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## **The Impact of Play-based Learning**

Lauren Walther

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The Impact of Play-based Learning

Lauren Walther

Northwestern College

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

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### Abstract

This action research study investigated if students can make appropriate academic growth in a play-based preschool classroom. This action research answered the question: can students make appropriate academic growth in a play-based classroom? Appropriate academic growth defined as, the amount of growth needed for each individual child to be progressing towards being at or above benchmark in certain areas by the end of the school year. The preschool students were engaging in a play-based learning classroom with learning experiences specifically planned out by the teacher based on the theme at the time or areas of development being assessed. This research study was conducted throughout the school year from September to May. Data was collected three times a year using the IGDIs screener and documentation was taken throughout the year using Teaching Strategies GOLD.

*Keywords:* play-based learning and academic growth

### The Impact of Play-based Learning

An important discussion in early childhood education has been the importance of play in early childhood, specifically in the preschool settings. In early childhood education, there are many intriguing topics, play-based learning being one of them. In a 2010 survey, 45 percent of parents indicated that they don't have enough time to play with their children (Payne, 2013). A lot of the time play is overlooked as "just playing" rather than learning while they are playing. Parents may just not know the benefits that come along with play and how it can positively impact the child. Parents want what is best for their children. Often in education, they think that learning should look school-like. Parents may be uninformed about the importance of play. Babies may be playing when they pull books off the shelves, as they experiment with gravity and the properties of the books (Payne, 2013). The sandbox and bath time are both early science experiments for children to engage in (Payne 2013). Children learn from tasks that may look simple or meaningless to most adults. Yet there are many simple tasks that children can learn many things from. Teachers plan these play experiences with a goal in mind. Educating the whole child in early childhood education does not include mastering facts or skills (Bodrova & Leong, 2005).

This action research study investigated if students can make appropriate academic growth in a play-based preschool classroom. This action research answered the question: can students make appropriate academic growth in a play-based classroom? Appropriate academic growth defined as, the amount of growth needed for each individual child to be progressing towards being at or above benchmark in certain areas by the end of the school year using Teaching Strategies GOLD and IGDIs screener. This looks different for every child. According to Lisa Lachlan-Haché and Marina Castro in an article published by the American Institute for Research

(2015), growth targets are designed based off the student's baseline. The teacher uses these baselines to determine a target for growth by the end of the year. A lot of the play activities that can be planned out can incorporate literacy, math, vocabulary, science, and social studies skills that preschoolers learn throughout the school year. This action research study took place in the classroom while the students are playing and learning. Play-based learning is a highly researched educational practice that is used by many education professionals in their classrooms.

Documentation was conducted throughout the action research using anecdotal notes. Anecdotal notes are notes that state exactly what is going on at that time and what the children are saying, it excludes any emotion or bias. Assessments were conducted twice throughout the study using a formal assessment.

### **Literature Review**

Early childhood programs are essential to the future of children and provide a foundation for children's learning and development (Roden & Szabo, 2017). Many early childhood educators would agree that early childhood programs lay the foundation for the children entering school. There are so many different domains covered in early childhood classrooms, from academics to social emotional skills. Early childhood classrooms provide an environment for children to engage in play and develop social, language, and cognitive skills while interacting with their peers. The play is facilitated by adults (Roden & Szabo, 2017). Play fosters and develops children's curiosity in the world. Through play, children are able to explore different types of materials. Through play, children learn life-long skills that will help them in the rest of their schooling and their adult life. Play can impact their cognitive and social development.

Froebel is the creator of the earliest Kindergarten (Spodek & Saracho, 2003). Froebel's kindergarten curriculum was composed of gifts, occupations, mother's play and songs (Spodek & Saracho, 2003). The gifts were a set of objects to play with, occupations were arts and crafts activities, and the mother's play and songs were songs and games. (Spodek & Saracho, 2003). In preschool classrooms now, there are many objects for children to play with. Children often engage in arts and crafts activities in the preschool classroom and engage in songs and games throughout the day. Froebel often used the terms freedom and play to describe his curriculum (Spodek & Saracho, 2003). Although his activities usually had precise directions on how to use the materials (Spodek & Saracho, 2003).

Maria Montessori also developed a type of early childhood program. Maria Montessori cultivated her curriculum from children's natural play activities (Spodek & Saracho, 2003). She provided materials that she designed for children and observed them playing with the materials

(Spodek & Saracho, 2003). Observation is a major element in preschool classrooms now. Observations are used for planning and assessment. Children were able to play and manipulate with these Montessori materials but in certain ways (Spodek & Saracho, 2003).

