Alphabet Instruction in a Preschool Setting: Individualized or Large Group?

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Capstone Project: An Action Research Project

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Abstract

The purpose of this action research project was to determine if individualized instruction is more effective than large group instruction during alphabet instruction. The researcher is a preschool teacher in their 11th year of teaching, who used their 21 students as participants. The study consisted of two separate groups of students. One group received individualized instruction (treatment) whereas the other group received large group instruction (control). Pre-test data was conducted before the two-week instruction period for both groups. For the treatment group, data was used to individualize and guide instruction. Post-test data was then collected to show the amount of growth between the two groups. The findings revealed that growth was made for both groups, but there was not a statistically significant difference between the treatment and control group. Letter instruction is important for student growth, but one teaching strategy (individualized or large group setting) isn’t more effective than the other. The findings from this research study may be beneficial to other early childhood educators who are looking at different teaching strategies for literacy instruction.

Keywords: letter instruction, preschool, individualized instruction, large group instruction
## Table of Contents

Abstract ............................................................................................................................................2  
Introduction ......................................................................................................................................4  
Literature Review.............................................................................................................................6  
  Benefits of Play in Literacy ...........................................................................................................6  
  Strategies for Teaching Alphabetic Principle ...............................................................................9  
  Letter Instruction: Contextualized or Decontextualized ............................................................12  
  Teacher Perspective on Literacy Development and Current Literacy Practices ......................14  
Methodology ..................................................................................................................................17  
  Research Question .......................................................................................................................17  
  Participants and Research Site ....................................................................................................18  
  Variables ..........................................................................................................................................19  
  Intervention ......................................................................................................................................19  
  Data Collection ...............................................................................................................................20  
  Plan for Analyzing Data ................................................................................................................20  
  IRB Exemption ...............................................................................................................................21  
Data Collection .................................................................................................................................21  
Data Analysis ....................................................................................................................................23  
Discussion  
  Summary of Major Findings ........................................................................................................28  
  Impact on Teaching and/or Learning .........................................................................................29  
  Alignment to Research ..................................................................................................................29  
  Limitations .....................................................................................................................................30  
Future Research ...............................................................................................................................30  
Conclusion .......................................................................................................................................32  
References ..........................................................................................................................................34
Alphabet Instruction in a Preschool Classroom: Individualized or Large Group?

Introduction

Phonemic awareness and alphabet knowledge play a big role in the early stages of learning how to read and are predictors of beginning readers (Roberts, 2020). Alphabet knowledge is defined as being able to understand names and details of letters and sounds (Campbell, 2020). Alphabet knowledge is important for children learning how to read, but there has been little research on which methods are the most effective when teaching it (Roberts, 2020). Letters being taught in a certain order, teaching both letter names and sounds at the same time, and teaching letters within meaningful context such as stories and/or written words are all methods that have been under debate (Roberts, 2020). Early Childhood teacher’s beliefs are also different with some preferring play-based literacy strategies and others using commercially based programs (Campbell, 2020). The problem is there is little research indicating which method or instructional strategy is best for teaching alphabet knowledge in young learners.

The purpose of this action research is to determine if individualized letter instruction is more effective than large group direct instruction. The results from this action research will be beneficial to all Early Childhood educators. Educators can use the results of this study to make changes and implement them in their own classrooms. The results can also be analyzed during professional development for school districts to help inform teachers and instructional coaches on strategies for teaching alphabet knowledge to young learners, specifically preschool. Although Kindergarten educators could find this research useful, the preschool curriculum would be the most impacted by this research due to the heavy focus around letter and letter sound instruction (alphabet knowledge). This research could also be used to look at individualizing instruction in other content areas as well, especially math.
The resources used in this action research were found from the DeWitt Library at Northwestern College in Orange City, Iowa. All studies are from scholarly journals, are peer reviewed, and published within the last 10 years. When selecting 20 different studies there were several different topics/key words focused on. These included: letter instruction, teacher beliefs around letter instruction, play-based learning with literacy, and strategies for teaching letter instruction. The focus of research was also limited to young learners (Preschool-1st grade) and Early Childhood educators. A mixture of both qualitative and quantitative action research results was analyzed and used for this literature review.

An analysis of letter instruction in early childhood classrooms shows that individualized instruction is the most effective when teaching alphabet knowledge (letters and letter sounds together). When individualizing instruction, teachers have current data on what students already know and what students still need to learn. This data is readily available to guide teacher instruction for each student. This instruction can take place during play, stories, small groups, or transitions. When teaching alphabet knowledge in a large group setting, students are part of all lessons. If they have already learned half of the letters/sounds in the alphabet, they will sit through that instruction instead of moving straight to letters they have not yet mastered. Alphabet knowledge can be mastered and without differentiation time is being taken away from other critical literacy content (Piasta et al., 2022). Individualized instruction may be more effective for students but can be more challenging for teachers in the classroom. A research study by Puzio showed that when teachers were supported in differentiating instruction, student literacy achievement increased (Puzio et al., 2020). Although effective, this type of instruction takes more time for planning and preparation since it is not a one size fits all method.
The following literature review is organized into different themes. The first theme of the literature review will focus on different strategies to teaching literacy in early childhood classrooms. These different approaches will focus on topics such as how to present letters/sounds, use of visual supports, and the writing approach. Other topics include embedded instruction through storytelling and play along with more direct instruction models. Finally, the second theme will have a focus on teacher beliefs. A mixed study by Campbell interviewed Early Childhood educators to determine their knowledge/view of phonics and how it should be taught (Campbell, 2020). A different research study by Pyle dives into teacher’s perspective on literacy development and play-based learning, along with direct instruction, guided instruction, and free play (Pyle et al., 2018).

