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# Using Guided Play to Acquire Literacy Skills

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Using Guided Play to Acquire Literacy Skills

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An Action Research Project Presented  
in Partial Fulfillment of the Requirements  
For the Degree of Master of Education

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### Abstract

The purpose of this action research was to determine if exclusively using guided-play based learning strategies with kindergarten students who have individualized education plan (IEP) literacy goals in letter sound identification assists these students in acquiring this skill. Students were provided instruction with the inclusion of technology and worksheets between the Fall and Winter FAST assessment screenings. Students were then provided guided play-based instruction to identify letter sounds between the Winter and Spring FAST assessment screenings. Data collection was obtained through bi-weekly IEP progress monitoring procedures and through the FAST assessment. Analysis of the data shows that students made overall progress between each assessment screening, however the amount of progress was greater during the instructional use of technology to acquire letter sound recognition skills instead of during the use of guided play-based learning strategies.

*Keywords:* literacy, letter sounds, play-based learning

### Using Guided Play to Acquire Literacy Skills

Kindergarten students receive instruction on letter sound identification as part of early literacy education. Students are provided this instruction prior to obtaining sight word recognition and reading fluency skills. When these skills are obtained, students then move on to skills such as fluent and accurate reading, and eventually reading to comprehend. Therefore, acquiring letter sound identification skills as part of early literacy education is of higher importance. The use of technology or play-based learning strategies to instruct students on letter sound recognition can be used. When using technology to learn letter sounds, students are exposed to acquiring 21<sup>st</sup> century skills while also learning early literacy skills. However, the argument can also be made that using play-based learning to acquire letter sound identification is of equal effectiveness, if not higher effectiveness, as using technology-based learning.

This paper will explore the question, does exclusively using guided play-based learning strategies with kindergarten students who have an individualized education plan (IEP) literacy goal in letter sound recognition assist these students in acquiring this skill? The effectiveness of using guided play-based learning strategies in place of technology to acquire letter sound identification with kindergarten students receiving special education services will be explored. By examining student performance of letter sound recognition on state-mandated assessments that are administered throughout the school year, the effectiveness of play-based teaching strategies versus technology-based teaching strategies can be evaluated. By completing this research, educators may be given additional information on potential best practices for teaching letter sound identification skills to kindergarten students, particularly students with IEPs.

Students involved in this study were exposed to various learning strategies in order to obtain letter sound recognition skills throughout the course of the school year. They were given

exposure to both upper and lowercase letters during both technology and play-based learning activities. These students were exposed to iPad and SMARTBoard activities during the time period between Fall and Winter screenings of the FAST assessment. These activities were designed to increase student recognition of letter sounds, and were eventually used to increase student fluency of letter sounds. Students were then exposed to play-based activities to acquire letter sound recognition skills between the Winter and Spring FAST assessment. One activity was a letter sound hunt, in which letters were listed around the classroom, and students searched for the sound that was given to them by the teacher. This activity encouraged gross-motor skills in addition to practice of early literacy skills. Another play-based activity was play doh sounds, which encouraged students to mold the play doh into the letter that represented the given sound. Students also magnified written letters on the whiteboard with magnifying glasses to practice identifying sounds and matching them to the letter representation. These students also played sound go fish, where they had to apply communication skills to play the game and ask their peers for the sound they were looking for in order to make a correct match. Students also participated in a sound hop activity. The teacher placed individual cards with one letter randomly on each card in a line on the floor, and students hopped on each letter while simultaneously providing the sound for that letter. Students enjoyed timing themselves during this activity in order to increase their letter sound fluency. This activity encouraged students to increase their speed of letter sound identification in random order, which directly relates back to the FAST assessment on letter sound fluency. Each of these activities were designed with the intention of assisting students in acquiring letter sound identification skills. Letter sound identification is part of the IEP literacy goals for each participating student.

### **Review of the Literature**

Foundational literacy skills play an important role in a student's eventual capability to read fluently and accurately, as well as comprehend what they have read. Giles and Tunks (2015), describe the history behind using play-based learning and a child's natural tendency to explore to learn. The authors reference other foundational researchers and educators, and relate these types of learning with acquisition of literacy skills. "Introduced and advocated by education pioneers such as Friedrich Froebel, Maria Montessori, and John Dewey, this view was applied to literacy learning with much success" (Giles & Tunks, 2015, p. 524). The basis of using play-based learning strategies to acquire literacy skills can be supported by the findings from these individuals. Technology can also be used to assist students in acquiring early literacy skills. "To differentiate instruction, educators are turning more frequently to technology-based interventions designed to increase engagement, individuate instruction, and provide efficient, embedded progress monitoring" (Shanley, Strand Cary, Clarke, Guerreiro, & Their, 2017, p. 816). Educators can use technology to provide engaging learning opportunities that fit each student's individual learning needs. Further evidence on the effectiveness of both play-based learning strategies and technology-based learning strategies will be explored.

### **Emergent Literacy**

Emergent literacy is a term that is used to describe the culmination of skills a student uses in the beginning stages of learning to read. These skills are the foundation upon which reading skills are built, which leads to students' ability to read with fluency, accuracy, and overall comprehension. Whitehurst and Lonigan (1998), further describe how emergent literacy is different from the idea that children will suddenly begin reading, instead of being given opportunities to put their skills into practice throughout time. The researchers also give

importance to children understanding the meaning behind the sounds that are represented through letters, and the meaning behind the words they will eventually understand how to read. “Reading, even in its earliest stages, is a process that is motivated by the extraction of meaning” (Whitehurst & Lonigan, 1998, pp. 849-850). When students are provided meaning behind what they are reading, they begin to take ownership of their own learning, thus increasing student potential for reading. The teacher-researcher found that students began to put meaning behind letter sound recognition when given motions to learn each individual letter sound. Students were relating the abstract sound they had heard to the representational letter, as well as the concrete presence of a bodily action. This action was also tied to a specific word that included the particular letter sound as the initial sound, giving students another reference to draw knowledge from. Students began to show confidence in their ability to recognize letter sounds after being given scaffolded instruction that drew upon their prior knowledge of letter name recognition skills. Therefore, their foundation of emergent literacy skills has started to develop, which increases their overall potential for future success in reading.