John Dewey believed education for young children include their daily experiences in the community (Spodek & Saracho, 2003). Dewey believed that play could be used to reconstruct the experiences children are involved in in the community (Spodek & Saracho, 2003). Often teachers provide materials that children may see in their community, such as providing children with print they may see in the community.

### **Development Areas Impacted by Play**

Vygotsky believed that cognitive development occurred within social interactions (Roden & Szabo, 2017). Most play in early childhood classrooms incorporates social interactions between children. In social interactions between children, they must be able to read their verbal and nonverbal simultaneously to be able to know what is happening (Bremme & Erickson, 1977). In contrast, there are many instances during play where children do not have social interactions with other children. There are certain areas of play in which this is not necessary, such as an art center and the writing center. Socio-dramatic play also helps students develop language skills (Moyles, 2012). Children learn language by plying with other children and adults can facilitate that learning by describing what is happening during play (Moyles, 2012).

Today there are high-stakes tests, push-down curriculum, and widespread criticism from teachers, parents, and policy makers that believe play is a waste of time (Roden & Szabo, 2017). There has been a recent emphasis for academics in earlier grades to prepare students for standardized tests in later grades. Kindergarten used to be consumed with play and interaction between students and their teachers. Accountability and setting measurable standards are

becoming as well known in early childhood as the concept of developmentally appropriate practice (Rushton, 2011). Going into a kindergarten classroom, someone may see students sitting and working or listening to the teacher. Kindergarten is now consumed with assessments and preparing students for the grades to come. As this emphasis for academics in education has become more prevalent in earlier grades, preschools are trying to keep play as a predominant instructional strategy in their classrooms. Preschool may now be known as the new kindergarten to some. There are now assessments being done in preschool to ensure that they are ready for the assessments to come in kindergarten. Although some preschool teachers have given into the emphasis for academics in preschool, a majority are still pushing for play-based curriculum in the early years of school. In preschool, children need to acquire a set of fundamental skills, including linguistic, cognitive and social-emotional skills and not just academic learning (Bodrova & Leong, 2005). These fundamental skills not only help children learn how to read and solve math problems but also help children learn how to solve a conflict (Bodrova & Leong, 2005).

Children are born with over 100 million brain cells (neurons), and they do not grow any more neurons in their life, what can be changed is the connection between them (Moyles, 2012). Brain plasticity means that the brain can change and grow, changes occur rapidly in the first five years (Moyles, 2012). Brain development is linked to the children's environment (Moyles, 2012). This shows the optimal time for children's brain to grow is during preschool. The brain develops from stimulation and the fundamental stimulation for children is play (Moyles, 2012). Lack of play has been shown to have long-term effects including physical harm, social harm, emotional harm, and may not be able to cope with pressures (Moyles, 2012).

## **Types of Play**

Teachers are responsible for ensuring that the play children engage in is set up to help foster their academic and social development. It is the task of early childhood educators to help children learn how to analyze, synthesize, and clarify information, and not recite facts or figures with no meaning (Rushton, 2011). Many people who are not familiar with early childhood may walk into a preschool classroom during the children's play time and think that children are playing freely with no specific goal planned. In reality, many of the areas of play in a preschool classroom have been thought out and set up in a way that will facilitate learning and development by the teacher.

There are different categories play can fall into. Unstructured play allows children to how to negotiate, to share, to work in groups, to resolve conflicts, and learn self-advocacy skills (Lowry, 2006). Unstructured play allows children to move and play at their own pace, discover their own interests, and learn decision making (Lowry, 2006). The type of play that is used in most preschool settings is structured play, or guided play. This is where a teacher sets up intentional learning targets for each center. Guided play is play that is structured to directly teach academic skills and concepts (Massey, 2013). Each item in the center is put there for an intended purpose. These play experiences are carefully thought out by the teacher. Numbers or letters may be put in centers that are not typical, such as in the block center or in the sensory table. There are also materials that the teacher can set out that let students explore with less of an intended academic purpose but to foster children's creativity and interest. Stocking the writing area with various materials based on the student's needs, such as sandpaper letters for finger tracing, sand trays for writing letters, brushes, paints, and jumbo pencils (Rushton, 2011). There are non-standard materials that can be put in the centers for students to explore and learn from.

