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Play-Based Learning for Academic, Social, and Emotional Growth in First Grade
Students

by

Erin Everts Graves

A capstone project submitted in partial fulfillment of the requirements for the degree of
Master of Arts in Teaching.

Hamline University

Saint Paul, Minnesota

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Capstone Project Facilitator(s): Julia Reimer
Content Reviewer: Nancy Cooley

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DEDICATION

To my first grade students for motivating me to become a better teacher and reminding me how to play. A special thank you to my husband, your support and patience helped me to complete this project.

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CHAPTER ONE

Introduction

Jean Piaget once wrote, “Play is the answer to the question: how does anything new come about?” (Elkind, 2008, p. 6) Educators strive for new- new ideas, new knowledge, new theories, new learning. It seems as though if educators want students to come about anything new, students must play.

My Research Question

Imagine for a moment, you’ve studied, researched, passed exams, and now you’re a licensed educator. You’re hired at your first teaching job and are thrown into an empty classroom, so you get to work creating a welcoming atmosphere for students. It’s time to start creating those wonderful, differentiated, inclusive, hands-on lesson plans you wrote in college. Only, you quickly realize you do not have the time nor physical resources available to create the lesson plans you dreamt of for every lesson, every day. You look to your counterpart for help to discover she has plans for every unit and lesson from previous years. You rejoice and welcome the help. The next thing you know, the majority of your lessons revolve around free worksheets and you’re pressured to get through units at a certain pace. You do your best to have fun but play is being taken over by standards, testing, and worksheets. You want your students to learn, but you also want them to enjoy school and play.

This scenario was similar to my personal experience during my first year of teaching first grade. This leads me to my research question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?*

In this chapter, I will provide definitions on key terms regarding the research question, share my personal and professional experiences, provide a professional significance for my research, and outline my capstone project.

Definitions

There are often many ways to define one word. Below I will share definitions of play, learning, and play-based learning (PBL).

Play: Eberle (2014) defined play as “an ancient, voluntary, 'emergent' process driven by pleasure that yet strengthens our muscles, instructs our social skills, tempers and deepens our positive emotions, and enables a state of balance that leaves us poised to play some more” (p. 231).

Learning: Washburn (1936) defined learning as “an increase, through experience, of problem-solving ability” (p.610).

Play-Based Learning: Play-based learning (PBL) is a pedagogical method. Taylor and Boyer (2020) said PBL “unifies play and educational pedagogy. PBL is child-centered and focuses on children’s development, interests and abilities through engaging and developmentally appropriate structuring of academic learning experiences” (p. 127).

Personal Journey

When I think of play I first think of my two youngest children who are one and two. They play all day. They play with their toys and books; their food when they should be eating; random household items they find but shouldn’t be playing with; grass, sticks, rocks or whatever they can find outside; and if there happens to be nothing else around to play with, they play with their fingers, toes, shoes, or coat. My children are exploring,

discovering, investigating, experimenting, and making connections. They are having fun. They are learning all day. They are playing all day. My children are learning while they play.

When I think of learning I think about school, my memories of grade school and about my oldest child in fourth grade. I see similarities between my daughter's and my schooling, and the way she learns. My daughter excels at reading and math and enjoys going to school, as did I. Things seem to come easily to her and she is often above grade level standards. This is not the case for the majority of students. I think back to my childhood and I remember my sister struggling in elementary math. My mom would practice simple addition facts with her using flashcards. She would get upset with me for yelling out the answer before she could. This was not the best way for her to learn addition. As an educator, I have seen students like my daughter and my sister, and everywhere in between.

When I think about PBL, it brings me to my two-year-old son. He is in speech therapy for a significant speech delay. During his sessions and at home, we use play therapy to help him learn. We play with toys to help label items, animals, foods, etc. We color while making silly sounds, which are various letter sounds he needs to work on. We dance around to label movement, body parts, and position words. We play with his baby sister to learn sharing, following directions, and taking turns. We label and talk about feelings during our play to learn and label emotions. While playing with my son he is learning academic, social, and emotional skills.

Professional Experience

My teaching experience began in a daycare center in the preschool (ages 2.5-3.5) and the preK rooms (ages 3.5-5). Both rooms were very similar in design: full of toys, manipulatives, sensory stations, dramatic play, dress up, and crafts. We had a curriculum with a new theme each week for students to learn about. Throughout the week we would read stories about the theme. Teachers would plan activities, games, and crafts that went with the theme. We would fill the sensory bins with items and set up dramatic play areas that connected to the theme. Every day there would be ample time for free play inside and outside on the playground. Oftentimes we would see students playing on their own in correlation to the theme. For example, when we were learning about dinosaurs one student pretended to be a T-rex and chased the other 'dinosaurs' around the playground.

During my student teaching semester, I taught in a kindergarten class in a West Saint Paul elementary school. My host teacher had been teaching kindergarten for many years. She had a classroom full of manipulatives, dramatic play, toys, games, science equipment, puzzles, crafts, and more. Included in the math curriculum were small group or partner stations that mainly consisted of various math games. The host teacher also had literacy stations each day, where students could pick from different activities or games. Typically each day ended with free play time. This classroom had many opportunities to learn through play.

After student teaching, I became a long-term substitute teacher in a kindergarten class. This school was in the same school district as my first kindergarten class and used the same math curriculum that incorporated play. However, there was less opportunity for play throughout the day with the schedule and procedures in place for this class. A

recommended consequence for behavior issues from the teacher on leave, was for the student to sit out of recess or free play, therefore taking away what little play time the student had. There were less resources available and very limited collaboration between the kindergarten teacher team. The play I had grown accustomed to in preschool and my previous kindergarten class was slipping away as I struggled to manage the class as a first year guest teacher.