**Review of the Literature**

Preschool is typically the first school experience for many children. Students are exposed to social interaction, early math concepts, large/fine motor activities, language, and early literacy concepts. Many of these areas overlap as educators are planning and comparing/contrasting which strategies work best in their classroom environment. Some of these instructional strategies teachers must consider include large groups, small groups, or individualized instruction. A more recent instructional strategy would be learning through play. When looking specifically at early literacy concepts, such as letter instruction, is one instructional strategy more effective? With early literacy skills having an impact on future literacy development, it is vital that educators stay up to date with the most effective teaching strategies.

**Benefits of Play in Literacy**

In the 1960’s, schools started to get students ready for formal schooling by introducing literacy skills in Preschool and Kindergarten through direct instruction. Before this, instruction in the area of reading didn’t start until a child turned 6 years old (Rand & Morrow, 2021). In the 1980’s, there was another shift in education. Research started showing the importance of learning literacy in a natural, social environment making it purposeful and meaningful (Rand & Morrow, 2021). This led to educators and researchers examining play in the early childhood setting due to the meaningful, purposeful, and active learning environment (Rand & Morrow, 2021). Educators started implementing literacy skills into centers such as dramatic play. In this setting students could open a restaurant and develop literacy skills by taking on roles, reading the menu, and writing down customer orders.

A research study by Cavanaugh et al (2017) took it a step further and looked at literacy development and play. Two kindergarten classes were split into two groups (group A and group B). All students took part in 15-minute small groups for 6 weeks. Group A used 10-20 small toys to sort by initial sound or rhyming families. This teacher led activity was repeated every day. Group B used the same teacher-directed lesson and then the children were given time to interact with the materials and make their own games. After 3 weeks students switched their groups so by the end of the study all students participated in both the control (group A) and the experiment (Group B). The group that was given time to interact with the materials and make their own game scored higher on the DIBELS assessment. The DIBELS assessment measures first-sound fluency, phonemic awareness components, and oral reading fluency. This research showed that children performed better when they were able to be creative and use their imagination through play (Cavanaugh et al, 2017).
The findings of Cavanaugh et al (2017) show that creativity and imagination through play are an important part of young learners. A research study by Allee-Herndon compared two different Kindergarten classrooms in a Title 1 school, looking at using a play-based curriculum vs direct instruction to support literacy learning (Allee-Herndon, 2022). The play-based classroom had 30 minutes of free play using centers such as blocks, dramatic play, puzzles, and art. This class also had 30 minutes of learning centers which included teacher created literacy games, writing, and I-pad games (Alle-Herndon, 2022). The direct instruction classroom consisted of mainly desks and a large amount of whole group instruction. Both classrooms used the same curriculum and had students participate in both small and large group instruction. While both classrooms made growth, it was found that the students in the play-based classroom made more growth in literacy learning (Alle-Herndon, 2022). Results from both Allee-Herndon (2022) and Cavanaugh et al. (2017) show the importance of giving students the opportunity to manipulate hands-on materials through play experiences.

A research study by Grady (2021) took a different approach than Cavanaugh et al. (2017) and Alle-Herndon (2022). Grady focused his research on play, specifically play stories, and how/if it promoted literacy development in young children (Grady, 2021). During this study, students were given the opportunity to participate in free/open ended play. During this play, pictures were taken of the students interacting with materials, specifically in dramatic play. Storybooks were then made from these pictures, typically 4-5 pages in each book including the title page. Some books were made of pictures and others had both pictures and text. These books were then made available for students to access. Qualitative data was collected through teacher observation (Grady, 2021). The results from this study showed that students used these storybooks as typical books, but were more engaged with them as they were able to connect with
them through their personal experiences. Early literacy behaviors were observed such as book handling skills, print knowledge, and interpretive knowledge. The research by Grady (2021), Alle-Herndon (2022), and Cavanaugh et al (2017) indicates that play-based learning increases student achievement in the area of literacy.

**Strategies for Teaching Alphabetic Principle**

During student’s early years in school, learning letter symbols, names, and the sounds they represent are important to consider (Sunde et al., 2020). A study by Sunde et al. (2020) investigated if the speed of learning letters symbols/names made a difference in student letter knowledge. In this study, 952 were assessed at the beginning and the end of the school year in several literacy areas including letter knowledge and letter sound recognition. In addition to student assessments, teachers were given a survey in December and June to assess the pace of letter instruction. The results from the survey showed when each teacher made it through the whole alphabet during instruction. Those that did not complete the whole alphabet by December took the survey in June to track their progress.