As early childhood educators it is important to know the different types of play and the progression of those types of play. Knowing where the children in their class land on the progression of play will allow early childhood educators to facilitate more meaningful play experiences. Mildred Parten Newhall observed children at play and recognized six different types of play, unoccupied play, solitary play, onlooker behavior, parallel play, associative play, and cooperative play (Johnston, Kidder, Nelson, & Paul, 2017). Unoccupied play is when babies or toddlers are exploring the materials but may look unorganized (Rymanowicz, 2015). Solitary play is when the children are playing by themselves without any other social involvement (Rymanowicz, 2015). Onlooker behavior is when they are still playing by themselves but may be watching another child play with different toys, but they do not interact with that child (Rymanowicz, 2015). Parallel play is when children are playing next to a child but are not playing with that child; they may be using similar actions or materials as that child (Rymanowicz, 2015). Associative play is when children are sharing play materials with others, but they are more interested in playing with others than the materials (Rymanowicz, 2015). Cooperative play is when children are playing together and working together on a common goal (Rymanowicz, 2015). This is the most complex form of play and producing the richest learner (Mawson, 2010). When children enter preschool, they are typically at parallel play or associative play depending on the amount of play background they have with other children outside of school. Children, by the end of preschool, are typically engaging in cooperative play, unless there is a developmental delay.

### **Benefits of Play**

There are various benefits associated with play in the early years. Two skills that are often overlooked by teachers are social and emotional skills. Children can gain an array of social

and emotional skills while engaging in play. Children can develop many skills while engaging in play. Many theorists have thought that playing with objects allows children to think about them in different ways, therefore allowing them to solve problems with them. (Dore, Hopkins, Lerner, Lillard, & Smith, 2013). Solving problems is one area of development that teachers in other grades usually foster in their classroom, but it may not be intentional. Children can also learn academic skills in a play-based classroom. The teacher will intentionally set up the play areas for the type of learning that they are focusing on that day, week, or month.

In a study, twenty-two percent of parents stated that their child play far less often at home than they did as a child (Rhonda & Stone, 2018). If students are not playing as much at home, then early childhood educators are providing students with their only time to play with what they choose and to explore, problem solve, and make decisions. In another study, the data revealed that children showed knowledge of past literacy lessons from school within their play (Yoon, 2014). Watching students engage in play, many times someone may see them including academic pieces that they previously learned in school in their play.

Constructivist theories often state that children are introduced to social and cognitive information during play, such as new words, concepts, and objects (Bell, Bulotsky-Shearer, Carter, & Greenfield, 2016). In a study, in play with their peers, the patterns of children's behavior were parallel with their academic skills (Bell, et al, 2016). Social skills and academic skills are intertwined within play when peers are involved. When students are playing together, this gives them the opportunity to develop their language and communication skills while also giving them the opportunity to discuss academic knowledge and build off one another. While observing children's play behaviors in preschool, teachers can have an early indication of the academic track for children in science, mathematics and literacy (Bell, et al, 2016).

**Assessment in Play**

Play can be used for not only learning with children but also for teachers to use as a way to assess children. Play can be used for evaluating children and determining if any interventions are needed (Moyles, 2012). Play can be used to assess communication, physical, social-emotional, and cognitive development (Moyles, 2012). Assessment can be taken in three main ways. One being summative assessment. Summative assessment is used at the end of a unit, theme, or learning process, this can be seen as a test (Moyles, 2012). Another type of assessment is formative assessment. Formative assessment is ongoing and continuous (Moyles, 2012). Preschool teachers often use formative assessment, this can be seen in Teaching Strategies GOLD. Assessment in play is commonly used for linking observations of children's development with future lesson planning (Moyles, 2012). Teachers use play as a way to observe children's development. These observations are used to determine where the children are now developmentally and for the teacher to plan what play experiences they will provide next (Moyles, 2012).

## **Methods**

### **Participants**

This action research was conducted in two half day inclusive preschool classrooms. The classrooms are in the same school district and same elementary building. The first class (AM) consisted of eight four and five-year-old students, one girl and seven boys. In that classroom, one student was African-American, and seven students were Caucasian. Three of those students were on an Individualized Education Plan (IEP), two of them were on an IEP prior to the action research, one of them was started on an IEP during the action research. The classroom teacher is a licensed Early Childhood Special Education Teacher, there was one classroom associate and one one-on-one associate.

The second class (PM) consisted of fourteen four and five-year old students, eight girls and six boys. All fourteen of the students were Caucasian and one student was on an Individualized Education Plan. The classroom teacher is a licensed Early Childhood Special Education Teacher and there was one classroom associate. Both classrooms are aligned with the Iowa Early Learning Standards. They both use Teaching Strategies GOLD as their assessment, and they follow the Iowa Quality Preschool Program Standards.