The following fall, I was hired as a first grade teacher at a local charter school, where I taught for two years. We were given loose agendas based on when our lunch, recess, and specials were scheduled and given time requirements for each subject (math, reading, writing, science, social studies, etc). There wasn't enough time in the school day to meet all of the time requirements for each subject, let alone leave any time for free play in first grade. A math curriculum was assigned that consisted of only worksheets and no manipulatives were provided. A reading curriculum was assigned that consisted of textbooks and worksheets. There was pressure for students to meet reading and math scores on school wide assessments and very little resources provided for classroom teachers. As a first year teacher, I struggled to fill my classroom with books, materials, and supplies in an effort to provide something other than free worksheets.

Personal and Professional Significance

Thinking back to my year in kindergarten, I remember playing with friends, the teacher reading books, and having a rest/nap each afternoon. My kindergarten experience resembles what we may see today in a full-day preschool program. Kindergarten today is a day full of meeting the educational standards that we once saw in first grade. First grade standards have become even more rigorous, leading to more work, tests, workbooks, and

less, if any, play. There is much research that supports the practice of PBL as a developmentally appropriate method to teach students social, emotional, and academic skills.

Davis (2017) conducted a study on kindergarten students to measure social, emotional, and academic growth in students. The data showed an increase in development in academic, social and emotional areas. She also found that students looked forward to attending school because of PBL. Due to the results, she recommends PBL for “students’ overall well-being” (p. 54). There is an abundance of research on preschool and kindergarten students supporting the PBL method for young children. However, PBL should not simply end because a student turns six and moves on to first grade. “Playing in child-initiated learning centers is considered the domain of preschool and kindergarten, while 1st grade marks the transition into a ‘work’ environment” (Patton & Mercer, 1996, para. 3).

Project Context and Rationale

The aim of this project is to help educators implement PBL in first grade classrooms. My project would help end “the painful rite of passage from ‘playing’ in kindergarten to doing ‘real work’ in 1st grade” (Patton & Mercer, 1996, para. 1). My project is a professional development series for first grade teachers in a professional learning community that consists of five sessions and includes a guide to further support teachers. Darling-Hammond et al. (2017) recommend effective professional development workshops for teachers in order to create teacher change that results in student learning. The project will be further discussed in Chapter Three.

Conclusion

In this chapter, I introduced my research question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?*

Key terms related to PBL were defined, I shared my personal journey and professional experience related to PBL. The professional significance of this topic was presented, as well as what my project will entail and the rationale behind it.

The next chapter will be the literature review, where research is examined to further define play and PBL; the educator's role in play will be discussed; studies showing students' academic growth and social/emotional development through PBL will be shared; and the perception, assessments, and challenges of PBL will be discussed. Chapter Three will provide my capstone project description, the framework and principles used to design it, as well as the setting, audience, and timeline. The final chapter will provide my reflection of learnings from completing the capstone project and how it may benefit the profession.

CHAPTER TWO

Literature Review

Introduction

There has been ample research conducted and literature published on various aspects of PBL. The literature will be reviewed in this chapter to begin to answer the research question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?*

Within the literature, the following topics have emerged and will be discussed in detail in this chapter: a definition of PBL, academic, social and emotional development through PBL, research trends in PBL, and developmentally appropriate learning for first grade students. An in depth definition of PBL will be provided, including the different levels of play, educator involvement, and the continuum of PBL. Studies on PBL instruction will be examined for the academic growth and the social/emotional development of students. The following trends in research will be further discussed: student and educator perspectives, assessments, and challenges faced by educators. Finally, developmentally appropriate learning needs for first grade students will be reviewed in connection with PBL.

What is Play-Based Learning (PBL)

As cited in The Strong National Museum of Play, Fred Rogers (American television personality, 1928–2003) once said “Play gives children a chance to practice what they are learning.” To define PBL, one must first think about what it means to play.

Play

Play happens at many ages and in different settings. It begins early in a child's life and changes as they grow. Play can look quite different and take on various forms. Elkind (2008) states that play begins as infants and progresses over time from meeting needs, to creating, to making rules. Play can be with toys or games, with other children or alone, sitting or running, with freedom and imagination or following rules. Nicolopoulou (1993) interpreted Vygotsky's theory which implies that children do not just know how to play and create, that they have learned this from their environment and the people around them. Therefore, play evolves over time as a child learns from their caregivers, friends, culture, society, religion, community, etc.

Perhaps play is a more complex concept than one may have realized. The Strong National Museum of Play (Eberle, 2014) determined there are six elements present while in play: anticipation, surprise, pleasure, understanding, strength, and poise. Figure 1 below shows how play unfolds from left to right and how each element can increase in intensity from top to bottom. Eberle (2014) described variations in play as connected to the six elements of play:

Play can be challenging or soothing, rough or gentle, physical or intellectual, mischievous or well mannered, orderly or disorderly, competitive or cooperative, planned or spontaneous, solitary or social, inventive or rule-bound, simple or complex, or strenuous or restful (and so on); and still it will contain the six elements of play or the potential for the six to unfold (p. 231).

Figure 1*Play Elements*

<i>Anticipation</i>	<i>Surprise</i>	<i>Pleasure</i>	<i>Understanding</i>	<i>Strength</i>	<i>Poise</i>
interest	appreciation	satisfaction	tolerance	stamina	dignity
openness	awakening	buoyancy	empathy	vitality	grace
readiness	stimulation	gratification	knowledge	devotion	composure
expectation	excitement	joy	skill	ingenuity	ease
curiosity	discovery	happiness	insight	wit	contentment
desire	arousal	delight	mutuality	drive	fulfillment
exuberance	thrill	glee	sensitivity	passion	spontaneity
wonderment	astonishment	fun	mastery	creativity	balance

Play Elements

Figure 1. Play Elements presented as a linear sequence. Find a full-color downloadable version of this chart at www.museumofplay.org/play-elements.