### **Phonemic awareness.**

The foundation for literacy skills and emergent reading begins with phonological awareness, which includes letter sound identification. Burke, Hagan-Burke, Zou, and Kwok (2010) provide research on predicting a kindergartener’s emerging reading ability by using fluency-based early literacy measures by stating, “Phonological awareness refers to the broad awareness that spoken words are composed of sounds, and it includes phonemic awareness, which focuses on sound units at the phoneme level” (p. 386). When students are able to understand individual sounds in spoken words, the foundation for early reading skills in young children is created. Students can begin to segment words apart based on their individual sounds,

or they can start to blend sounds together to read new words. The teacher-researcher began to see this with students when the foundation of letter sounds was established, and students began to segment and blend simple words. Students were able to use their abstract knowledge of sounds, and create words based on the representational knowledge of written letters. These children also began to recognize related words, particularly through rhyming skills. The authors go on to further explain, “Researchers have argued that phonological awareness is causally related to word reading and alphabetic mastery, reporting correlations from .40 to .60 between phonological awareness skills in kindergarten and word reading at the end of first grade” (Burke et al., 2010, p. 386). This shows that students need to understand both letter names and letter sounds in order to be successful with continued acquisition of literacy skills. Students will use this knowledge to build their knowledge of blending and segmenting, and eventually to assist them with reading basic sight words. This research claims that if students are not able to acquire these foundational skills, they are more likely to develop a reading disability later on. There are other potential risks that could occur from a student’s incapability to acquire foundational literacy skills. When students are not given opportunities to build these skills, their confidence in their reading capabilities starts to decline. This could eventually lead to students feeling less confident in other key aspects of education, as well as in their social and emotional perspectives. The research stated, “Acquiring fluent reading skills is a risk factor associated with a host of poor school and societal outcomes, including reading failure or disability, poor academic achievement, adult illiteracy, increased rates of problem behavior; and high school dropout” (Burke et al., 2010, p. 385). Therefore, the importance of acquiring these foundational literacy skills is key for student success in their future reading, as well as for their overall future success and well-being.

**Difficulties with emergent literacy.**

Justice and Pullen (2003), also gave importance to emergent literacy in research with preschoolers. This research gave importance to emergent literacy and acquiring the skills needed for early reading at a young age in order for students to obtain a solid foundation for reading. Students that tended to have difficulties with acquiring these emergent literacy skills, such as phonemic awareness, eventually showed struggles with other reading skills. Therefore, using specific instruction with students who demonstrate difficulty with emergent literacy skills is of the utmost importance. This specific instruction should come in students' natural learning environments, and should be done at a level that promotes students' engagement in the activities as well. The teacher-researcher promoted students' learning of emergent literacy skills to occur both in the general and special education settings. The teacher-researcher also found ways to encourage student engagement in the activities presented to acquire these skills. "Promoting children's skills and knowledge in nonfunctional and contrived contexts in which children are only passively engaged is inconsistent with the knowledge base concerning how children acquire literacy knowledge" (Justice & Pullen, 2003, p. 101). This is particularly important for students that find difficulty in learning these new skills, which leads to the idea of using play-based or technology-based learning strategies within struggling students' normal classroom settings to obtain these skills as functional instructional methods. Students should also be given various opportunities to practice these skills in various contexts. The teacher-researcher observed students' extending their learning when they were provided with activities that encouraged them to think outside of their prior knowledge, and expand on the information given to them. The teacher-researcher also saw this when students were asked to perform within a time limit, because students were then expected to perform at a higher level than before, and the students

worked to meet the standards given by the educator. Therefore, the teacher plays an important role for the student that experiences struggles with obtaining reading skills, because the educator provides structure and scaffolding that allows the student to become successful with repeated practice.

### **Using Technology**

While the use of technology-based learning is controversial to the idea of play-based learning being the best approach in early childhood settings, education is becoming more and more technology-driven each day. There are 21<sup>st</sup> century skills that students are expected to be exposed to and acquire throughout their time in educational settings. Cviko, Mckenney, and Voogt (2012), stated, “Experts agree that technology use in kindergartens should not be isolated but rather integrated with classroom routines and activities for a learning environment to offer meaningful experiences for children” (p. 32). This would lead educators to believe that educational technology can serve various learning purposes for students, as long as it is integrated into the classroom in a meaningful way. The teacher-researcher found that students stayed on-task with technology-based learning when they were given the objective for the activity prior to completion. The article goes on to describe how technology can be used for obtaining literacy skills. “Literacy learning is facilitated when children learn to use language for authentic purposes. Supported by technology, this could include writing a letter to a relative and posting a letter in a play corner” (Cviko et al., 2012, p. 32). This could lead to the belief that technology could be a more valuable resource than using play-based learning for early childhood students learning literacy skills by providing them opportunities to incorporate various aspects of their day with learning through technology. The teacher-researcher found that the use of technology with kindergarten students kept the students engaged during instructional time.

Students tended to stay focused on the task presented to them when it was delivered on an iPad.

This suggests that students can acquire literacy skills through a variety of technology tools within their classroom environments. This also suggests that students can obtain these skills throughout various parts of their day, whether academic-based activities or non-academic activities, instead of exclusively during scheduled reading instructional times.