### **Data Collection**

Play-based learning was incorporated in the morning and afternoon state-wide voluntary preschool classrooms throughout the school year. In that time the themes were changed every week depending on the book that was being read or the theme that was being used. The beginning of the year the classroom had a Pete the Cat theme, they read Pete the Cat books and had activities related to those books. Pete the Cat books are engaging and give the students an opportunity to learn about the expectations in school. Starting in October, they read books on

pumpkins and fall. The students were able to explore pumpkins and engage in activities related to pumpkins and fall. In November, they read books about apples and engaged in activities around apples. The end of November to February they read books about winter and engaged in activities based on the book of that week. In March, they began a Dr. Seuss and Eric Carle book study. In April and May, they read books on butterflies, ladybugs, seeds, and plants. Most of the themes that were planned were based on the season and what happens during that season.

Children learn well when they can make meaningful connections to their life, are engaged, mentally active, and social, these are all characteristics of play (Play-based Learning: The Concept of Kids Learning by Playing, 2018). Froebel and Montessori both saw children's activity as a means of learning (Spodek & Saracho, 2003). The children in this study engaged in play-based learning for an hour and a half of their three-hour day. There were different centers available to them such as, manipulatives, library, sensory, science, puzzles and games, writing, blocks, play-dough, art, and dramatic play. The children were able to move freely throughout the centers and play with any of the items and toys in that center as they choose, as long as they were safe and following the school rules.

The rest of the time included two fifteen minutes of large group time, one fifteen-minute small group time, thirty minutes of large motor/recess time; the other fifteen minutes were for cleanup and transition times. Two short large group times were incorporated in the day, one for calendar and the other for a book and activity; they were 15 minutes or less. For small group, students were put in groups using flexible grouping and engaged in a hands-on learning activity based off their needs. A preschool classroom associate was there to assist in the learning, as well as a one-on-one associate for a student on an IEP in the morning. There were a variety of materials that were used for center time, large group, and small group. The teacher and the

associate switched out the manipulatives and other materials in the centers every couple of weeks.

There were two weeks in the fall, winter, and spring that students were assessed using IGDIs and anecdotal notes that are put into the Teaching Strategies GOLD website. The spring assessments using IGDIs and Teaching Strategies GOLD were used to determine growth.

Documentation was taken every day and recorded using Teaching Strategies GOLD using the ten objectives that align with the twelve priority standards every month. The data was entered on the Teaching Strategies GOLD website by documentation, either anecdotal notes, pictures, or videos and the students were leveled according to where they were based on the documentation taken. In the fall, winter, and spring, the teacher completed a checkpoint. The students were leveled on a continuum based on the data that was been entered. There were ten priority objectives that were assessed.

There are early skills that are strongly related to the ability to use phonics later and are early skills for learning to read. The early skills linked to phonics use and learning to read are phonological awareness (rhyming, alliteration, etc.), vocabulary, word manipulation (word blending and segmenting, etc.), and letter naming (Betts, et al., 2007). The IGDIs assessment was administered one-on-one with the students three times during the study. There were four tests that were administered in the fall and five in the winter and spring during the study.

## Findings

### Data Analysis

Table 1 shows the number of students who were in the green (considered proficient), the number of students who were in the yellow, and the number of students who were in the red (needs intervention) using the IGDIs screener. The IGDIs assessment was administered three times during the study, the fall, winter and spring. This assessment was administered one-on-one in a separate room with the teacher. The assessment has a script for the teacher to read, each assessment has fifteen cards the teacher reads through. The teacher marks if the child answered correctly or not and gives no feedback. There are four tests that were administered in the fall and five in the winter and spring during the study. A test is discontinued when a student does not answer one of practice questions correctly even with prompts given. Sound identification and alliteration are the two IGDIs assessments that best align with the priority standards.

Table 1

*Fall, Winter, and Spring IGIDs scores*

Fall Assessments	Green (Proficient)	Yellow	Red	Discontinued
Picture Naming	8	10	4	0
Rhyming	4	10	5	3
Sound ID	6	8	7	1
Which One Doesn't Belong	9	2	4	7
Alliteration	N/A	N/A	N/A	N/A
Winter Assessments	Green (Proficient)	Yellow	Red	Discontinued
Picture Naming	3	14	5	0
Rhyming	8	5	9	1
Sound ID	10	7	4	1
Which One Doesn't Belong	13	2	7	0
Alliteration	5	13	3	0
Spring Assessments	Green (Proficient)	Yellow	Red	Discontinued
Picture Naming	4	18	0	0
Rhyming	7	5	10	0
Sound ID	4	10	7	0
Which One Doesn't Belong	10	7	5	0
Alliteration	8	11	3	0