With a greater understanding of play, the elements present in play, and the many variations of play, PBL can further be defined.

Play-Based Learning (PBL)

Simply put, PBL is learning while you play. Play in the classroom supports academic skills and is developmentally appropriate for children to grow cognitively, socially, and emotionally (Pyle & Danniels, 2017). PBL is a midpoint between free play and direct instruction (Taylor & Boyer, 2020) and creates more effective learning experiences than free play or direct instruction (Pyle & Danniels, 2017). A factor

important to defining PBL, and separating it from just play or direct instruction, is educator role and involvement.

Educator Role and Involvement. Child-centered play with purpose and teacher guidance to achieve desired learning outcomes is PBL. Teachers must find a balance between when and how to engage in play to support and extend learning, without taking over or “highjacking” their play (Pyle & Danniels, 2017, p. 280). Researchers Pyle and Alaca (2018) witnessed active participation in play from kindergarten teachers in Canada that resulted in students viewing play and learning as connected constructs. An educator’s role in play should be to enhance the play by responding to student interest, asking questions, making comments or facilitating conversation, and scaffolding. Educators should collaborate with students in play, coplay, and assist in play (Pyle & Alaca, 2018; Pyle & Danniels, 2017; Taylor & Boyer, 2020).

Bubikova-Moan et al. (2019) suggest that educator role and involvement changes based on the activity. This may be true; however, “in terms of academic, cognitive, and social-emotional skill development, this adult-guided, collaborative play is found to be the most effective and most supportive implementation model” (Pyle & Danniels, 2017, p. 129). Nontell (2021) used collaboratively designed play in her kindergarten classroom, where she created play opportunities with students based on their interests, resulting in deeper thinking and learning. In Wickstrom et al.’s (2019) observational study of PBL in kindergarten classrooms, shared control of play resulted in more instances of learning than free play or direct instruction. Using a mix of PBL methods with a focus on guided play, which shares control, results in greater learning outcomes. As shown above, there

are varying levels of educator involvement in play and PBL which will be further defined below.

Pyle and Danniels' Continuum of PBL. Pyle and Danniels (2017) conducted a study on PBL in kindergarten classrooms in Canada which resulted in the creation of the continuum of play-based learning, shown in Figure 2 below. The continuum of PBL moves from the most child-directed play at the left end of continuum, through collaborative play, to the most teacher-directed play at the right end of the continuum. The five levels of play are free play, inquiry play, collaboratively designed play, playful learning, and learning through games.

Child-directed play consists of *free play* and *inquiry play*. Free play has little to no teacher involvement. This was the most dominant type of play observed in Pyle and Danniels' (2017) study, and included things like building, playing with toys, and playing with sensory items. Inquiry play is also child-directed but is extended by the teacher based on child interests. The teacher allows and helps create play opportunities based on spontaneous interests that arise from students. Pyle and Danniels (2017) observed a teacher respond to a student's interest in paper airplanes, which resulted in a runway for their plane. As more students became interested, books were brought in to learn about design, flight paths were measured, and the scientific method was used to test different methods.

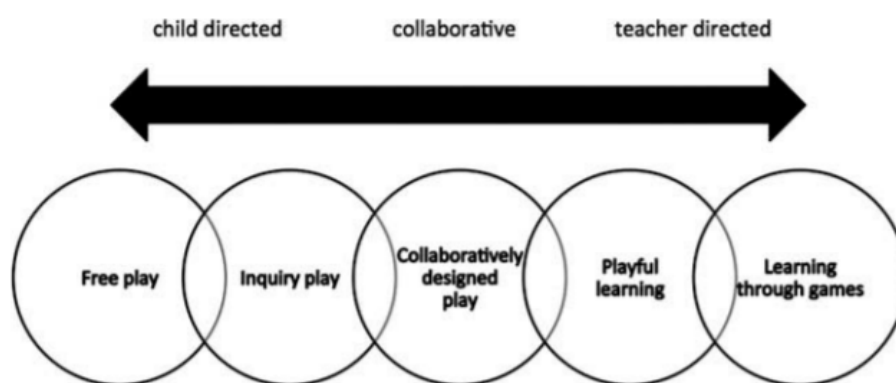
Collaboratively designed play is both child- and teacher-directed; they share control of the play. The teacher decides the outcomes to achieve through play, they create the play together, and children take over directing the play. In one classroom that Pyle and Danniels (2017) observed, collaborative play was achieved through a vet clinic. The

teacher based this on students' interests in animals, and incorporated reading and writing outcomes based on the activities students thought should be included in the center. Children directed their own play while the teacher supported and expanded play as needed.

Teacher-directed play consists of *playful learning* and *learning through games*. Playful learning is teacher created and directed with child influence in play. The teacher designs play based on skills students should learn and students play within the structure set. A teacher in Pyle and Danniels (2017) study used playful learning through setting up a flower shop where students needed to use math skills to create and fill orders. Students had some control over their play but within the frame created by the teacher. The most teacher-directed PBL is learning through games. This play is created by the teacher and includes a set of rules that must be followed, for example card or board games to learn math or language skills.

Figure 2

A Continuum of Play-Based Learning



Note. From “A continuum of play-based learning: The role of the teacher in play-based pedagogy and the fear of hijacking play,” by A. Pyle and E. Danniels, 2017, *Early Education and Development*, 28(3), 274-289. (<https://doi-org./10.1080/10409289.2016.1220771>). Copyright 2016 by Taylor & Francis.