The results from this study found that the pace of instruction does have an impact on alphabet knowledge. Students who were in classrooms that had a fast-paced instruction performed significantly greater than those who received a slower pace instruction (Sunde et al., 2020). This fast-paced instruction allows students to have several opportunities and repetition when learning letters and sounds. This is especially beneficial for those students who do not yet know many letters or sounds (Sunde et al., 2020). These results could also imply that students who know several letters would benefit from fast-paced instruction due to exposure of new letters at a quicker pace.
Roberts et al. (2018) looked at a different component in teaching alphabet knowledge for early childhood. The focus of this study was whether alphabet instruction should include letters only, sounds only, or a mixed method of both letters and letter sounds (Roberts et al., 2018). 96 preschool students across 6 different classrooms were randomly assigned to a small group. The small groups included 4 different teaching strategies: letter names only, sounds only, letter names and letter sounds, and the typical letter name and letter sound instruction using Alphafriends cards. The same 12 letters were used in each group with a focus on uppercase letters with the exception of those using the Alphafriends cards. Results from this study show that students in each group made significant progress on letter name identification accuracy and speed along with writing/spelling (Roberts et al., 2018). When looking at the data it was difficult to determine which method was the most successful. Students who had instruction in letter name and combined letter name/letter sounds performed better on letter accuracy and speed assessments. Letter name only groups were most successful in accuracy and speed but those who participated in letter names/sounds were more efficient as they learned both skills at once (Roberts et al., 2018).

Roberts et al. (2019) continued her research by exploring if the order of learning letters and sounds made a difference along with three different cognitive learning styles. 94 preschool students were placed into 3 different small groups for 10 weeks with a focus on 8 uppercase letters. Small groups were split between learning letter names or sounds first and also focused on one of the following cognitive learning styles: PAL, PAL+AL, and PAL+OL. PAL instruction focused on using printed letters to pair letters and letter sounds during instruction. PAL+AL instruction was the same as PAL except it added a picture of the mouth making the sound and had the teacher modeling how to make the sound with their mouth. PAL+OL instruction had the
PAL component plus modeling how to write the letter. Roberts et al. (2019) found that students performed better when learning letter sounds and letters at the same time. Students who participated in the most PAL instruction outperformed all other groups.

Roberts continued digging deeper into letter instruction by discovering four other research studies and analyzing their results (Roberts, 2021). These four different studies were centered around strategies for teaching letters and sounds (together or separate) and how they should be taught (contextualized or decontextualized). The results of these different studies found that students made the most growth when taught letters and letter sounds together. When teaching letters and sounds short instruction was found to be most effective. Short 10–15-minute lessons throughout the day across a variety of activities were most beneficial (Roberts, 2021). Students who had explicit letter instruction through characters learned almost double letter sounds than other students. Finally, the results of the research studies found that contextualized and decontextualized instruction were both beneficial for learning letter names, but decontextualized instruction showed significant growth when learning letter sounds (Roberts, 2021).

Piasta et al. (2022) looked at yet another component of alphabet knowledge by determining how letter difficulty and instruction played a role in learning letters amongst early learners. In this study, 32 preschool students were selected after a screener was used to see how many letters and what letters students already knew. The results of the screener allowed the researchers to pick 8 letters that were unknown to all students. 4 of these letters were target letters that would be taught to students and the other 4 letters were part of the control group that would not be taught throughout the study (Piasta et al., 2022). The letters chosen were split evenly into the control and target group based off their difficulty. The results of this study
showed that students were more likely to learn the target letters and that letter difficulty played a role in learning letters but not letter sounds (Piesta et al., 2022). In other words, letter instruction is important, and some letters are easier to learn than others.

**Letter Instruction: Contextualized or Decontextualized?**

Maureen et al. (2020) explored the impact of storytelling and literacy development. This study consisted of 62 Kindergarten students in 3 separate classes. The first classroom was the control setting where they focused on their typical literacy instruction. The typical literacy instruction was primarily direct instruction with drill and opportunities for practice through activities. The second classroom focused on learning literacy through storytelling and play-based learning. The third classroom focused on digital storytelling and activities (Maureen et al., 2020). The results of this study found that both the second and third classroom performed significantly better than the first classroom. There was not a big difference found between the second and third classroom (Maureen et al., 2020).

Learning letters/sounds through stories and those found in friends names (contextualized) or in isolation (decontextualized) was also studied by Roberts et al. (2020). In this study, 132 preschool students across 5 elementaries participated in a 10-week study to determine which method was more effective. The same 10 letters of the alphabet were used in both methods with a focus on both uppercase letters and letter sounds. In the decontextualized method the students participated in activities and direct instruction with letters in isolation. In the contextualized method teachers picked a book a week that could be associated with each letter. Students participated in activities that focused on letters/words from the story and from other students in the class. Results of this study showed that all students made significant growth and were on track to meet the end of the year benchmark for alphabet knowledge in preschool. One
significant difference between the two methods was that those who received the decontextualized instruction made bigger gains in letter sound knowledge (Roberts et al., 2020). The findings from Roberts seem to imply that both types of instruction were very successful in the preschool setting with decontextualized instruction being more effective when looking at letter sounds.

Roberts et al. (2019) spent time researching if imaginary narratives and characters would increase student motivation and letter sound knowledge. Over seven weeks, 38 preschool students participated in 25-minute large group activities. The students were split into two different groups. One group focused on introducing sounds with a mnemonic pictogram and hearing the sound in an imaginary story about the pictogram character. The second group, which was the control group, introduced letter sounds in isolation and heard them in an alphabet type book. Results of this study showed that motivation did not change or increase in either group settings. Both groups made significant gains in letter sounds knowledge but those who participated in mnemonic pictograms learned almost twice as many letter sounds (Roberts et al., 2019). In other words, students were motivated in both situations but the connection between letter sound and characters helped students retain letter sound knowledge.