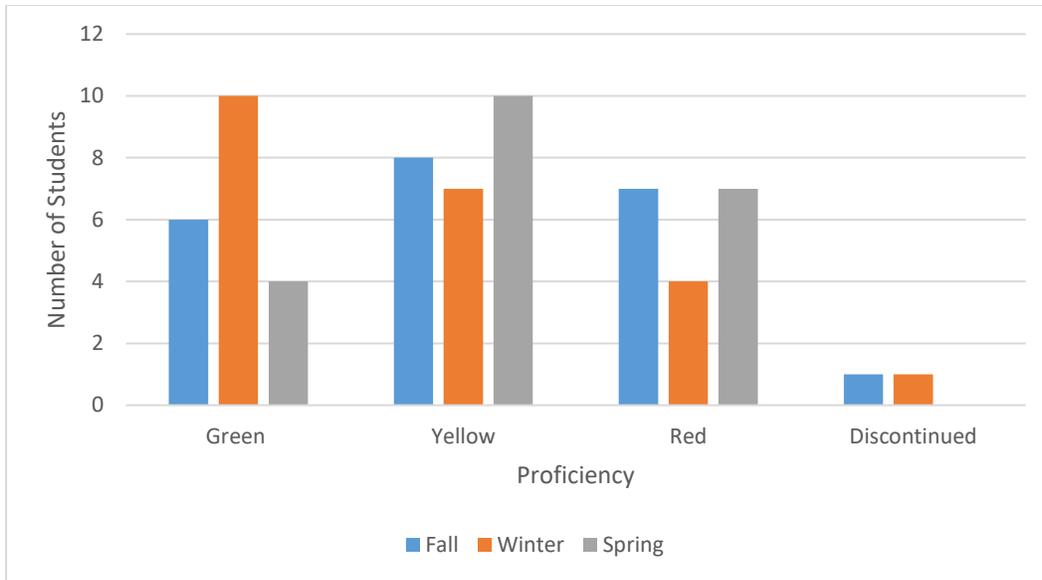


Figure 1. *Sound identification graph showing proficiency of students.*

Figure 1 shows the number of students who were in the green (proficiency), in the yellow (headed towards proficiency), and in the red (needs intervention) for the Sound Identification assessment of IGDIs. The number of students in the green (proficient) went up from fall to spring after going up from fall to winter. The number of students in the yellow (headed towards proficiency) went up from fall to spring. The number of students in the red (needs intervention) went down from fall to winter and then went back up in the spring. The number of tests discontinued went down to zero in the spring. A test is discontinued when a student does not pass the two sample questions even with errorless learning. Errorless learning is an instructional strategy that ensures a high level of correct responses. This ensures that there will be less incorrect answers (Errorless Learning: Watson Life Resources, n.d.).

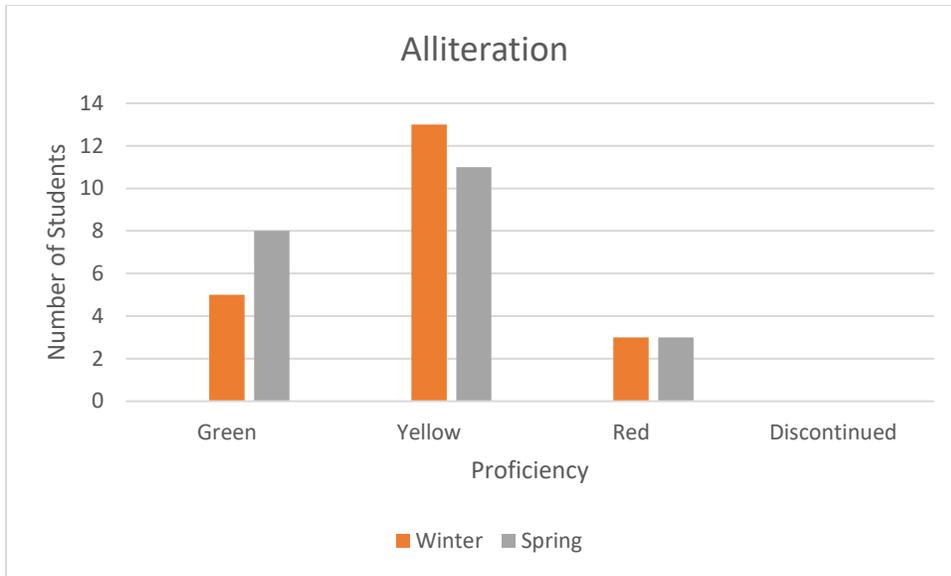


Figure 2. Alliteration graph showing proficient of students.

Figure 2 shows the number of students who were in the green (proficiency), in the yellow (headed towards proficiency), and in the red (needs intervention) for the alliteration assessment of IGDIs. The alliteration assessment is not administered in the fall, it is only administered in the winter and spring. The number of students in the green (proficiency) went up from winter to spring. The number of students in the yellow (headed towards proficiency) went down from winter to spring. The number of students in the red (needs intervention) stayed the same from winter to spring.