### **Technology in literacy.**

The use of technology in promoting student literacy skill acquisition is a topic that will continue to grow within the 21<sup>st</sup> century. However, it is difficult to state whether or not technology-based instruction is the best for student progress in emergent reading. Salmon (2014), describes, “The capability of electronic books to stimulate emergent literacy growth or mediate disparities in students with inadequate literacy skills remains undetermined” (Salmon, 2014, p. 85). While it is hard to say if technology use in classrooms has long-term effects on student success in reading, the teacher-researcher observed higher student engagement in activities involving technology while learning letter sounds in the classroom. Students showed a higher level of interest and stayed focused on the task presented to them for a longer period of time. These students also asked to perform these activities on a regular basis and showed retention of skills through progress monitoring data after reviewing letter sounds using technology. One of the difficult components of promoting literacy through the instructional use of technology is determining which tools are of higher quality and most effective after being used. The author also described, “The research suggests that quality, as it pertains to the combination of considerate and interactive multimedia features, is a factor that potentially influences literacy development” (Salmon, 2014, p. 88). Educators must decipher which tools are useful and which provide distractions from the overall goal of literacy development when

choosing the technology that best fits the needs of their classrooms. The teacher-researcher chose tools that were directly related back to the general education classroom activities, as well as resources and activities using technology tools that the teacher-researcher created. This provided the teacher-researcher with evidence that students were receiving instruction that directly related back to their overall assessments, as well as providing them with an opportunity to use technology to acquire letter sound recognition skills as part of emergent literacy.

“Multimedia and interactive features that motivate and engage young readers are influential factors that can potentially influence reading frequency” (Salmon, 2014, p. 90). Repeated exposure to letter sounds and eventually other skills within emergent reading could lead to the possibility of students gaining these skills, particularly with the use of various technology tools both in and out of the classroom setting.

### **Importance of Play**

When considering the importance of play-based learning in the early childhood setting in place of consistent technology use for children learning literacy skills, various sources describe the importance of play-based learning in early childhood settings, while other sources give importance to technology-based learning. Some sources that state the use of technology for students in a mixed method is a more beneficial approach to learning. Researcher Putman (2017), describes technology, as well as educational technology, “Technology’ is a broad and somewhat vague term in education. Educational technology can refer to anything from software to hardware to a process to a product” (p. 1154). Since technology is so broad and diverse, it is hard to find ways to make it completely fit all of the needs for all students. The teacher-researcher experienced some difficulties when finding resources that were useful for all students and meeting the specific learning needs for each student. “Research on educational technology

is wide-ranging and focuses on various applications, populations, and purposes . . . it is often difficult to generalize findings and draw definitive conclusions about the role and effectiveness of technology” (Putman, 2017, p. 1154). Therefore, it could be said that technology is not always the best solution for student learning and acquisition of skills, particularly early childhood students that are acquiring literacy skills.

### **Using play in literacy.**

The use of play-based learning in assisting students in acquiring literacy skills at the early childhood level has multiple benefits. Morrow and Rand (1991), describe that a classroom can be set up in such a way to promote play in young children so as to encourage the development of skills, particularly literacy skills. “Literacy development in young children may occur within the context of play. Play is an ideal setting which allows the young child to practice, elaborate, and extend emergent literacy abilities” (Morrow & Rand, 1991, p. 397). The use of play with early literacy skills can also lead to a student obtaining writing skills.

“The pedagogy of play was the key to successful transition specifically in relation to writing development. It also allowed students to engage in authentic opportunities to develop oral and written literacy skills whilst giving them voice in what they wished to play and write about.” (Biordi & Gardner, 2014)

Therefore, by using play-based learning in the early childhood setting for literacy skill attainment, students are not only exposed to early reading skills, but also early writing skills and language skills. This exposure could increase a student’s vocabulary and assist them with learning correct spelling. The teacher-researcher observed students’ beginning to use their knowledge of letter sounds to begin writing simple words and use inventive spelling to dictate sentences related to student-created drawings. It was also observed by the teacher-researcher

that students were surprised when realizing that they were capable of doing their own spelling and creating sentences with words they were familiar with based on the sounds they knew. Cavanaugh, Clemence, Teale, Rule, & Montgomery (2017) conducted research with kindergarten students using play and literacy, and found, “Literacy skills can be explored through play, as children use their imaginations, negotiation skills, and social interactions to practice and develop linguistic ability” (p. 831). The teacher-researcher also found this to be true during various sound building games students participated in. Students showed demonstration of their letter sounds while also practicing social interactions of asking questions and negotiating with one another on correct sound pairs. Students who are given these early skills are also provided the foundation for future success of reading with fluency, accuracy, and expression. The researchers also described the importance of using early literacy skills and how it affects future student success. “These early literacy skills are important because they have a consistently strong relationship with later conventional literacy skills such as decoding, oral reading, fluency, reading comprehension, and writing convention” (Cavanaugh et al., 2017, p. 832). By obtaining these skills, this will then lead to increased student comprehension and understanding of what they have read.

### **The Teacher’s Role**

The role of the teacher in the use of play-based learning for students who are acquiring early literacy skills is also important. Wasik and Jacobi-Vessels (2016), describe the difference between free play and guided play. “When children play alone or with peers of their own age, the content of the play is typically about the ideas and activities that children already know and are familiar with, therefore, limiting the possibility of learning new ideas” (Wasik & Jacobi-Vessels, 2016, p. 769). This shows that a teacher’s guidance during play can extend student

learning beyond what their typical free play can provide. “Adults can effectively offer unique opportunities especially for children’s language and concept development during play” (Wasik & Jacobi-Vessels, 2016, p. 769). When teachers are intentional with their planning for play-based learning, it opens opportunities for children to learn based on their interests, needs, and developmental levels. “Guided-play based opportunities serve children as effective opportunities to involve children in the learning process” (Cavanaugh et al., 2017, p. 832). When students are involved in their learning and given choices in how they learn, they take more ownership and gain more confidence in their skill building. The teacher-researcher observed that students also wanted to receive guidance from the teacher during their play. Students did not necessarily want to take over the learning activity on their own, but felt more comfortable being guided by the teacher. Students also wanted to have an explanation of each activity and understand the expectations that were involved with each task. By using strategies implemented in guided play-based learning, teachers are able to assist early childhood students in the acquisition of literacy skills. “Adults need to be involved and act intentionally within these contexts to affect children’s learning. Such mediation by adults, or careful scaffolding of opportunities for children to learn emergent literacy, is also recognized as a best practice” (Piastra, 2016, p. 236). There may be discontinuity in the teaching and learning experienced by young children who are transitioning from preschool to elementary school, because the learning becomes less play-based. The importance of teachers continuing the same style of learning that was used in preschool classrooms into the primary grades, such as the use of play-based learning, will assist in the continuity of literacy skills for early childhood students.