A different approach was taken by Hall et al. (2014) by exploring how interactive writing affected letter knowledge in preschool. This 13-week study included 73 preschool students who were placed in two separate groups. One group continued with typical literacy instruction while the other group participated in a small group interactive writing activity for 10-15 minutes. Findings from this study showed that students who participated in the interactive writing group gained more uppercase and lowercase letter knowledge. These students gained 1-2 more uppercase letters and 1 additional lowercase letter than the other group. Letter sound results were very similar in both group settings (Hall et al., 2014).
Another strategy was investigated by Puzio et al. (2020) by determining the impact of differentiated literacy instruction. A different approach was taken by locating and analyzing different studies that have already taken place using very specific criteria around differentiated instruction in literacy. 18 studies were found eligible, most of which were in an elementary setting. After analyzing the studies using a mega-analytic approach, results showed that when teachers were supported and used differentiated literacy instruction the achievement scores went up. Differentiated literacy instruction was found to be beneficial to students but difficult for educators (Puzio et al., 2020). In other words, teachers need more support and strategies for differentiating literacy instruction due to the benefits it can provide to students.

**Teacher Perspective on Literacy Development and Current Literacy Practices**

Researcher Giles et al. (2015) conducted a quantitative study that focused on looking at early childhood teacher perspectives around teaching literacy and whether teacher age made a difference. 76 early childhood educators participated in a two-part survey. The first part collected demographic information and the second part listed questions around emergent literacy and reading readiness skills. Results showed that teachers education level or teaching assignment wasn’t significant when looking at their perspective on literacy acquisition. What made a difference was years of teaching. Those who had been teaching for 21+ years were not as supportive of the reading readiness approach. Teachers with 6-10 years of experience were more supportive of the reading readiness approach. The researcher determined that both a reading readiness and emergent literacy approach should be used to support literacy acquisition that is functional with real-life experiences that are meaningful to each child (Giles et al., 2015).

In the study by Campbell (2015), 115 early childhood educators who worked in a daycare or preschool setting took part in a survey measuring the pressure and views around teaching
phonics. This survey included both open and closed-ended questions. The survey reflected the pressure many educators receive from parents around teaching phonics. Educators felt that parents were more likely to enroll their child in a school that had some type of phonics instruction or curriculum. Most educators also believed phonics instruction was an important part of the preschool setting. The educators’ viewpoints differed in how phonics should be taught. 44% thought phonics should be taught in an embedded play-based setting whereas 56% felt a commercial phonics program should be used. Those who preferred a play-based setting felt commercial phonics programs were inappropriate and meaningless to students whereas those who preferred a commercial phonics program felt they were fun and educational. In other words, educators are divided on which approach is the best fit for teaching phonics in a preschool classroom.

Campbell et al. (2014) explored teacher motivation behind using commercial phonics programs along with their knowledge around literacy development by interviewing five early childhood teachers who were currently using some type of commercial phonics program. Results from the interviews showed that commercial phonics programs are being used to lesson teacher workload, to provide evidence to parents that they are preparing their children for school, and for a marketing tool to get parents to enroll their child in their program. These programs come with flash cards and other already made materials with lessons making it easier for teachers to use. The interview also showed that teachers could not define what phonological awareness or phonemic awareness is or how to teach it. Finally, the interview also showed that teachers use these commercial phonics programs but also embed letter instruction by pointing out letters in student names, transitions, and during story read aloud (Campbell et al., 2014). In other words,
teachers use commercial phonics programs because of the materials provided and how it makes their program look for parents.

In contrast to Campbell et al. (2014), another study by Campbell (2020) investigated teacher beliefs around not using commercial phonics programs and how they navigate the pressure from parents. Like Campbell et al. (2014), Cambell (2020) found that early childhood teachers had limited knowledge about phonics. They were able to define what it was but did not understand how to teach it or how students learn best. Some early childhood educators from this study believed that phonics should not be taught before kindergarten and letters are learned naturally, not through skill/drill teaching. Other educators didn’t understand that they were in fact teaching phonics, even though they didn’t participate in skill/drill teaching. Finally, some educators favored a holistic play-based approach. These educators kept parents informed about lessons happening in the classroom and didn’t feel any outside pressure. The only pressure they did feel was literacy curriculum being pushed down from upper grade levels, which would remove more of the play-based curriculum in preschool (Campbell, 2020).

Researcher Pyle et al. (2018) explored educators’ views on the role of play and learning literacy. This study interviewed 12 kindergarten teachers and observed 12 different classrooms all using the same curriculum. When interviewing the kindergarten teachers, researchers found that they believed direction instruction plays a key role in literacy development due to play being less structured and difficult to plan. During free play, educators were not sure how to involve students in literacy activities. When the researchers observed different classrooms, it showed that 28% of free play was spent in exploring literacy activities compared to 54% in direct instruction, such as small groups (Pyle et al., 2018). The results of this study indicate that literacy can be learned in both settings and students may benefit from a mixed approach.
Gerde (2019) analyzed teacher beliefs specifically around letter and letter sound instruction. Participants of this study included 48 head start teachers who were all educated and had teaching experience. The participants agreed that preschool was an appropriate time to start teaching about letters. Some were able to discuss developmentally appropriate and research-based strategies whereas others were using strategies that were not research based. Using letters from students’ names and addressing them during play was a strategy many teachers discussed in their interview. Several teachers were not sure what the next steps should be in their classroom around letter instruction (Gerde, 2019). Studies by Gerde (2019), Cambell et al. (2014) and Cambell (2020) indicate the need for professional development in the area of literacy development for early childhood educators.