When comparing the frequencies for the IGDIs data in the assessments sound identification and alliteration, here is what I found. For sound identification in the fall, there is a statistically significant difference in the number of proficient ( $n = 6$ ) and non-proficient students ( $n = 15$ ) than expected, with strong practical significance,  $\chi^2(100) = 224.58, p < .05$ . For sound identification in the winter, there is a statistically significant difference in the number of proficient ( $n = 10$ ) and non-proficient students ( $n = 11$ ) than expected, with strong practical

significance,  $\chi^2(100) = 73.6, p < .05$ . For sound identification in the spring, there is a statistically significant difference in the number of proficient ( $n = 4$ ) and non-proficient students ( $n = 17$ ) than expected, with strong practical significance,  $\chi^2(100) = 275.91, p < .05$ . For alliteration in the winter, there is a statistically significant difference in the number of proficient ( $n = 5$ ) and non-proficient students ( $n = 16$ ) than expected, with strong practical significance,  $\chi^2(100) = 202.67, p < .05$ . For alliteration in the spring, there is a statistically significant difference in the number of proficient ( $n = 8$ ) and non-proficient students ( $n = 14$ ) than expected, with strong practical significance,  $\chi^2(100) = 122.07, p < .05$ .

Table 2

*GOLD Growth Table*

Objective Numbers	Fall Number - Percentage	Winter Number - Percentage	Spring Number - Percentage	% of Growth from Fall to Spring
16a	15 - 65%	21 - 95%	22 - 100%	35%
16b	4 - 17%	16 - 73%	20 - 90%	73%
17b	15 - 65%	15 - 65%	20 - 90%	25%
19a	20 - 87%	21 - 95%	21 - 95%	8%
20b	0 - 0%	6 - 27%	11 - 50%	50%
21a	11 - 48%	13 - 59%	14 - 64%	16%

*Note.* The priority standards documented are 16a. Identifies and names letters, 16b. Identifies letter-sound correspondences, 17b. Uses print concepts, 19a. Writes name, 20b. Quantifies, 21a. Understands spatial relationships

Table 2 shows the number of students at or above benchmark in each GOLD objective for the fall, winter, and spring. It also shows the percentage of students at or above that

benchmark. The last column in the table, shows the percentage of growth from fall to spring for each benchmark.

The benchmark with the highest percentage of growth was 16b – identifies letter-sound correspondences. The benchmark with the lowest percentage of growth was 19a – writes name. In the benchmark for writing name, many of the students came in at or above benchmark, therefore there wasn't as much growth that would occur there. By the end of the school year, all of the benchmarks had at least half or more of the students at or above benchmark. Four out of the six objectives had twenty or more out of the twenty-two students at or above benchmark.

Documentation was taken every day and recorded using Teaching Strategies GOLD using the objectives that align with the twelve priority standards every month. The data was entered on the Teaching Strategies website and the students were leveled according to where they are based on the documentation taken. In the fall, winter, and spring, the students' scores were finalized in Teaching Strategies GOLD. The students were leveled on where they are on the continuum based on the objectives entered into the GOLD system. Documentation was taken using anecdotal notes that the teacher or associates observed or using pictures or videos that were uploaded into the Teach Strategies GOLD website.

There were twenty-three four-year-old students who had documentation in the Teaching Strategies GOLD website for fall and twenty-two for winter and spring. By the spring, all students were at benchmark or above for objective 16a. Identifies and names letters. Objective 20b. Quantifies had the lowest number of students who were at or above benchmark with eleven students.