“Adult involvement in children’s play has usually been perceived as an interference.

However, more recently, we have some evidence that adults are very effective tutors in

children's play, sometimes even more so than peers, in teaching both general cognitive skills, like classification or planning, and literacy issues, like knowledge about print.

Thus, one is led to conclude that peers and adults can contribute to children's play, albeit in different ways." (Korat, Bahar, & Snapir, 2003, p. 386 - 387)

This shows that while students do benefit from a free-play learning environment, the use of guided play in the classroom can also be used to students' benefit. Students are able to gain skills from their teachers that they may not otherwise gain from their classmates. "A compromise between free play and individualized instruction, may provide an effective alternative that allows children control of the activity within boundaries, while still preparing students to succeed in school" (Cavanaugh et al., 2017, p. 833). The use of both types of play-based learning, both guided play and free play, can pose many benefits for students who are acquiring developmental skills, including emergent literacy skills.

### **Teachers of struggling students.**

When students struggle with literacy, it is important for educators to find ways to meet student needs and bridge the gaps in foundational skills. "Students at-risk for reading difficulties who demonstrate cooperative or enthusiastic engagement in academics outperform students who demonstrate resistive or disaffected engagement on reading tasks" (Wanzek, Roberts, & Al Otaiba, 2014, p. 59). Therefore, it is pertinent that educators build student confidence in foundational literacy skills, and encourage them to continue to practice these skills, before students lose engagement in reading. The teacher-researcher encouraged students to continue trying when they came to sounds they had little prior knowledge of, and persuaded students to try again when they felt like they had failed a task. Students began to show a gain of confidence when the teacher-researcher gave repeated practice and students saw their progress throughout

data collection points. “Teacher perceptions of student competence have a long history of significant correlations with student achievement” (Wanzek et al., 2014, p. 59). Therefore, students should be encouraged by their teachers to have a growth mindset during literacy instruction, especially when facing new tasks or when students have demonstrated a difficulty with the skills they are working to obtain. Teachers have a direct impact on student progress rates in literacy when promoting a student’s ability to succeed.

In summary, the use of play-based learning over the use of technology-based learning with early childhood students in obtaining literacy skills is useful and beneficial. The use of technology-based learning can also be proven to be beneficial for students. In today’s society, kindergarten students can be exposed to both types of learning, even within the same school day. Students can receive various benefits from both play and technology use in their classrooms. Exposure to early literacy skills, such as the skills obtained in emergent literacy, is the key to building the foundation for students’ future success in reading. The importance of receiving direct instruction to develop literacy skills has lasting effects, especially for students who receive specially designed instruction in literacy for their IEPs. “The development of literacy skills is critical to children’s learning. Children who develop these skills earlier demonstrate better academic learning, both in the early years and in later schooling” (Pyle, Prioletta, & Poliszczuk, 2018, p. 117). There is also importance in a student’s mindset about the tasks presented to them. Teachers have an influence on this mindset, and should encourage students to be successful in acquiring literacy skills. Therefore, action research used to demonstrate the connection of the use of play-based learning with early childhood students and the acquisition of literacy skills, such as letter sound identification, versus the use of technology-based learning to acquire these skills, will benefit these students.

## **Methods**

### **Participants**

This action research was conducted with kindergarten students in a resource special education classroom in Northwest Iowa. These students range in age from five to six years old, and three of the four students experienced education in a transitional kindergarten classroom prior to starting this school year in kindergarten. There are two female and two male students. These students receive special education services in the academic area of reading from the teacher-researcher for thirty minutes per school day in the resource classroom, as well as for thirty minutes per school day for specially designed instruction in the academic area of math. Three of the four students also receive speech-related services for communication goals on their IEPs. These students are otherwise integrated into the general education classroom and participate in activities with their peers. All of these students receive specially designed instruction in order to meet their individualized education plan reading goals. These reading goals include acquiring letter sound identification as part of early literacy skills. The reading goals for these students also focus on uppercase and lowercase letter recognition, early rhyming skills, and basic sight word recognition from the pre-primer Dolch word list. These are skills that are recognized as essential by the school for students that are completing kindergarten reading curriculum.

### **Data Collection**

The research conducted was used to determine if exclusively using guided play-based learning strategies with kindergarten students who have IEP literacy goals in letter sound recognition is effective in assisting those students in achieving this skill. This research was compared to the effectiveness of using technology-based learning activities with kindergarten

students to acquire letter sound recognition skills. The Fall, Winter, and Spring screenings of the FAST assessment were used to provide validity and reliability for this research. The teacher-researcher also conducted daily informal observations and gathered self-made progress monitoring data every two weeks on letter sound recognition with these students, however this data does not provide validity and reliability for this research. The daily informal observations were also used to gauge student engagement and interest in activities, as well as to monitor student confidence and overall attitude about acquiring the literacy skills presented. The FAST assessment is composed of a variety of subtests. These tests include: concepts of print, letter name recognition, letter sound recognition, onset sound recognition, word blending and segmenting, rhyming, decodable and nonsense word reading, and sight word recognition. The FAST assessment is administered three times per year. During the letter sound recognition assessment, students are given one minute to identify as many letter sounds as possible out of 107 given letters. The sound /qu/ was given as a digraph during the assessment, throughout progress monitoring data collection, and during letter sound instruction in both general and special education settings. Students are given a score based on the correct number of letter sounds they identified during the FAST screener, which provides data on student letter sound fluency and accuracy. Students do not receive errors based on their speech capabilities, which gives importance to using the same test administrator for each assessment period. The letter sound recognition score is combined with other test scores within the FAST reading assessment, which then provides the student with an overall composite score for this assessment. Student composite scores are compared to grade-level benchmarks. The composite scores for kindergarten reading are 34, 52, and 65 for Fall, Winter, and Spring assessments, respectively. The FAST assessment provided student data on letter sound recognition as part of quantitative