**Conclusion**

Research on teaching literacy in early childhood reveals many different instructional strategies and personal beliefs/views, specifically around letter and letter sound instruction. Researchers found the following instructional strategies to be beneficial: use of hands-on materials and the use of their imagination, importance of decontextualized learning around letter sound knowledge, and direct instruction in literacy development (Allee-Herndon, 2022; Cavanaugh et al., 2017; Puzio et al., 2020; Roberts et al., 2020). Research also showed that there is a divide in teacher’s beliefs around how alphabet knowledge should be taught with a divide between commercial phonic programs and play-based strategies (Cambell, 2015). Further research in this area is beneficial as early literacy skills play an important role in student success in reading.

**Methods**

**Research Question**
The research question this action plan answered is: Is individualized letter instruction more effective than large group instruction? This action research explored two different teaching strategies, individualized and large group instruction, to see if one strategy showed higher student achievement when looking at identifying letters and letter sounds.

**Setting**

The research site is a public preschool in Southwest Iowa serving children 3-5 years old. The city is one of the fastest growing areas with a population of 24,000. All preschool students who choose to attend within the school district setting are housed in the same building. There are 13 classrooms serving preschool students with the state grant and one classroom serving head start students all day. This preschool building is diverse and serves both general and special education students. In the program, there is an AM session and a PM session lasting 2.5 hours for 4 days a week.

**Participants**

The participants of this study include 21 preschool students. There are 10 students in the AM class (4 males, 6 females) and 11 students in the PM (8 males, 3 females). In the AM class there are 2 students who have been identified with a learning disability and have services in reading on their Individualized Education Plan (IEP). In the PM class there are 3 students who have been identified with a learning disability and have services in reading on their Individualized Education Plan (IEP). There are 0 English Language Learner students in the AM class and 4 English Language Learner students in the PM class. There are 7 students who attended preschool in the school district last year as 3-year-olds.
Variables

The independent variables in this study would be direct instruction and individualized instruction. The dependent variable would be alphabet knowledge scores, specifically identifying letters (16a) and letter sounds (16b) using teaching strategies gold assessment tool. Other variables in this research study include age, learning disabilities, English Language Learners, and previous education. Some students in the class may have had an extra year of preschool. Some students have been identified as having a learning disability which could affect their learning in the area of letters & letter sounds. Finally, some students are English Language Learners and are not yet speaking English fluently.

Intervention

Two different teaching strategies for alphabet knowledge were used for this action research. The AM class participated in individualized instruction whereas the PM class participated in large group instruction. Both classes were given the same pre-assessment and post-assessment for data collection using Teaching Strategies Gold. After the pre-assessment, the AM class was given a necklace with a letter they didn’t know. The necklace had both uppercase and lowercase letters on it. During transitions, students would tell a peer or teacher the letter and sound found on their necklace. Example transitions included: going to large group, going to small group, and going outside. Once the student mastered the letter on their necklace, they were given a new unknown letter using the data from the pre-assessment. To master a letter, the student needed to present it three times correctly throughout the day.

The PM class participated in large group instruction daily. A new letter was presented every two days. During the first day a video was shown introducing the letter and sound it made. Using the projector, students then took turns finding the letter on the board in a letter search
activity. The second day included the same video and then finding pictures that started with the same sound as the focus letter. Letters were introduced at random using both uppercase and lowercase letters together.

Data Collection

Pre-assessment data was collected before the instruction took place. To collect the pre-assessment data, the researcher used a letter and letter sound checklist to see how many letters and letter sounds the students knew before instruction. Letters were shown to students in a random order. When assessing letter sounds the teacher said the name of the letter and asked what sound it made. A checkmark was made next to each letter and letter sound correctly identified. Instruction was implemented for two weeks (March 4, 2024 – March 15, 2024) in both classrooms before administering the post-assessment. The post-assessment used the same checklist and process as the pre-assessment. Data collected was kept in the classroom with the door being locked every night after the researcher left. Data entered into teaching strategies gold and excel for data analysis was password protected and only accessible by the researcher.

Plan for Analyzing Data

Data was collected and analyzed using Teaching Strategies Gold. This assessment tool has an objective for both letters (16a) and letter sounds (16b). Both pre-assessment and post-assessment data were transferred to the On-the-Spot tool to level students according to the letters and sounds they know. Using Teaching Strategies Gold informs teachers when students are on track or falling behind on academic skills. Teaching strategies gold has high reliability and high validity. The researcher has been using this assessment for 10 years as it is the school districts
required assessment tool. All staff in the classroom have taken the inter-rater reliability test. This test increases the accuracy and consistency of the assessor.