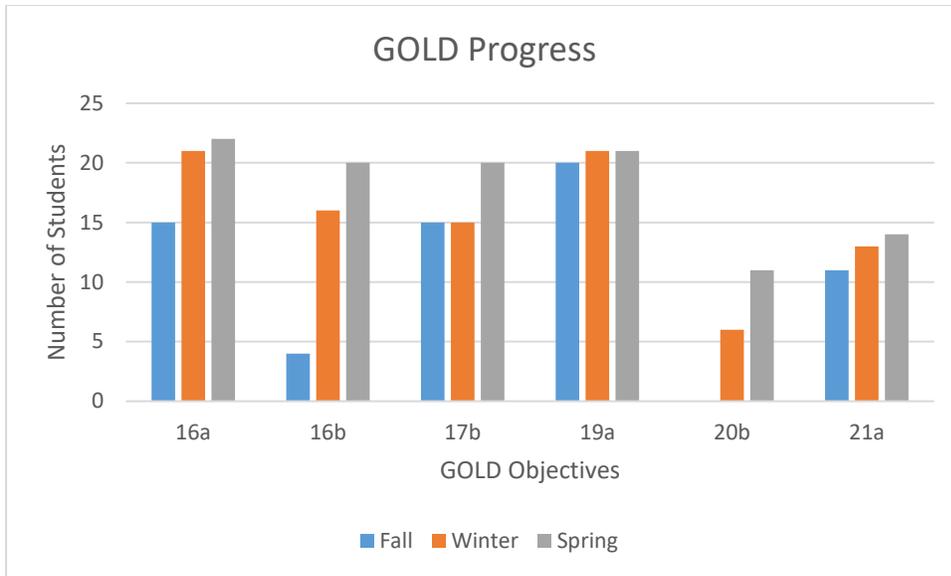


Figure 3. *GOLD growth graph with the number of students proficient in priority objectives.*

Figure 3 shows the growth from fall, winter, and spring on 6 academic priority standards. The objectives based on the priority standards documented are 16a. Identifies and names letters, 16b. Identifies letter-sound correspondences, 17b. Uses print concepts, 19a. Writes name, 20b. Quantifies, 21a. Understands spatial relationships. There was growth from fall to spring for each academic objective used for the study. The biggest growth was in objective 16b - identifies letter-sound correspondences. The objective with the smallest amount of growth was 19a - writes name.

## Discussion

### Summary of Major Findings

The purpose of this research study was to investigate if students can make appropriate academic growth in a play-based preschool classroom. The IGDIs screener did not support the research question of whether students can make appropriate academic growth in a play-based learning classroom. There were students that made progress and became proficient from fall to winter in the assessment sound identification although the number was small. From winter to spring, the data showed that there were students who regressed. The spring assessment does have a different number as an indicator if students are proficient in the assessments than in fall and winter. The expected number students were to get right to be proficient in the spring is higher than in the fall and winter. The number of students in the “red”, meaning they scored low on the IGDIs assessment for sound identification had gone down from fall to winter and then went back up slightly in the spring. The sound identification test was not discontinued for any student in the spring.

The IGDIs assessment for alliteration is not given in the fall, but it is given in the winter and the spring. The number of students proficient in alliteration went up slightly from the winter to spring. The number of students in the “red”, stayed the same. Based on this data, not enough students gained the amount of growth needed to become proficient, so it is unclear if the data from this assessment supports play-based learning.

Data was also used from the Teaching Strategies GOLD assessment. There was a significant amount of growth in more than one area. In the assessment, writes name, with the smallest amount of growth, many of the students already came in at or above benchmark with writing their name. The two benchmarks with the lowest number of students proficient in the

fall, quantifies and letter-sound correspondence, made the biggest amount of growth. GOLD data supports the research question, can students make appropriate academic growth in a play-based classroom? Students made appropriate academic growth during the school year. By the end of the school year, all the GOLD objectives had at least half or more of the students in the classes at or above benchmark. Four out of the six objectives had twenty or more out of twenty-two students at or above benchmark. There were three students on an Individualized Education Plan (IEP), in the classroom. All of the students on an IEP made growth on their goals, their goals were aligned with the priority standards. One student who came in with an IEP goal of naming pictures for their literacy, was able to drop the literacy goal on their IEP by the end of the year because that student was where typical peers were by the end of the year.

GOLD data was also taken during play while students were engaged in play, whereas IGDIs data was taken one-on-one in a different room than the classroom. Students showed more interest and confidence answering teacher prompts during play than they were one-on-one with the IGDIs assessment. These are reflected by the GOLD data taken. Twenty out of twenty-two students were at or above benchmark with sound-letter correspondence in Teaching Strategies GOLD whereas in the IGDIs sound identification assessment, four students were proficient.

### **Limitations of the Study**

A limitation in this study was that the teacher was on maternity leave for two months during the spring, even though it was done throughout the entire year. Although the substitute plans explained the routine of the day and the type of activities chosen for small group, large group, and for center time, there substitute was free to create her own activities and plans after the first two weeks. The substitute teacher was also able to input data into the Teaching

Strategies GOLD website. Right after the teacher came back, IGDIs and Teaching Strategies GOLD were to be administered and finalized.

Another limitation were the themes that the class explored throughout the study. The themes were set up by the early childhood teacher. The researcher believes in a true play-based classroom, that the themes are set up by the teacher and the students together. The Center for Early Childhood Education describes project-based learning as teaching through topics that are engaging and are meaningful in all content areas while also supporting development across all domains (Project-Based Learning, n.d.). The Lego Foundation and UNICEF (2018), describes play as meaningful and states that children make decisions themselves in play. For a theme to be meaningful to a child, the researcher suggests that the child has a role in deciding the theme or topic to explore.