data for the baseline of this research. The FAST benchmark scores for letter sound recognition are 5, 29, and 41 for Fall, Winter, and Spring assessments, respectively. Baseline data was also collected during the Fall semester of the school year, with students participating in letter sound recognition activities that include the use of technology and worksheets. This instruction was given during the time between Fall and Winter screenings of the FAST assessment. Students then participated in guided play-based learning activities exclusively in order to learn letter sounds during the time between the Winter and Spring FAST assessment screenings. The researcher continued to gather data through informal observation and self-made progress monitoring probes during this time. The Spring FAST assessment was given to students to provide more quantitative data for this study. The teacher-researcher used data to compare the Fall to Winter and Winter to Spring FAST assessment scores for letter sound recognition for these students in a paired samples t test. After the assessments were completed, the data was analyzed in order to determine the effectiveness of exclusively using guided play-based learning strategies with kindergarten students who have IEP literacy goals in letter sound recognition. By analyzing this data, the teacher-researcher may potentially change instructional methods for future kindergarten students, with the potential to increase play-based activities, or technology-based activities. The teacher-researcher may also continue this study with future kindergarten reading groups in order to provide more data to support the findings from this study. With the information that was provided, future changes in instruction may be considered, with both the use of technology and worksheets as well as the use of play-based learning strategies to supplement student learning and acquisition of literacy skills, particularly letter sound recognition skills.

## Results

### Data Analysis

**Quantitative data analysis.** Quantitative data was collected during three separate test samples through the FAST assessment. Students were assessed on letter sound recognition during each FAST assessment. These letter sound recognition assessments are a one-minute timed screener.

Table 1

*Fall to Winter FAST Screening Data*

Student	Fall Score	Winter Score	Difference	Percentage of Student Gain
Student A	16	22	6	37.5%
Student B	9	36	27	300%
Student C	11	23	12	109.1%
Student D	22	51	29	131.8%

Table 1 shows student scores from Fall and Winter screenings of the FAST assessment. All students made progress from the first assessment to the second, with the highest percentage of gain being 300%. The student with the least amount of gain made an increase in letter sound recognition of 37.5%. The overall average of the percentage of student gain was 144.6%. The male students in this data collection made roughly the same amount of progress, with Student C making 109.1% gain, and Student D making 131.8% gain. The female students made the highest and lowest amounts of gain between these testing periods. This progress between the Fall and Winter screening dates was made during the use of technology and worksheets for classroom instruction for letter sound recognition.

Table 2

*Winter to Spring FAST Screening Data*

Student	Winter Score	Spring Score	Difference	Percentage of Student Gain
Student A	22	35	13	59.1%
Student B	36	46	10	27.8%
Student C	23	44	21	91.3%
Student D	51	69	18	35.3%

This second table shows student scores from Winter to Spring screenings of the FAST assessment. Students did make overall progress during this time. This progress was made during the use of guided play-based learning strategies for instruction of letter sound recognition. The highest percentage of student gain between these testing periods was 91.3%, and the lowest percentage of student gain was 27.8%. The overall average of the percentage of student gain was 53.4% between Winter and Spring screenings. This is roughly one-third of the average percentage of student gain from the first data collection.

Students were also assessed on letter sound recognition skills on a bi-weekly basis for IEP progress monitoring procedures. There are 42 letter sounds that students are assessed on for their IEP goals, based on the Jolly Phonics program that is used in their general education setting. When given these sounds for progress monitoring data collection, students are allowed an unlimited amount of time to identify the presented sound. Students were shown progress monitoring scores after each data collection in order to provide evidence of student progress directly to the student, as well as to give students ownership of their learning and success. These

scores were used as part of an overall rubric score for student literacy goals. The scores for progress monitoring are also entered into an online system for IEPs.