In summary, PBL is learning through play with varied levels of teacher interaction. PBL happens in the classroom while the elements of play are present, or have the potential to be present: anticipation, surprise, pleasure, understanding, strength, and poise. PBL will fall into a category on the continuum of play, from child-directed to teacher-directed play. Now that a definition of play and PBL has been provided, academic, social and emotional development during PBL will be discussed.

Academic, Social and Emotional Development during PBL

Research on PBL shows overall student growth in academic, social and emotional development (Davis, 2017; Pyle & Alaca, 2018; Taylor & Boyer, 2020; Vogt et al., 2018).

Academic Growth and PBL

Academic learning expectations are increasing for students entering first grade. With a strong focus on test scores and student academic outcomes, educators are responsible for student achievement and often feel pressure to meet these growing expectations (DeLuca et al., 2020). This can result in educator hesitancy to stray from direct instruction on subjects that are being tested. However, PBL is shown to support students' academic growth.

While it may be counter-intuitive, play is actually an important part of cognitive growth and development (Taylor & Boyer, 2020). In fact, research shows that play can be used to promote all subject areas, including literacy. During the examination of 20 studies on play and literacy in classrooms, Roskos and Christie (2001) found that play aligned with literacy has been shown to increase and enhance learning experiences by connecting language, written and oral, to increased literacy development. Pyle and Danniels' (2017) study of 15 public school kindergarten classrooms in Canada, resulted in an increase in

reading scores after implementing PBL. Similarly, Davis (2017) saw an increase in reading scores from the kindergarteners in their classroom, after an eight week study on PBL practices. Davis used informative assessments prior to and after the eight week study to measure reading scores. Likewise, Lerkkanen et al.'s (2016) study of 93 Grade 1 Finish classrooms on child-centered versus teacher-directed practices and academic growth, found that classrooms with more consistent child-centered practices saw more reading skill increases than classrooms with more teacher-directed practices. Child-centered teaching practices developed the reading skills of students at all reading levels- low, average, and high skill.

Mathematics educators have also found that a play-based curriculum can be developmentally appropriate and meet the needs of a diverse student population. In their study of 324 six-year-old students on PBL and mathematics instruction, Vogt et al. (2018) discovered the PBL method met the most diverse needs of students and resulted in an increase in math learning compared to traditional programs. Their research showed the possibility for learning gains through guided play using math games and cards. Similarly, Wickstrom et al. (2019) observed math learning during their observational study of 20 Canadian kindergarten classrooms using PBL. They noted that there is evidence of new math learning during guided play, and the opportunity to practice previously learned skills, while also extending those skills, during guided play and free play.

Kamii and Rummelsburg (2008) also researched learning mathematics through play. Their study consisted of 26 low-performing first grade students using play and games to learn compared to a group of 20 similarly performing first grade students in a nearby school using other methods, mainly worksheets. In Kamii and Rummelsburg's

study, they used *physical-knowledge activities* to help build a foundation for number concepts. “Physical-knowledge activities are those in which children act on objects physically and mentally to produce a desired effect” (Kamii & Rummelsburg, 2008, p. 390). In this study, they used the Bowling game, Pick-Up Sticks, the Balance game, and Jenga and did not learn arithmetic for the first half of the year. When students did begin arithmetic they played math games instead of doing worksheets. The results at the end of the school year showed that the physical-knowledge students (constructivist group) performed better in both mental arithmetic and word problems than the comparison group. Table 1 below shows the mental arithmetic questions given to students in both groups. The constructivist group performed better in all questions, except $3+3$, and significantly better in eight of the seventeen problems. Table 2 below shows the percentage of students who answer the word problem questions correctly. The constructivist group performed better than the comparison group in all word problem questions and significantly better in half of the questions.

Table 1

First Graders' Correct Answers within Three Seconds in Mental Arithmetic (in Percent)

First Graders' Correct Answers within Three Seconds in Mental Arithmetic (in Percent)				
	Constructivist Group	Comparison Group	Difference	Statistical Significance
	<i>n</i> = 26	<i>n</i> = 20		
2 + 2	100	90	10	n.s.
5 + 5	92	90	2	n.s.
3 + 3	77	85	-8	n.s.
4 + 1	88	65	23	.05
1 + 5	88	70	18	n.s.
4 + 4	88	65	23	.05
2 + 3	81	40	41	.01
4 + 2	58	25	33	.05
6 + 6	50	40	10	n.s.
5 + 3	58	35	23	n.s.
8 + 2	69	45	24	.05
2 + 5	62	40	22	n.s.
4 + 5	42	30	12	n.s.
5 + 6	24	5	19	.05
3 + 4	38	15	23	.05
3 + 6	38	10	28	.05
4 + 6	35	20	15	n.s.

Note. From "Arithmetic for First Graders Lacking Number Concepts," by C. Kamii and J. Rummelsburg, 2008, *Teaching Children Mathematics*, v14 n7 p. 389-394 (<http://www.nctm.org/publications/>). Copyright 2008 by The National Council of Teachers of Mathematics, Inc.

Table 2

First Graders' Correct Answers to Word Problems (in Percent)

Two Groups' Responses to Word Problems (in Percent)				
	Constructivist Group	Comparison Group	Difference	Statistical Significance
	<i>n</i> = 26	<i>n</i> = 20		
1. Line (10)	8	0	8	n.s.
2. Crackers (8)	19	5	14	n.s.
3. Cookies (2)	50	0	50	.001
4. Candy (6)	73	25	48	.001

Note. From "Arithmetic for First Graders Lacking Number Concepts," by C. Kamii and J. Rummelsburg, 2008, *Teaching Children Mathematics*, v14 n7 p. 389-394 (<http://www.nctm.org/publications/>). Copyright 2008 by The National Council of Teachers of Mathematics, Inc.