Another limitation for this study were the types of assessments that were compared. They are entirely different assessments. The IGDIs screener is a screener to see what students need interventions so that they make growth and ultimately become proficient. This assessment is administered one-on-one in a separate room with the teacher. The assessment has a script for the teacher to read, each assessment has fifteen cards the teacher reads through. The teacher marks if the child answered correctly or not and gives no feedback. Whereas, the GOLD assessment is an ongoing assessment that is primarily done during center time. The teacher takes anecdotal notes, pictures, videos, or checklists, and levels the students where they see fit on the Teaching Strategies GOLD website based on the documentation being uploaded.

### **Further Study**

Further research can be conducted on specific parts of the day using play-based learning, as opposed to the entire day. This research study focused on implementing play-based learning

throughout the entire day. Play-based learning is a broad topic, it would be beneficial to break up the different parts of the day (small group, large group, centers, etc.) and incorporate play-based learning while focusing on just that part of the day for 16 weeks and then switching to a different part of the day.

Further research can also be done on what play looks like in the classroom. Play may look different to every teacher. Although play-based learning was earlier defined as making meaningful connections to their life, are engaged, mentally active, and social, these are all characteristics of play (Play-based Learning: The Concept of Kids Learning by Playing, 2018). The Lego Foundation and UNICEF (2018), describes play as meaningful, joyful, actively engaging, builds upon itself, and socially interactive. In play, children make decisions, initiate and make choices themselves (Learning through Play, 2018). Further research can be done on how play looks at different times in the classroom, such as center time, small groups, or large groups.

Further research may also be done on when it is appropriate to have a more teacher-led academic activity in an early childhood classroom. Research can also be conducted on the benefits of teacher-led academic activities versus play-based activities and if they yield the same growth results.

### **Conclusion**

The purpose of this research study was to investigate if students can make appropriate academic growth in a play-based preschool classroom. This action research answered the question: can students make appropriate academic growth in a play-based classroom? Appropriate academic growth defined as, the amount of growth needed for each individual child to be progressing towards being at or above benchmark in certain areas by the end of the school year using Teaching Strategies GOLD and IGDIs screener. This looks different for every child. According to Lisa Lachlan-Haché and Marina Castro in an article published by the American Institute for Research (2015), growth targets are designed based off the student's baseline. The teacher uses these baselines to determine a target for growth by the end of the year. This study was conducted throughout the school year from September to May. The research took data using the IGDIs screener three times a year, in the fall, winter, and spring, as well as used data that was put into the Teaching Strategies GOLD website. The researcher focused on two of the IGDIs screener tests, sound identification and alliteration. These two assessments best aligned with the priority standards selected for preschool in the district. The research also focused on these objectives based on the priority standards for preschool in the district, 16a. Identifies and names letters, 16b. Identifies letter-sound correspondences, 17b. Uses print concepts, 19a. Writes name, 20b. Quantifies, 21a. Understands spatial relationships.

The teacher insured that the classroom was ran as a play-based classroom. In the classroom, students engaged in an hour and a half of their three-hour day in free-choice centers. There were different centers available to them such as, manipulatives, library, sensory, science, puzzles and games, writing, blocks, play-dough, art, and dramatic play. The children were able to move freely throughout the centers and play with any of the items and toys in that center as they

choose. The rest of the time included two fifteen minutes of large group time, one fifteen-minute small group time, thirty minutes of large motor/recess time; the other fifteen minutes were for cleanup and transition times. Each of these times the teacher planned play experiences for the children.

Based on the IGDIs assessment, it did not support the research question of whether students can make appropriate academic growth in a play-based learning classroom. For sound identification, there were students that made progress and became proficient from fall to winter in the assessment sound identification although the number was small. From winter to spring, the data showed that there were students who regressed. The number of students in the “red”, meaning they scored low on the IGDIs assessment for sound identification had gone down from fall to winter and then went back up slightly in the spring. The sound identification test was not discontinued for any student in the spring. The IGDIs assessment for alliteration is not given in the fall, but it is given in the winter and the spring. The number of students proficient in alliteration went up slightly from the winter to spring. The number of students in the “red”, stayed the same.

Looking at the Teaching Strategies GOLD data, there was growth in all areas. By the end of the school year, all the GOLD objectives had at least half or more of the students in the classes at or above benchmark. Four out of the six objectives had twenty or more out of twenty-two students at or above benchmark. There was significant growth in two areas, letter-sound correspondence and quantifies. In conclusion, GOLD data supports the research question. Students can students make appropriate academic growth in a play-based classroom.

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