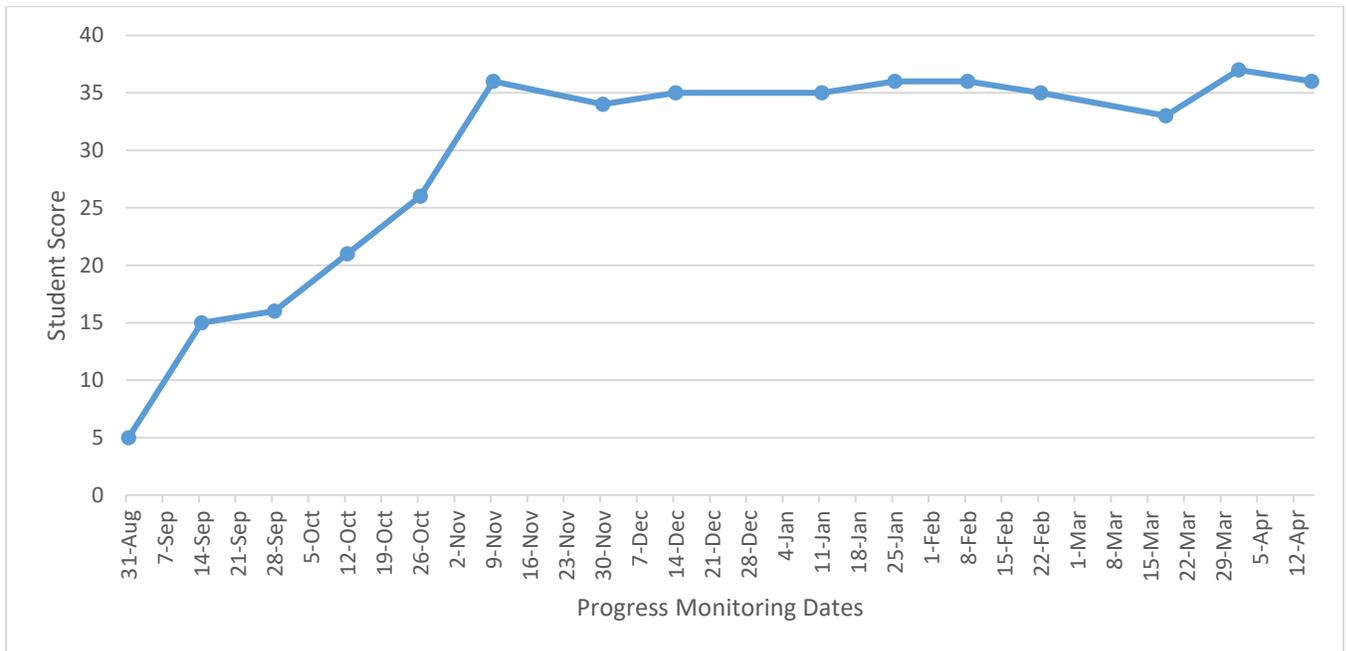


Figure 1. Progress monitoring scores for Student A.

Student A is a female kindergarten student that receives specially designed instruction in the academic area of reading for her IEP. This student began the school year with the ability to recognize five letter sounds, and her final progress monitoring data point during this study was 36 identified letter sounds. The highest amount of recognized sounds was 37, which gives the student a range of 32 letter sounds learned throughout the time of this study. The average amount of recognized letter sounds for this student was 29, and the mode of this data was 36.

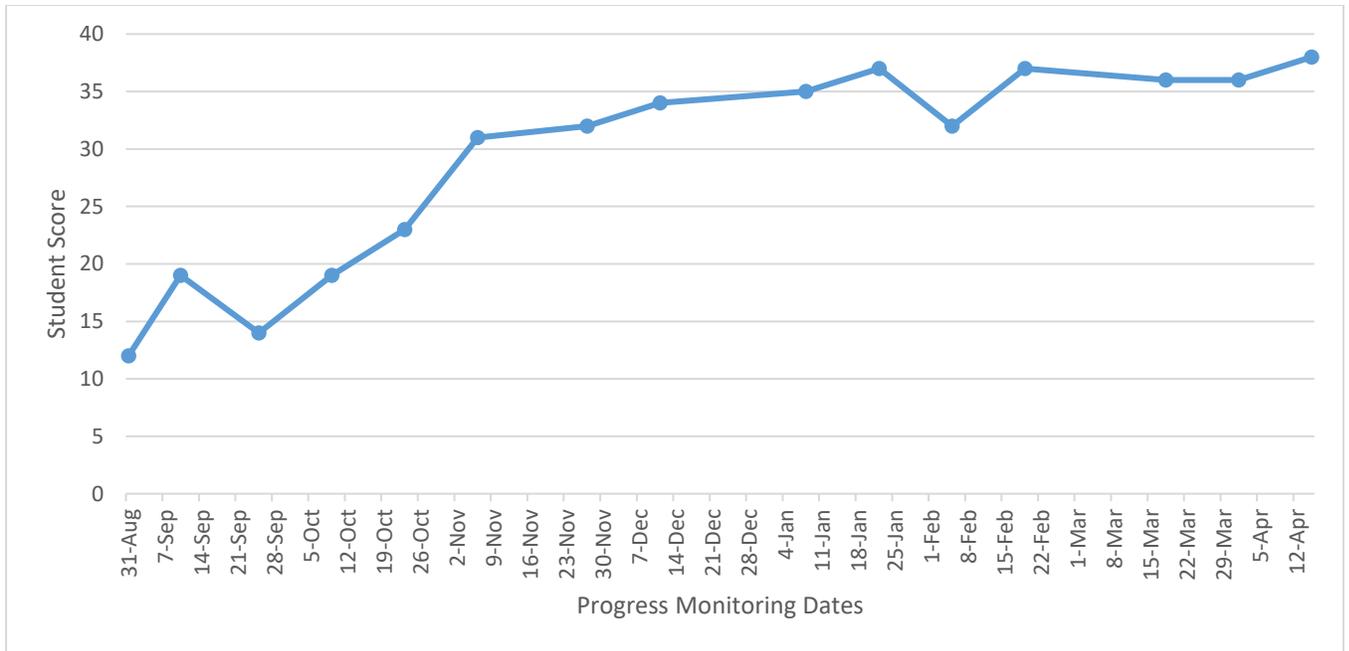


Figure 2. Progress monitoring scores for Student B.

Student B is a female kindergarten student that receives specially designed instruction in the academic area of reading for her IEP. This student began this study with the ability to recognize 12 letter sounds correctly during progress monitoring data collection. By the end of this study, she was able to recognize 38 letter sounds. The range of this data was 26 letter sounds, and the average of recognized sounds was 29. The modes for this data were 32, 36, and 37.