Student data was analyzed to show student growth and to determine if students are developmentally on track by generating a graph through teaching strategies. The four-way factorial means statistical test was also used. An independent sample t-test was used to determine if both classes started out the same before in the intervention and if one group made more progress than the other. A dependent sample t-test was used to determine growth made in the AM and PM class.

**IRB Exemption**

The Northwestern College Institutional Research Board in Orange City, Iowa granted this action research an exemption and gave permission for this study. The instruction and teaching strategies used in this action research are found in a normal educational practice. The researcher understands student confidentiality and will not be including any student names or other private information. Each student was referred to as a number when analyzing the pre-assessment and post-assessment.

**Data Collection**

The data for this action research was quantitative. Teaching Strategies Gold letter checklist was used to collect all data. Teaching Strategies Gold is an ongoing assessment tool used for children aged birth through kindergarten. Data is collected through observations or checklists and is then entered into an online platform. When entering the data a level is assigned for each objective using the leveling system. This information can then be pulled into a data report, displaying students who are developmentally on track, still developing the skill, or those
who are performing above their age band. The information can then be used to guide teachers’
instruction and share with parents.

The letter checklist was used to collect baseline data. The checklist displayed all
uppercase letters, lowercase letters, and uppercase letters to record letter sounds. Students were
assessed by being pulled to the table in a 1:1 setting by the researcher. When assessing students,
individual letters were shown to students in random order. If a correct answer was given the
student received a plus. If an incorrect answer was given a minus was recorded. When assessing
letter sounds the researcher said, “The letter is ___ what sounds does it make?” A plus was given
for correct responses whereas a minus was given for incorrect responses. Students were given a
short break between each component of data collection (uppercase letters, lowercase letters, and
letter sounds). Once all students were assessed on uppercase letters the researcher pulled students
to assess the lowercase letters. Once all students were assessed on lowercase letters, the
researcher pulled students to assess letter sounds. Baseline data included the number of
uppercase letters, the number of lowercase letters, and the number of letter sounds students knew
before instruction took place.

The treatment group focus was individualized instruction with alphabet knowledge.
Baseline letter and letter sound data was used to guide the researcher’s instruction throughout the
two weeks. The researcher focused on letters the student did not yet know. The baseline data
showed the researcher what letter to focus on next after students showed mastery. Mastery was
shown when a student could identify the letter two times during separate parts of the school day.
The student also needed to be able to identify the letter the following morning. The control group
focused on large group instruction and data was not used to guide instruction.
After two weeks of instruction, data was collected again using the Teaching Strategies Gold checklist. The number of uppercase letters, lowercase letters, and letter sounds were counted to show if progress was made. For student progress to be made, the number of letters identified would need to increase from the baseline data. Data from this action research showed results from the treatment and control group in each area around alphabet knowledge (uppercase letters, lowercase letters, and letter sounds).

Findings

Data Analysis

Prior to analyzing the data, the data needed to be cleaned to identify and eliminate any issues that might contribute to a skewed hypothesis test result. One of the first issues the researcher identified was that some students already knew a fair amount of their letters; a student for example that already knows 23 letters and after applying the treatment knew 26 letters could potentially skew the output because it’s unknowable whether the treatment actually produced a +3 letter improvement or if it would have been even more successful if unconstrained by the 26 letter maximum (since the student cannot know any more than the 26 letters in the alphabet). In trying to isolate for this, with a margin of safety, of the students participating in this study, only those who knew less than 20 letters or letter sounds were included. Students who knew more than 20 letters were not included. This eliminated 6 students from the study and therefore 15 students out of 21 were ultimately included in this study. 9 students were part of the control (large group instruction) whereas 6 students were part of the treatment (individualized instruction).

Chart 1 below displays, in blue, the average number of uppercase letters, lowercase letters, and letter sounds students knew during the pretest and posttest for both the control group
and treatment group. The difference between the posttest and pretest scores on the bar chart can be interpreted as the average improvement. Pretest scores for uppercase letters averaged 5.33 (ranging from 0 to 14) for the control group, and 9.5 (ranging from 0 to 20) for the treatment group. The uppercase letters control group made an average of 1.33 (ranging from 0 to 3) letters of growth (25% improvement) to 6.33 whereas the uppercase letters treatment group made .83 (ranging from -1 to 2) letters of growth (8.8% improvement) to 10.33 letters. Pretest scores for lowercase letters averaged 2.77 (ranging from 0 to 8) for the control group and 4.5 (ranging from 0 to 8) for the treatment group. The lowercase letters control group made an average of 1.11 (ranging from 0 to 3) letters of growth (40% improvement) to 3.88 letters whereas the lowercase letters treatment group made 1.33 (ranging from 0 to 4) letters of growth (29.6% improvement) to 5.83 letters. Pretest scores for letter sounds averaged 1.78 (ranging from 0 to 11) for the control group and .67 (ranging from 0 to 2) for the treatment group. The letter sounds control group made an average of .44 (ranging from 0 to 3) letter sound growth (24.7% improvement) to 2.22 letters whereas the letter sounds treatment group made 1 (ranging from 0 to 3) letter sound growth (149.3% improvement) to 1.66 letters. Growth was made in both the treatment and control group.

