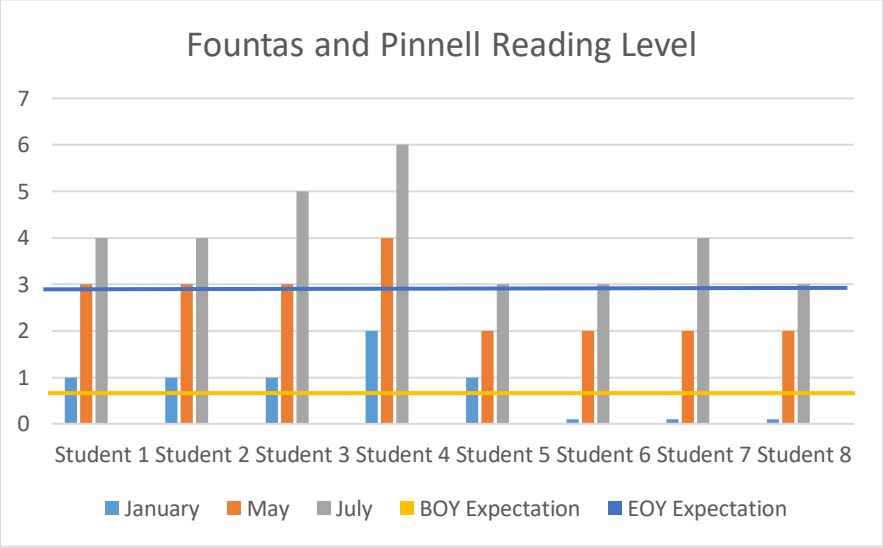
Table 3

Table 3 shows students' scores from January, May, and July on upper case letter recognition. Students were assessed on all 26 letters in the alphabet. All students



made progress from May to July or had already mastered the skill set. Session 1 averaged 26 points (M = 26, SD = 0) on the July assessment. Students made an 8% growth from May to July. Session 2 also averaged 26 points (M = 26, SD = 0) and made a 18% growth from May to July. Results of the independent samples t-test show statistically significant results t(6) = 1, p>.36 indicating that students who participated in play-based learning and worksheets showed no significant difference in growth for letter recognition of upper-case letters.