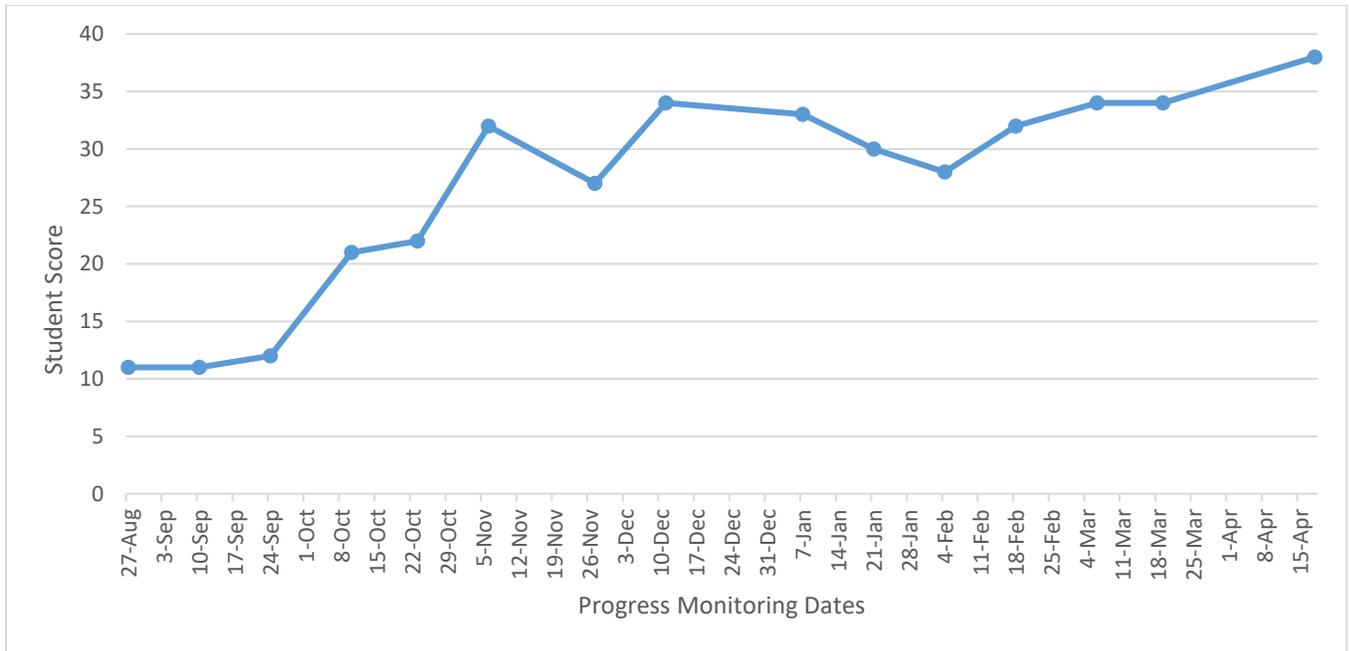
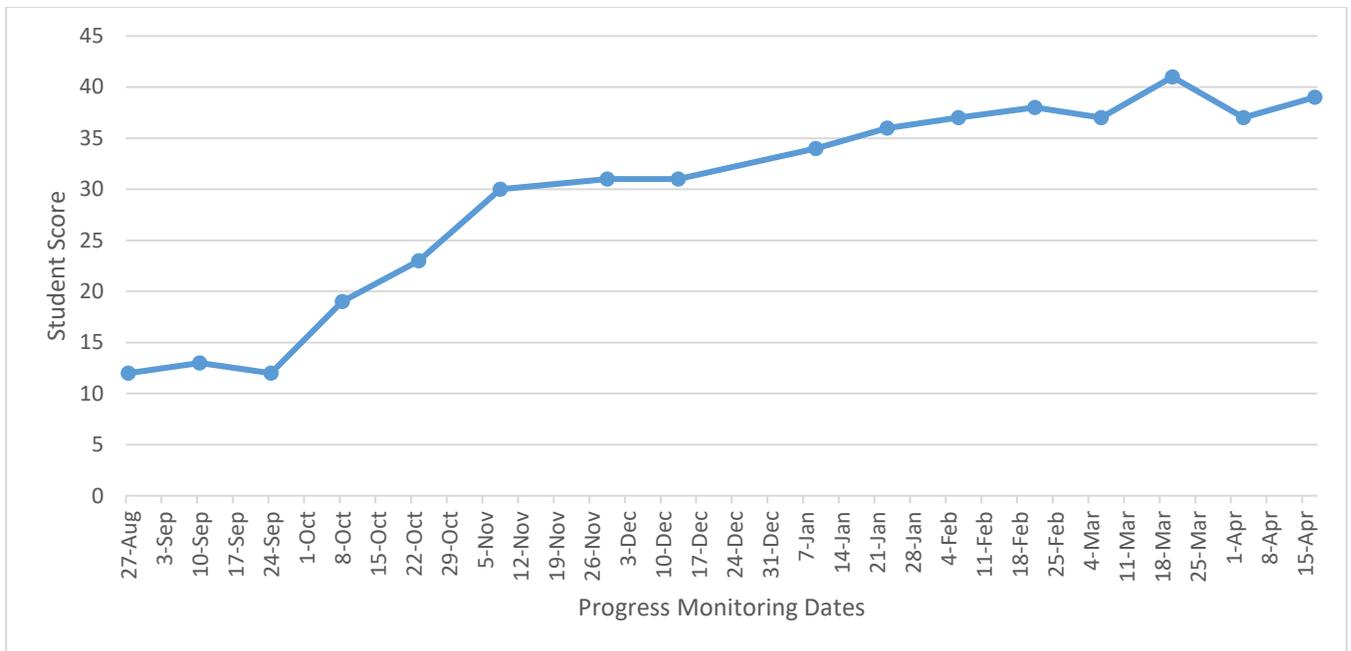


Figure 3. Progress monitoring scores for Student C.

Student C is a male kindergarten student that receives specially designed instruction in the academic area of reading for his IEP. This student was able to correctly identify 11 letter sounds at the beginning of this study. By the end of this study, this student was identifying 38 letter sounds. This gives a range of 27 letter sounds for this student. He also had an average of 27 recognized letter sounds throughout this study. The mode for this data was 34 identified letter sounds.



*Figure 4.* Progress monitoring scores for Student D.

Student D is a male kindergarten student that receives specially designed instruction in the academic area of reading for his IEP. This student began this study with a letter sound identification score of 12. This student identified 39 letter sounds for the final data collection, but was able to identify 41 letter sounds as his best score. This provides a range of 29 for this data set, and the mode was 37. The average amount of recognized letter sounds for this student was 29.