While research was found on using PBL for literacy and mathematical growth in students, not much research was discovered on PBL and science. However, play instinctively connects to science and engineering. When educators intentionally provide students with opportunities to play, they engage in meaningful scientific thinking (Lozon & Brooks, 2019). Lozon and Brooks observed students using scientific practices during their play while trying to create a paint color they wanted but did not have in class. Students worked their way through the process of defining the problem- the missing paint color, planning and carrying out their investigation- mixing colors in an attempt to match a color, analyzing data- checking to see if the paint color matched, then communicating with classmates to see if they agreed to the color match, and then sharing the paint formula they created.

In an attempt to use a PBL model across all subject areas, Nontell (2021) transformed her classroom to create a more developmentally appropriate learning environment. Nontell felt her kindergarten students were not succeeding following the school's direct-instruction followed by play-centers design. After making changes, she called her classroom a "studio" and began to see "real and meaningful learning took place" (p. 285). Nontell created an open atmosphere by arranging multiple spaces to support different interests and learnings, where students could follow their interests in play to learn, experiment, ask questions, create, model, and engage in play which resulted in students digging deeper into their learning. Examples of these spaces included an animal hospital, measurement lab, bakery, kitchen, artist studio, and business center.

Based on the research presented, PBL supports the development of academic learning skills and helps prepare students for future learning (Pyle & Danniels, 2017).

Social and Emotional Development through PBL

The support for PBL benefiting social and emotional development is also plentiful. Play strengthens social skills and cues, builds relationships, increases the ability to deal with conflict, and increases confidence (Eberle, 2014). Social and emotional skill growth during PBL include communication, conversation, interactions with peers, rules of play, social norms, taking turns, transitions, cleaning up, and teamwork (Taylor & Boyer, 2020). Students in Pyle and Alaca's (2018) study of 134 kindergarten students described learning social skills during play such as sharing, collaboration, and following rules. During play, Pyle and Danniels (2017) observed students learn what is socially appropriate, how to get along with others, and how to work together. Educators in Pyle and DeLuca's (2013) study of 67 kindergarten teachers implementing PBL reported that

PBL helps students self-regulate behaviors and emotions, communicate to share their thoughts and feelings, express themselves, take risks, try new ideas, and learn from one another. The growth of these social skills helps prepare students for future academic learning.

Overall, it may be concluded that PBL increases academic, social, and emotional skills in students. As shown in the research provided, educators use PBL in many academic areas including literacy, math, and science. PBL also helps students grow their social and emotional skills, and prepares them for future learning opportunities.

Research Trends in PBL

During research on PBL, there were three topics that emerged in numerous studies: student and educator perspectives of PBL, assessing PBL and challenges faced by educators using PBL.

Student and Educator Perspectives

An educator's perception of play will determine the type of play in their classroom, will shape student's perceptions of play and learning, and will contribute to learning outcomes. An important part of PBL is considering student and educator perceptions, what students and educators deem to be play, and how educators view a play-based curriculum (Pyle & Alaca, 2018; Pyle & Bigelow, 2015; Pyle & DeLuca, 2013).

Educators' different beliefs on the purpose of play will define the role of play in the classroom and will affect the teacher's role in play, which will therefore influence a student's perspective of play and learning (Pyle & Bigelow, 2014). Pyle and Alaca (2018) conducted a study on PBL and literacy with 134 kindergarteners during direct literacy

instruction, whole group, small group, and during play. In classrooms where the main form of play was free play, students viewed playing and learning as two separate things and believed learning only took place during direct instruction. In classrooms with a variety of play, students recognized that playing and learning could happen simultaneously. Pyle and Alaca concluded that the role of play in the classroom determined the students' perception on the value of play and whether learning was connected to play. During Vogt et al.'s (2018) PBL study on mathematics, students were interested in learning and had a positive view of PBL, because it was fun and less "school like" (p. 598).

Educator perception of play not only affects student perception but also greatly affects perceived learning outcomes. Jensen et. al. (2020) conducted a study on the perceptions of play and learning in South African early educators. These educators all held a positive view of play but did not agree on how to interpret learning in play. They held a range of learning perceptions from active to passive, had different views on educator role in play, and varying beliefs on playful practices. Some educators perceived learning was likely to happen during play, while others perceived it unlikely. These different views shaped educators' perception of learning outcomes in students. Likewise, Bubikova-Moan et al.'s (2014) study of PBL from 24 countries discovered that educators had varying views about learning and play and a prominent belief that play and PBL were different. The majority of educators believed the benefits of PBL to be holistic, social/emotional, and linguistic development.

While it is common for educator perceptions of play and learning to vary, when educators implement PBL in their classrooms, they are likely to find at least one benefit.

The majority of teachers in Vogt et al.'s (2018) study on whether PBL increased math learning described PBL as exciting, witnessed the children interested in their learning and play, and would choose to use PBL again the following year. All teachers in Pyle and Danniels' (2017) study of kindergarten teachers who implemented PBL believed play supported one or more academic, social, or emotional developmental skills.

Assessing PBL

While educators may have varying perceptions of learning during play, student's actual learning can be evaluated through assessment. Assessing PBL is a holistic assessment, as educators need to look at the whole child's learning and skills (DeLuca et al., 2020). DeLuca et al.'s study analyzed ways educators use assessments in PBL in kindergarten classrooms. Educators created opportunities for students to demonstrate learning goals and skills, they personalized assessment based on student interests and abilities, and they used assessment to guide their instruction and create learning goals for students.