**Chart 1**

*Mean Pre-Test Letter Knowledge & Mean Post-Test Growth*
Chart 2 below displays the results of four different statistical tests run during this study. The control group consisted of large group instruction whereas the treatment group consisted of individualized instruction. An independent sample t-test (Test 1) was conducted to determine if there was a difference in background knowledge for alphabet knowledge in uppercase letters, lowercase letters, and letter sounds. Pretest mean scores for uppercase letters in the control group (M = 5.33, SD = 4.94) and treatment group (M = 9.5, SD = 7.04) showed no statistical difference $t(13) = -1.25, p = .23$. Pretest mean scores for lowercase letters in the control group (M = 2.78, SD = 3.22) and treatment group (M = 4.5, SD = 4.02) showed no statistical difference $t(13) = -1, p = .33$. Pretest mean score for letter sounds in the control group (M = 1.78, SD = 3.36) and treatment group (M = .67, SD = .75) showed no statistical difference $t(13) = .74, p = .47$.

Students started the study with similar background knowledge in uppercase letters, lowercase letters, and letter sounds.
Chart 2

P-Values for Four Statistical Tests

A dependent sample t-test (Test 2) was used to determine if the control group had different mean scores from the pretest to the post-test. When looking at uppercase letters, students in the control group made significant growth between the pretest (M = 5.33, SD = 4.94) and post-test (M = 6.67, SD = 5.49), t(8) = -2.83, p = .02. When looking at lowercase letters, students in the control group made significant growth between the pretest (M = 2.78, SD = 3.22) and the post-test (M = 3.89, SD = 4.23), t(8) = -2.86, p = .02. When looking at letter sounds, students in the control group did not make significant growth between the pretest (M = 1.78, SD = 3.36) and post-test (M = 2.22, SD = 3.26), t(8) = -1.32, p = .22. Students in the control group
made significant growth in both uppercase and lowercase letter development but did not make significant growth in letter sounds.

A dependent sample t-test (Test 3) was used to determine if the treatment group had different mean scores from the pretest to the post-test. For uppercase letters, students in the treatment group did not make significant growth between the pretest \((M = 9.5, SD = 7.04)\) and post-test \((M = 10.33, SD = 7.09)\), \(t(5) = -1.75, p = .14\). For lowercase letters, students in the treatment group did not make significant growth between the pretest \((M = 4.5, SD = 4.02)\) and post-test \((M = 5.83, SD = 4.02)\), \(t(5) = -2.17, p = .08\). For letter sounds, students in the treatment group did not make significant growth between the pretest \((M = .67, SD = .75)\) and post-test \((M = 1.67, SD = 1.11)\), \(t(5) = -1.94\). Students in the treatment group did not make significant growth in uppercase letter development, lowercase letter development, or in letter sound development.

An independent samples t-test (Test 4) was used to determine if individualized instruction resulted in different post-test mean scores between students in the control group and the treatment group. For uppercase letters, there was not a significant difference in mean post-test scores for students in the control group \((M = 6.67, SD = 5.49)\) and students in the treatment group \((M = 10.33, SD = 7.09)\), \(t(13) = -1.05, p = .31\). For lowercase letters, there was not a significant difference in mean post-test for students in the control group \((M = 3.89, SD = 4.23)\) and students in the treatment group \((M = 5.83, SD = 4.02)\), \(t(13) = -0.83, p = .42\). For letter sounds, there was not a significant difference in mean post-test for students in the control group \((M = 2.22, SD = 3.26)\) and students in the treatment group \((M = 1.67, SD = 1.11)\), \(t(13) = .37, p = .71\). While students showed growth in the treatment group while receiving individualized instruction, they did not significantly outperform students who participated in the control with large group instruction.
Summary

Data indicates that both the control and treatment group made growth in uppercase letter development, lowercase letter development, and letter sound development. The difference in the growth made when comparing the treatment group to the control group was not statistically significant. Although the growth was not statistically significant, we did observe that the control group did numerically outperform the treatment group in both uppercase and lowercase letters. Conversely, the treatment group outperformed the control group when analyzing letter sound data.

Discussion

Summary of Major Findings

The action research study results show that individualized instruction around alphabet knowledge is a successful strategy, however the data indicates that there is not a significant difference between individualized instruction and large group instruction. Researcher Puzio et al. (2020) found that students made literacy growth when educators individualized instruction. Researcher Roberts et al. (2020) found student growth in literacy when using large group instruction as an instructional strategy. Both researchers show the effectiveness of individualized and large group instruction in literacy.

When reviewing uppercase letter data, the treatment group knew more letters before instruction took place, but the control group showed more improvement, although not a significant amount. When reviewing lowercase data, the treatment group knew more lowercase letters before instruction and showed more improvement, however it wasn’t significant. When reviewing letter sounds, the control group knew more before instruction, but the treatment group
made more improvement, however it wasn’t statistically significant. Both the control group and the treatment group made growth with uppercase letters, lowercase letters, and letter sounds.

**Impact on Teaching and/or Learning**

This data indicates that letter instruction is important for student growth around alphabet knowledge, but one teaching strategy (individualized or large group setting) isn’t more effective than the other. Since one strategy isn’t more effective than the other, educators need to decide which method is best for the learners in their classroom, or which method compliments their teaching style. Researcher Campbell (2015) interviewed educators finding that 56% preferred using a commercial letter instruction program whereas 44% preferred embedding large group instruction within play. Instead of picking one approach over the other, educators could also consider a mixed approach of both individualized and large group instruction. Researcher Campbell et al. (2020) found through teacher surveys that many teachers implement a commercial letter instruction program while individualizing and embedding letter instruction through stories and letters in their name. This type of approach is a great example of how an educator could implement both effective strategies into their classroom.