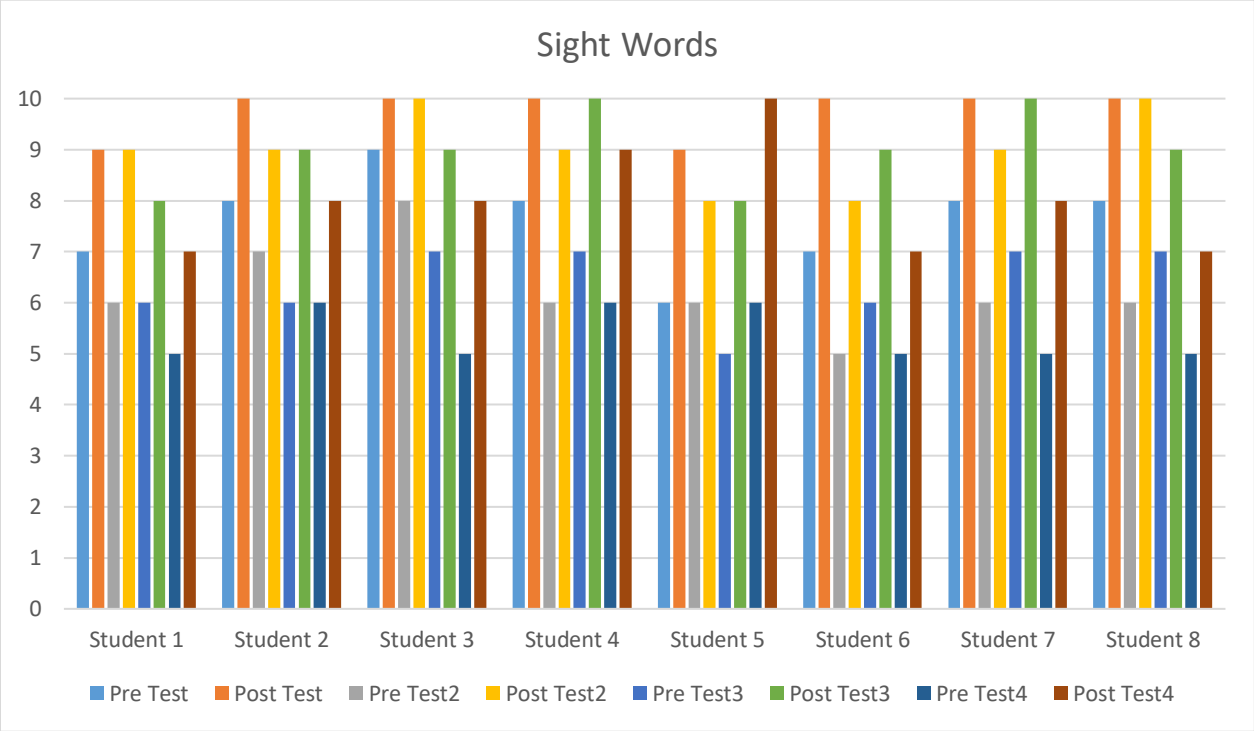
Table 4



Fountas and Pinnell Running Records was used to assess students reading levels. Table 4 shows students' scores from January, May, and July. All students in Session 1 were reading at grade level expectation when summer school began, while all students in Session 2 were reading one level below expectation. Session 1 averaged a reading level of 4.75 (M = 4.75, SD = .96) on the July assessment. Students made a 46% increase from May to July. Session 2's average reading level was 3.25 (M = 3.25, SD = .5) and made a 63% growth from May to July. Results of the independent samples t-test reveal a significant difference between the groups, t(6) = 2.77, p<.03. Students who used play-based learning activities demonstrated a higher reading ability then students who used worksheets, demonstrating that play-based learning is more effective than worksheets in increasing students ELA comprehension.

Qualitative data was collected through dependent samples t-test in three categories of pretests and posttests. Each test consisted of 10 words and students were given points accordingly.

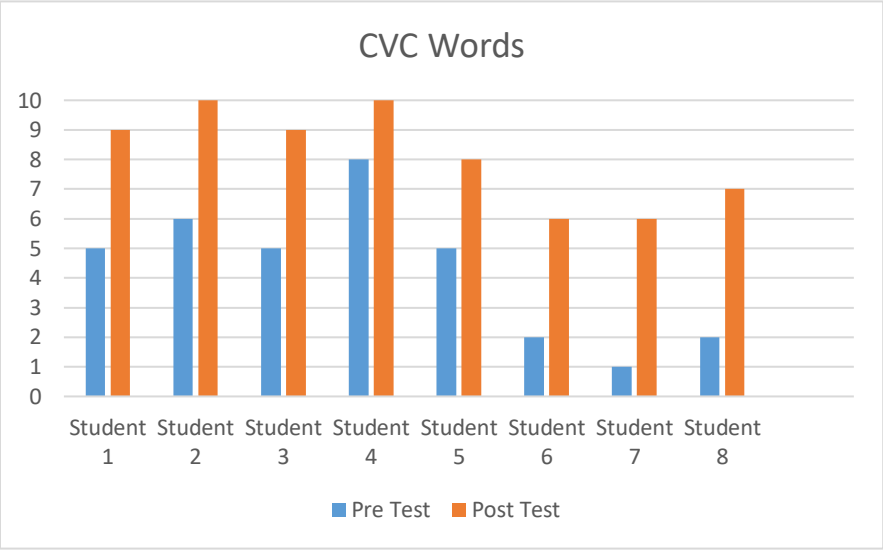
Table 5



Each week students were given a pretest and posttest of sight words. Table 5 shows the scores for all four weeks of testing. Using the combined data for all four weeks, Session 1 scored an average of 6.7 (M=6.7, SD=1.14) on the pretests and an average of 9 (M=9, SD=.89) on the posttests. Session two scored an average of 6.12 (M=6.12, SD=1.02) on the pretests and an average of 8.87 (M=8.87, SD=1.08) on the posttests.

In week two, CVC words were tested. Table 6 shows students pretest and posttest scores of CVC words. Session 1 received an average of 6 points on the pretest (M=6, SD=1.41) and 9.4 points on the posttest (M=9.4, SD=.58). Session 2 scored an average of 3 points (M=3, SD=1.7)