The academic growth of students is typically measured by test scores, which created a challenge for educators in Pyle and DeLuca's (2013) study on assessing PBL in kindergarten classrooms. Educators looking to also assess a student's problem solving skills, creativity, and social development needed to explicitly look for the skill or standard they wanted to access. Assessments needed to be adaptive to respond to students' needs and responsive to their play and interests. Pyle and DeLuca witnessed kindergarten educators in Canada assessing PBL using observation, informal, and formative assessment methods including asking questions, playing alongside students,

becoming involved in the conversation, taking anecdotal notes, using checklists, and reviewing work samples.

Challenges Faced by Educators

There are many challenges faced by educators as they work to use PBL in their classrooms. Educators in Bubikova-Moan et al.'s (2014) study of PBL from 24 countries shared the many challenges they faced including policy mandates, school readiness, learning outcomes, parent opinion and expectations, time, large class size, funding, limited resources, and uncertainties on content and purpose. These challenges make it difficult to find the middle ground between free play and direct instruction, to implement a true PBL pedagogy, allowing for choice and child-led play while ensuring students are learning the desired concepts (Wickstrom et al., 2019). Educators expressed concern to Pyle and Danniels (2017) during their study on the continuum of PBL, that if lessons are directed by student interest and choice, it is hard for educators to plan lessons.

Teachers' different viewpoints and beliefs on play and learning create a challenge as well. Some educators in Pyle and Danniels' (2017) believed that actual learning of academic concepts required direct instruction and child-directed teaching is leaving too much up to young children who do not naturally incorporate learning into their play. Due to such varying beliefs on the purpose of play and the role of play in the classroom, researchers Pyle and Bigelow (2014) call for a "categorization of classroom-based approaches to play-based learning" (p. 392). During their PBL study on kindergarten classrooms in Canada, Pyle and Bigelow (2014) created three categorizations of play and learning in the classroom: play as peripheral to learning, social/emotional development, and academic focus. Play as peripheral to learning used child-led play as a break from

learning, with no teacher interaction, such as free play and playful learning. Students in this classroom felt play and learning were different things. Social/emotional development play focused on socialization with child-directed play, teacher interaction without pushing academics, and students working together to play, take turns, and solve problems. Academic focused play used socialization to prepare students for academics, with teacher-directed, collaborative play designed by the teacher based on student interest. Students in the academic focused classroom saw play and learning as things that can happen together. A categorization would allow educators to align their approach and instruction. Educators need support and direction from administration, collaboration with other teachers, exposure to classrooms currently using PBL, and more resources in order for educators to properly implement PBL (Jay & Knaus, 2018).

The majority of research reviewed on PBL included one of these topics: student and educator perspectives, assessing PBL, and the challenges faced by educators. These are important topics when studying PBL. Much of this research is done on pre-k and kindergarten aged students. To apply PBL to first grade students, developmentally appropriate learning needs must be identified.

First Grade Developmentally Appropriate Learning

As students move from kindergarten to first grade, they experience a significant change in their school environment. Students enter a classroom with more structured work, less play time, and fewer toys (Patton & Mercer, 1996; Sink et al., 2007). To help students transition from kindergarten, Sink et al. (2007) suggested a student centered pedagogy in first grade as opposed to direct instruction. As cited in Copple and Bredekamp (1997), the National Association for the Education of Young Children

(NAEYC) defines *developmentally appropriate practices*, for ages three to eight, as child centered and child focused, where children construct knowledge through engagement with materials, peers, and adults. A developmentally appropriate practice would engage students, integrate curriculum with student choice, include teacher supported play, and meet the individual needs of students. Developmentally inappropriate practices are heavily whole group instruction without differentiation, student connection or input, and a lack of adjustment based on student needs. During their study of 293 first grade students in four inner-city public schools, Jones and Gullo (1997) examined developmentally appropriate practices, teacher's beliefs and practices, and the effects on social skills and academic achievement. They discovered that students who experienced developmentally appropriate methods scored significantly higher in social skills. Students had more social skills which led to better work habits, and therefore a higher chance of academic achievement.

Students ages three to eight should be experiencing developmentally appropriate practices in their classrooms. Based on the results from 1,132 Finnish children's reading and math skills and the effects of child-centered and teacher-directed practices on their development, Lerkkanen et al. (2016) state that child-centered practices are more effective than teacher-directed practices for children of age seven. PBL is a child-centered and focused pedagogical practice that is therefore developmentally appropriate for first grade students.

Conclusion

In closing, PBL is a child centered pedagogy that promotes learning through play. Research has shown that PBL can strengthen students' academic, social and emotional

skills. There are many things to consider when implementing PBL including student and teacher perspectives, assessing PBL, and the challenges teachers face. All things considered, PBL is developmentally appropriate for first graders and is recommended for academic, social, and emotional success.

The next chapter will provide an overview of the capstone project, a professional development series for educators, that will continue to address the research question:

How can educators use play-based learning for academic, social, and emotional growth in first grade students?

CHAPTER THREE

Project Overview

Introduction

Play-based learning (PBL) has been linked to an increase in student achievement and growth in social and emotional skills (Pyle & Danniels, 2017). The majority of research and studies on PBL involve preschool and kindergarten classrooms. However, PBL is a child-centered pedagogy that is deemed developmentally appropriate for students up to age eight, which includes students in first grade (Copple & Bredekamp, 1997; Lerkkanen et al., 2016). This led me to the research question of this capstone: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?*

In this chapter I will provide an overview of my professional development (PD) project. Next, I will describe the research and framework that helped shape it. Then, I will discuss the setting and intended audience. I will then provide a description of the PD project, including the topic of each session, followed by a timeline for the PD, and how participants will assess the PD. Finally, I will summarize the information in this chapter and provide a preview of Chapter Four.