By analyzing the data given by each student's progress monitoring graphs, a general increase in student identification of letter sounds is seen. Students began the school year with a recognition score of roughly 10 letter sounds, and by the end of this study students were recognizing closer to 40 letter sounds. Students showed more of an increase in sound recognition skills towards the beginning of the school year, and began to plateau in scores towards the end of this study. No students showed a dramatic increase or decrease in letter sound recognition skills on progress monitoring data after a school break in December. This data

shows that students made the highest rate of increase in skills during the month of October for progress monitoring.

**Qualitative data analysis.** Qualitative data was collected primarily through general observations during this research. The researcher continually gauged student engagement during various letter sound activities, and planned additional activities based on these observations. Students tended to show excitement towards the various letter sound activities that were planned during their reading instruction groups. Students were also given opportunities to discuss their opinions about activities and how they personally felt about their own acquisition of letter sounds. Most students expressed positive feelings about their letter sound identification skills. Students were appreciative of being able to see the growth they had made over time by seeing their weekly progress monitoring scores that were outlined in the student data tables. Students saw the numbers generally increase over time, and saw that they were obtaining the skills needed to be successful in reading.

## **Discussion**

### **Summary of Major Findings**

Overall analysis of the data collected between the FAST assessment screenings shows that students made increases in their letter sound recognition skills over time. The data from the time between the Fall and Winter screenings shows a larger increase in student acquisition of letter sound identification than the time between Winter and Spring screenings. Only one student had a greater percentage increase of letter sound gains in the time between Winter and Spring screenings. Other students showed a greater increase in sound acquisition from Fall to Winter. This data shows that while both teaching methods are useful for students with IEP literacy goals, the use of technology for instructional methods may be more effective overall. By

analyzing this data, the teacher-researcher may potentially change instructional methods for future kindergarten students, with the potential to increase play-based activities, or technology-based activities. The teacher-researcher may also continue to collect data related to this study with future kindergarten reading groups in order to provide more validity to this study.

### **Limitations of the Study**

One limitation of this research is the amount of student participants. Due to only four students participating, it is more difficult to predict if exclusively using guided play-based learning strategies would be as effective in a larger group setting. This study could potentially be more valid with further testing in larger group settings or across multiple years of instruction with various student groups. Another limitation to this research includes student attendance in school, which could limit the effectiveness of this teaching strategy. If students are unable to be present to participate in these activities, then it is possible that their overall achievement scores are less valid. Student absences throughout this study could range from student illness to inclement weather, or even due to participation in other activities within the general education setting. Students' overall attitude during reading instruction also provides a limitation for this research, due to student performance ranging based on student engagement and participation. If students are less engaged in the activity, there is the potential that they will retain less information from instruction than if they were fully engaged in the activity that was presented to them.

### **Further Study**

Further research may be conducted on the use of guided play-based learning strategies to acquire letter sound recognition skills within a larger group setting outside of special education.

This would provide more information and data on the effectiveness of this teaching strategy for all students. Further study could also be done on the effectiveness of exclusively using technology in the special education setting for students acquiring letter sound recognition skills. This type of research could also be performed in the general education setting with a larger number of participants. This action research could also have been performed with guided play-based learning strategies being used for the Fall to Winter FAST assessment screening period, and technology being utilized between the Winter and Spring FAST assessments. This would provide information on the effectiveness of each teaching method during various times of the school year. Further studies could also be done on the effectiveness of each activity that was used, whether guided play-based or technology-based for student acquisition of literacy skills. Extensive data collection on the effectiveness of each activity would need to be done in order to provide accurate information. This data collection would most likely take place directly after each activity was performed. This would provide the teacher-researcher with a daily sample of student performance on retention of the skills presented.

### **Conclusion**

This paper explored the question, does exclusively using guided play-based learning strategies with kindergarten students who have an individualized education plan literacy goal in letter sound recognition assist these students in acquiring this skill? While the results show that using play-based learning strategies is an effective method in assisting these students with acquiring letter sound recognition, the research done for this study concludes that the use of technology was a more effective instructional strategy for kindergarten students who have IEP literacy goals in letter sound recognition skills. Engagement levels for students during various activities ranged for both technology-based learning as well as play-based learning. Students

made overall gains between each FAST assessment screening in letter sound recognition, with the highest amount of gain being seen during the use of technology for instructional purposes. Students also made overall gains during progress monitoring for IEP literacy goals. Each of the students showed a trend increase in their letter sound identification skills. The students involved in this study also maintained a generally positive attitude towards all activities, both technology-based and play-based, and during all assessments for this study. The teacher-researcher maintained a positive outlook towards this study throughout the implementation of both technology-based learning strategies as well as play-based learning strategies. The role of the teacher-educator throughout this study was to support student learning when provided various tools to acquire letter sound recognition skills as part of emergent literacy. The research done during this study supports prior research done on this topic, because the effectiveness of using both technology and play-based learning strategies within literacy instruction has been examined. The opportunity for further research on this topic is available, for both technology-based and play-based learning strategies with students of all ages, in various school subjects. Further study on this topic will help to provide specific data on the effectiveness of each learning strategy, since evidence on the use of technology for literacy skill building is still being researched. The information presented within this research study is important in order for educators to determine which teaching practices are best suited to fit the needs of all learners within their classrooms. This study gives evidence that educators can choose activities that involve technology as well as play-based learning in order to deliver best instruction to their students. However, it may also be argued that students will gain more, particularly in letter sound recognition skills, when educators choose to use technology-based learning strategies and activities. By conducting further research, additional information will lead to a stronger stance on the effectiveness of both

technology-based learning strategies as well as play-based learning strategies. This research may continue to be implemented in the teacher-researcher's classroom, as well as in other classrooms, including both general education and special education settings in order to contribute to extended study on the effectiveness of using technology and guided play-based learning strategies with kindergarten students with IEP literacy goals in letter sound identification and assisting these students in acquiring this skill.

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