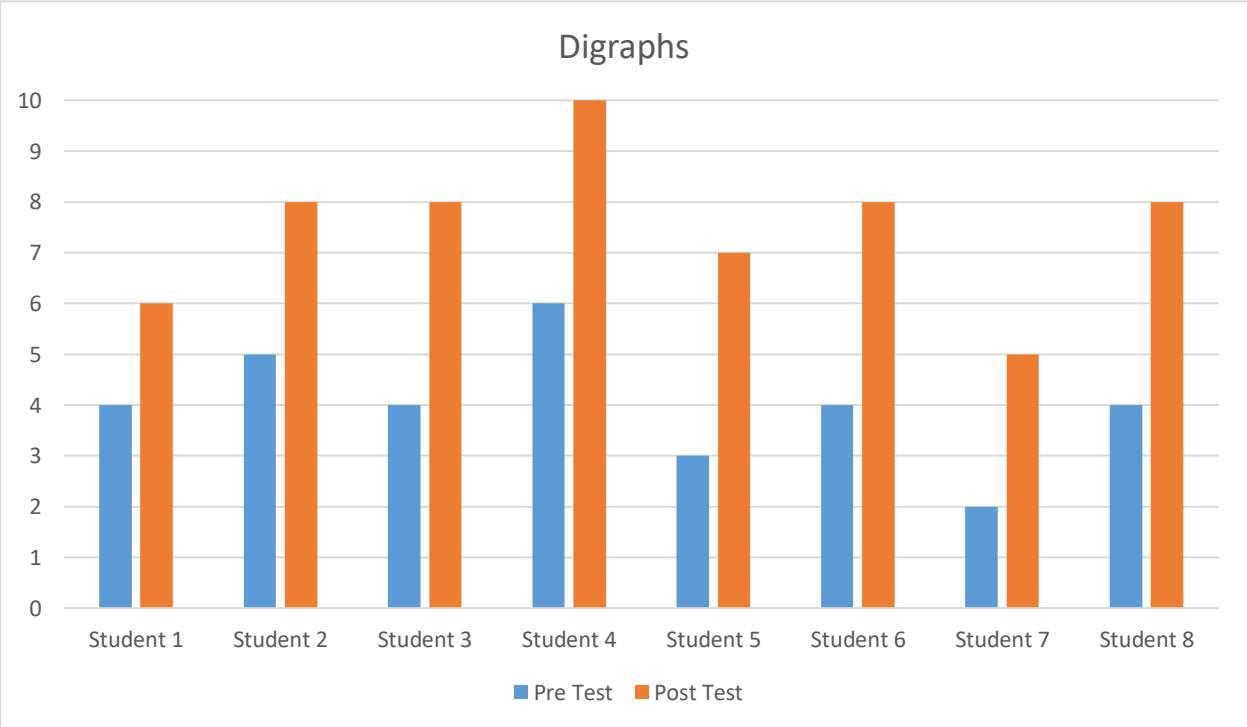
Table 6



on the pretest and 7 points on the posttest (M=7, SD=.95). Students in Session 2 made more growth overall but students in Session 1 had scores that demonstrated mastery of the skill set.

In week three a pretest on digraphs was given, Session 1 scored an average of 4.75 (M=4.75, SD=.95) and an average of 8 (M=8, SD=1.63) was scored on the posttest. Session 2 received an average of 3.25 (M=3.23, SD=.95) on the pretest and an average of 7 (M=7, SD=1.41) on the posttest. Session 2 students made more overall growth, while more students in Session 1 gained mastery.

Table 7



Qualitative data was collected through observation during this research. The researcher observed student engagement and understanding during both play-based learning activities and worksheet time. Students showed more excitement during play-based learning activities and were eager to get to work. These observations led to the conclusion that students prefer play-based learning activities over worksheets.

Discussion

The findings from this study show little difference between the two groups of students. Based off the results, it is difficult to determine if one instructional method was more effective than the other. Both groups of students made growth from pretest to posttest as well as on their reading levels. Session 1 students began the study reading academically on grade level while session 2 students were performing below grade level. All students worked on the same phonological skills during the 4-week session. The study did find through observation that students were more eager and engaged in their work during play-based learning activities versus those who completed worksheets as part of their instruction. Based off the data collected from this study, it cannot be determined that play-based learning activities are more effective than worksheets in English Language Arts growth.

Limitations of the study

One limitation of this study is the different academic levels within each group. Session 1 consisted of students who were already reading on grade level while session 2 students were reading below grade level. A larger variety of students on different academic levels should be used to obtain more accurate data. The number of students was limited in this study due to enrollment numbers for summer school.

Time was another limitation in this study, summer school is a 4-week program. Conducting the study during the school year would allow for more time to gather data to truly see the effects each learning method had on students' academic growth.

Further Research

This study should be conducted at the beginning of the school year. After a three-month period, data should be analyzed to determine which instructional strategy provides greater

benefits to students. This strategy should then be implemented throughout the rest of the school year. Educators from other grade levels could be asked to participate in the same study to determine if the same learning strategy is effective in multiple grade levels.

Conclusion

This paper examined the effectiveness of the use of play-based learning strategies against students who utilize worksheets as part of their instruction in order to determine if one instructional method is more effective than the other in demonstrating academic growth in English Language Arts. Data from eight students was collected, 4 students participated in play-based learning activities and 4 utilized worksheets as part of their instruction over a four-week time period. All students made growth in the skill areas of: letter identification, CVC (consonant, vowel, consonant) words, digraphs, and sight words. Students also made growth on the Fountas and Pinnell Running Records reading assessment. The results show that using play-based learning activities and worksheets, both as effective instructional methods. Qualitative data, collected through observation determined that students showed more engagement and enthusiasm when it came to participating in play-based learning activities compared to those who used worksheets. The outcomes of this study could produce different results if more time allowed to conduct the study. A higher level of participants would also provide more accurate results as to the effectiveness of each learning strategy. If future research were to be conducted, the researcher suggests that the study consist of a longer period of time, with more research subjects.

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