Overview

This capstone project is a PD series for first grade teachers in a professional learning community (PLC) who want to incorporate learning through play into their classrooms. The desired outcome of the PD series is for teachers to develop and implement play opportunities using the PBL pedagogical method, and for their students to foster academic, social, and emotional growth through play. The series will create

discussion on the benefits of PBL, provide opportunity and support for teachers as they implement PBL techniques in their classrooms, and create a collaborative team to share ideas and learn from one another.

Framework

The PD series of this capstone project was designed based on research findings of effective professional learning workshops. Darling-Hammond et al. (2017) state that effective PD results in teacher change and student learning. Their research indicated that most PD is ineffective, therefore not creating teacher change that leads to student learning. Based on their study of 35 effective PD workshops, Darling-Hammond et al. developed a list of seven elements of an effective PD. Effective PD is content focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and expert support, offers feedback and reflection, and is of sustained duration. Content focused PD includes strategies focused on specific curriculum content in the classroom such as mathematics, science, or literacy. PD that incorporates active learning engages teachers using the same teaching strategies they will use on their students. Effective PD will support collaboration between teachers to share ideas and create a positive learning environment. Using models of effective practice during PD allows teachers to be an active part of the best practices they will use in their classrooms. Providing coaching and expert support to teachers in the PD provides individualized support based on the teacher's specific needs. Feedback and reflection are important for teachers during PD as they change their practice toward their new learnings. Finally, a PD of sustained duration, not a one time lecture, providing the time and opportunity for teachers to learn, collaborate, practice, and reflect is most effective in creating change.

It was also important to research strategies for effective adult learning, as the PD series was created for first grade teachers. Knowles (1992) has two principles for effective adult learning- the participants must be active in the process and it must be built upon the participants background, knowledge, needs, and interests.

This capstone PD project was created based on the seven elements of an effective PD and the two principles of effective adult learning, to create teacher change and therefore student learning.

Setting and Audience

This PD series would be conducted at a public charter school in Minnesota with first grade teachers looking to use PBL in their classrooms. The first grade teachers participating in this series would meet within a PLC. The PLC would gather for the series sessions with the instructor and meet on their own time in between and after sessions.

Project Description and Timeline

The capstone project is a PD series for first grade teachers to learn how to use PBL methods in their classrooms to support academic, social and emotional growth. The PD was created during the spring of 2022. Darling-Hammond et al. (2017) recommends several learning opportunities for a greater chance of teacher change and student learning. To provide ample opportunity, the series consists of five 90-minute sessions, one per month, followed by a handbook guide to support teacher's continued implementation and practice of PBL. Prior to the first session, participants would complete a questionnaire to inform the instructor of their background, needs, and interests in relation to PBL. These questions would allow for any necessary changes or additions to the series material, to ensure alignment with participant backgrounds and needs, as Knowles (1992) suggests.

To further align with Darling-Hammond et al.'s recommendations for effective PD, the sessions are focused on content, to foster academic growth. Each session incorporates active learning and provides time for and supports collaboration between participants. Models of effective practice are used to show how play can be used and assessed in the classroom. The facilitator provides coaching and expert support, and each session offers time for individual, partner, and/or group feedback and reflection. Teachers would meet and collaborate with their PLC during and after each session. After each session, the PLC would reflect collaboratively and individually, complete a session assessment, and further plan for practice change in their classrooms. PLCs would meet weekly to continue to share ideas, feedback, challenges, and successes in between PD sessions.

The five series sessions include the following topics: the importance of play in the classroom, types of PBL, the PBL classroom, PBL themes and centers, and assessing PBL. The handbook guide that follows includes continued support for teachers through observations, reflection, feedback, and collaboration with their PLC.

Assessment

The PD series includes an objective for each session related to the topic. Objectives for the five sessions include: explore and create PBL lessons; identify categories of play and create PBL opportunities for each; evaluate and identify the space, materials and procedures to encourage play; create themes and centers for play; and explore and create PBL assessments. At the end of each PD session, participants will be asked to reflect on the session. Participants will submit an individual assessment on the session's success in meeting the objectives, its effectiveness, and have the opportunity to

ask questions, as well as an overall assessment at the end of the series. Participants may request additional support at any time and will continue to collaborate with their PLC in between sessions.

Conclusion

In Chapter Three, I described my PD project and the framework that helped shape it. I shared the topics of the five PD sessions and the guide to help teachers implement PBL methods in their classrooms. I also discuss the setting, intended audience, timeline, and assessment of the PD. In Chapter Four I will reflect on my capstone project and research question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?* I will also discuss any limitations, future use, and how my project benefits the profession.

CHAPTER FOUR

Conclusion

Introduction

The purpose of this capstone project was to answer the research question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?* Throughout my teaching career I noticed a decrease in play and increase in teacher-directed lessons as students aged. This led me to research if play would create growth for first grade students and how students in first grade could learn through play. Play-based learning (PBL) is a student-centered approach that has been shown to grow students' academic, social and emotional skills.

This chapter will discuss the major learnings I encountered through the process of researching, writing, and creating this project. Next, I will highlight the literature reviewed in Chapter Two. Then I provide limitations of the project, possible future research and projects to be done, how my project will be used, and how my project benefits the profession. Finally, I summarize the main points of the chapter.