**Alignment to Research**

The data to this study compares to a study by Roberts et al. (2020) where students participated in contextualized and decontextualized letter instruction. Decontextualized instruction included direct instruction around letters in isolation whereas contextualized instruction focused on letters in stories and in student’s names. Results from this study found that students in both settings made significant growth. Letter sounds were the only area where students in the decontextualized instruction setting outperformed those in the contextualized
setting (Roberts et al., 2020). In this study, both groups (individualized and large group instruction) made growth but there was not a significant difference in the amount of growth. The study by Roberts et al. (2020) and this study are similar in that participants both made growth and one group did not outperform another when analyzing statistical data. The results from both studies indicate that letter instruction is essential in preschool, but one instructional teaching strategy is not more effective than the other (contextualized vs decontextualized and individualized vs large group).

Limitations of the Study

A limitation of this study would be the number of participants. Some students were excluded from the data analysis due to already knowing many of the letters in the alphabet. This limited the study to 15 participants with only 6 being part of the treatment group. More participants would give stronger results in this study. Another limitation would be parental involvement at home. A student would make more progress if they were working on identifying letters and letter sounds outside of the school environment. This is likely as it was a recommendation given at parent teacher conferences before the study took place. Finally, another limitation would be the amount of time for the instruction. This study was limited to two weeks of instruction. Given more time, the results of the study may show one strategy being more effective than the other.

Further Study

Next steps would be to repeat this study, but for a longer period of time. This study took place for two weeks. A longer study would allow for more student growth and could show different results between the two different groups (large group instruction and individualized
instruction). Similarly, Researcher Cavanaugh et al (2017) conducted a study which lasted 6 weeks. Future research indicated that more time could show positive effects in this study as well. In the future, this study should also take place at the beginning of the school year. Some participants were not included when analyzing data due to knowing most letters of the alphabet. If this study was done at the beginning of the school year, more participants may be available for data analysis.

Finally, I would include more participants when repeating this action research. This study had limited participants which could limit the data. Action research around large group and individualized letter instruction could be implemented into several different preschool classrooms and school districts. This would allow for more participants and would show if results varied from classroom to classroom or school district to school district. Researcher Cavanaugh et al (2017) had similar concerns when conducting their study within one school district. Future research indicated more participants would generalize their study.

This action research focused on large group and individualized instruction. Future research around other letter instruction strategies should be implemented as well. Researcher Piasta et al (2022) also indicated a need in future research around letter instruction and how to improve it, specifically letter of the week and non-differentiated instruction. Learning through play has become very popular in preschool in recent years. Research Campbell (2020) similarly indicates a need for literacy-play research in prior to school settings. This future research could hopefully lead to unstructured and structured experiences in letter instruction (Campbell 2020). An action research study around letter instruction and play or embedded letter instruction through routines and story read aloud would also generate great information as educators are looking for the most effective ways to teach letters and letter sounds.
Conclusion

Alphabet knowledge and phonemic awareness are vital skills for young readers (Roberts, 2020). As educators, it is important to be up to date on the most effective teaching strategies. Research by Cavanaugh et al (2017), Allee-Herndon (2022), and Grady (2021) explored teaching literacy skills to young learners through play. Results from these studies indicate that play-based learning increases student achievement in literacy.

Other researchers, including Sunde et al. (2020) and Roberts (2021) examined several different strategies including the importance of teaching letters and sounds together, pace of instruction, and the order of letter instruction. This research showed that the pace of instruction is significant in letter instruction whereas teaching letter and letter sounds together or separate had unclear results. Researchers Maureen et al. (2020) and Roberts et al. (2020) explored specific teaching strategies with literacy development through storytelling and contextualized vs decontextualized instruction. These findings showed the importance of letter instruction. Finally, several teachers were interviewed on their beliefs and experience teaching literacy, specifically letter instruction, through researchers such as Giles et al. (2015) and Campbell et al. (2014).

The problem is there is little research indicating which method or instructional strategy is best for teaching alphabet knowledge in young learners. Should letter instruction be individualized, taught in a large group setting, or taught through play? Is one strategy more effective than the other? Studies that have researched instructional strategies, such as Roberts et al. (2020) haven’t found clear answers. For example, the results from Roberts et al. (2020) found that neither the contextualized group nor decontextualized group made more significant growth than the other.
The purpose of this action research was to explore letter instruction specifically through large group instruction and individualized instruction. This action study took two specific teaching strategies to see if one was more effective than the other during letter instruction. Information from this study will help guide instruction for early childhood educators and could help define letter instruction curriculum along with providing insight during professional development opportunities.

Results from this action research show there is not a statistically significant difference in letter or letter sound growth when comparing students who were part of large group instruction or part of individualized instruction. Students in both groups made progress. This research will impact how letter instruction is taught in the researcher’s classroom going forward. Data analysis proved the importance of having some type of letter instruction in a preschool setting. Researcher Gerde (2019) interviewed head start preschool teachers finding that most believe preschool is an important time for students to learn about letters. Until more research has been completed, the type of instruction can be left up to educator preference or student learning styles.
References