Major Learnings

This capstone project has been a rewarding experience for me as a teacher, writer, researcher, and learner. I began this project with a question of how my first grade students could play more while still learning. Along the way, I discovered and learned about PBL, I grew as a writer and researcher, and I feel I've become a better teacher, capable of focusing on the holistic development of my first grade students, while learning through play.

I began my teaching career after spending years in the business world. While working toward licensure, I taught as a preschool teacher surrounded by play. My coursework included learning about how children learn and best practices. From there, I moved on to kindergarten which began the shift of less play and more work. I spent a semester learning from a host teacher that had a good balance of meeting standards and objectives, while incorporating play and exploration. As I moved on to begin my elementary teaching career in first grade, I lost even more play. Looking back now, I realize part of the problem was me, even if it wasn't directly my doing. I wanted more play and less worksheets, but I had limited training, none specific to PBL, and even more limited resources. Finding your voice and your path as an early teacher is difficult. You're getting a footing on standards, expectations, and classroom management, and you can lose sight of some of those best practices. During this project, I learned a great deal about myself and my teaching style. Not only have I learned more about myself, I've also learned a great deal about PBL.

Through research, I've learned how important play is for young students, ways to incorporate play in the first grade classroom, and the benefits play can have on student social, emotional, and academic growth. I have learned the various levels, ways, and methods for incorporating play into learning experiences. I've learned about teacher involvement, student choice, and creating a balance to enhance learning and classroom community.

These major learnings about myself and this teaching pedagogy, helped shape my project and paper as I conducted research on PBL. The literature reviewed for this project guided my growth, and supported my research question to create my project.

Revisiting the Literature

During the research phase of this project, I began to find a plethora of information and studies on the benefits of PBL for young children. Research on PBL shows overall student growth in academic, social and emotional development (Davis, 2017; Pyle & Alaca, 2018; Taylor & Boyer, 2020; Vogt et al., 2018). To answer the question of how to use PBL, I first needed this support for why PBL was beneficial for student growth and learning. Play in the classroom supports academic skills and is developmentally appropriate for children to grow cognitively, socially, and emotionally (Pyle & Danniels, 2017).

Most of the research found focused on early childhood education, preschool and kindergarten. However, I discovered this method of teaching to be considered developmentally appropriate for students past kindergarten. As cited in Copple and Bredekamp (1997), the National Association for the Education of Young Children (NAEYC) defines developmentally appropriate practices, for ages three to eight, as child-centered and child-focused, where children construct knowledge through engagement with materials, peers, and adults. PBL is a child-centered and focused pedagogical practice that is therefore developmentally appropriate for first grade students.

After gathering the support and justification that PBL is a best practice for first grade students, I began to focus on the how. As a teacher it is important to know why a pedagogical method is recommended, so I then needed the research to help answer how to use this method. Pyle and Danniels (2017) conducted a study on PBL in kindergarten classrooms in Canada which resulted in the creation of the continuum of play-based

learning. Through this continuum, Pyle and Danniels outlined teacher involvement in play and provided numerous examples on using PBL in the classroom. Kamii and Rummelsburg (2008) also researched learning through play, by using math games and play that involved math concepts. Likewise, Patton and Mercer (1996) researched play and literacy, linking literacy centers with play and student choice. Through researchers' guidance and examples in the literature, I was able to construct an answer to the question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?*

Project Limitations

The scope of this project has limitations. The project is a professional development series that consists of five 90 minute sessions, followed by a handbook to help guide teachers as they continue to use PBL throughout the school year. The series relies heavily on teachers working outside of the sessions with their professional learning community (PLC).

The first session provides the research support on why to use PBL in the classroom for student growth and learning. Session two dives into the different types of PBL and teacher involvement. The third session addresses ways to create a PBL-friendly classroom environment, materials, and physical space to encourage play and learning. Session four uses the idea of creating themes and centers with students to develop play that is cross-curricular, student-led, open, and promotes social, emotional, and academic growth. The last session addresses assessing PBL to discover if student needs are being met and to measure growth.

The research showed there many ways to use PBL pedagogy in the classroom, which means the professional development courses could have varied. I chose these session topics as I felt they helped me personally learn how to use PBL. I also felt they would prepare teachers to implement developmentally appropriate practices in their first grade classrooms.

Future Projects

Due to the lack of research and information available on PBL in first grade classrooms, I feel there is much opportunity for further research and projects in this area. As mentioned in my limitations, my five sessions and handbook only begin to cover part of the answer to the question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?*

There is also room for further exploration into using PBL to meet more detailed goals like specific student social/emotional needs, state learning standards, special education needs, and more. There is also room for PBL past first grade, as this developmentally appropriate learning is deemed acceptable for students up to age eight.

Project Use and Communication

I plan to use this project with my PLC to educate other first grade teachers on PBL and how to use it within their classroom. The project will be shared with administration and presented to first grade teachers. My hope is to create a collaborative PBL team through the professional development series, starting at the beginning of the 2022-23 school year.

Benefit to the Profession

The goal of this project is to enable first grade teachers to use PBL in their classrooms. My hope is that educating teachers on PBL and how to implement these practices will result in student growth academically, socially, and emotionally. PBL is developmentally appropriate for first grade students and should replace the overabundance of teacher-directed lessons and worksheets. This professional development series will educate teachers on PBL, provide the building blocks for a shift from teacher-directed to student-centered learning in first grade, and allow for collaboration and relationship growth between the student-teacher and among PLCs.

Conclusion

Chapter Four reflected on the capstone project that helped answer the question: *How can educators use play-based learning for academic, social, and emotional growth in first grade students?* The chapter shared major learnings as a result of research and creating the project. It then revisited the literature from Chapter Two that supported the research question. Next, it discussed limitations and how the project would be used. Finally, it examined how the project would benefit the profession.

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