

THE EFFECT OF CURRICULUM SELECTION ON DEVELOPMENTALLY
APPROPRIATE PRACTICE AND KINDERGARTEN READINESS IN
PREKINDERGARTEN

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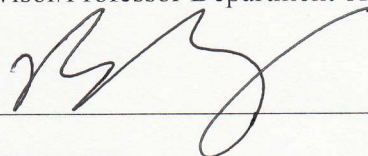
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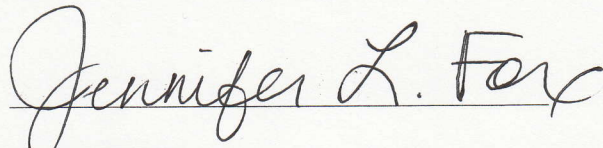
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THE EFFECT OF CURRICULUM SELECTION ON DEVELOPMENTALLY
APPROPRIATE PRACTICE AND KINDERGARTEN READINESS IN
PREKINDERGARTEN

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Presented to
The Faculty of the Graduate Education Department
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In Partial Fulfillment
of the Requirements for the Degree

Doctor of Education

By

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I would like to dedicate this paper to my husband and greatest encourager, Edward Tilley; my son, Clayton Tilley; and my daughter, Kennedy Tilley. Ed has stood by my side from day one, always cheering me towards completion. Kennedy hid notes of encouragement in my binder on class days, and Clayton continuously inquired as to the status of my paper. This achievement would not have been possible without their love and understanding of missed activities.

I would also like to thank my parents for their constant reassurance of “you can do this!” and my dad’s constant questioning of when he would get to see me graduate wearing the “funny” hat.

This road has not been an easy one and was filled with many hurdles. From moving to a new state away from family, friends, and our support network, to starting new jobs in a new district with new and different philosophies, the challenges were ever present. Yet, I persevered to find myself triumphant at the end of this long and winding road. I hope that along the way I was able to provide an example of hard work and determination for my children.

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ABSTRACT

As federal mandates such as No Child Left Behind and Race to the Top have created educational reform movements, whose impacts can be seen with increasing accountability pressures in the K-12 world, a greater focus is being placed on early childhood education. It is often felt by proponents of DAP that standards for Early Childhood are developed with a focus on the end product of desired results, without consideration to the developmental nature of children at this age. The researcher sought to understand if the CCSS-ELA Standards are developmentally appropriate for Prekindergarten and Kindergarten students as revealed by individual students' KELI-4 scores.

The literature review included the following themes in the literature: developmental learning theories, theoretical frameworks, play, developmentally appropriate practice, whole child approach, early literacy development, brain research, stages of development, and standards and curriculum shift. In the theoretical framework section, information is presented about these very important contributors to the field of education and specifically early childhood education: John Dewey, Lev Vygotsky, Jean Piaget, Maria Montessori, and Jerome Bruner.

Schools with state-funded Prekindergarten programs from across the state of Kansas were included in the research. Once the sample of schools had been identified, their kindergarten readiness assessment results for the spring of 2016 and 2017 and the fall of 2016 and 2017 were collected. Statistical analysis was performed using the SPSS program. Data was analyzed using an independent sample two-tailed t test.

CHAPTER ONE

INTRODUCTION

Early literacy development and its influence on school readiness is a major area of interest among today's educators and policy makers (Strickland & Riley-Ayers, 2007). In an era of greater school accountability and former federal mandates like No Child Left Behind (NCLB) and Race to the Top, in schools across the nation, greater focus is being placed on the essential early learning years. Goldstein, McCoach, and Yu reiterated this change:

Early childhood education in the United States is on the brink of great change. As of January 2014, over \$1 Billion in federal Race to the Top Early Learning Challenge grants were awarded to 20 states for the development and enhancement of comprehensive early childhood assessment systems. (Goldstein, McCoach, & Yu, 2017, p. 50)

In an effort to bridge the gap between states, the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) developed the Common Core State Standards Initiative. The goal of this state-led initiative is to provide teachers and parents with a common understanding of what students are expected to learn with an emphasis on college and career readiness (www.corestandards.org). While the Common Core State Standards encompasses Grades K-12, the implications for the Early Childhood (EC) community are enormous. Lynch (2015) echoed, "While NCLB does not apply to kindergartens, research has revealed NCLB's effects trickle down into kindergartens. In particular, the diminishing time

afforded for play in kindergartens resulted from the emphasis on preparing children to do well on standardized tests” (Lynch, p. 349).

In this paper, the researcher attempts to relay the effect of curriculum selection on developmentally appropriate practice (DAP) and kindergarten readiness in Prekindergarten.

Problem Statement

DAP in the Prekindergarten grade levels may be at risk due to current accountability and high-stakes testing practices in the K-12 education realm. Early childhood teachers may feel pressure to implement a “pushed-down” curriculum in order to meet the accountability requirements in conjunction with Common Core State Standards – English Language Arts (CCSS-ELA) implementation.

At conflict are pedagogical theories on child development and play-based instructional methods and a greater emphasis on cognitive instruction. The researcher intended to determine if teachers must sacrifice what they know about developmental learning theories in order to appease building, district, and state leaders and directives. Additionally, the researcher aimed to determine what, if any, consequences students experience because of academic accountability at the early childhood level. The intention of the research was to determine if students who attended a state-funded Prekindergarten program that implemented a curriculum that focused on more than one developmental domain would have higher academic gains in kindergarten Readiness on the Kansas Early Learning Inventory-Four (KELI-4) assessment than students who attended state-funded Prekindergarten programs that implemented a curriculum focusing on one single learning domain (Early Literacy). This study compared the difference in Prekindergarten

students' kindergarten Readiness in schools that implemented child-centered curriculum as opposed to subject-specific curriculum.

The independent variable (IV) in this study was the implementation of curricula in state-funded Prekindergarten classrooms. The dependent variables (DV) in this study were the KELI-4 scores for individual students in Prekindergarten programs across the state of Kansas.

Research Questions

This research sought to answer the following research questions:

RQ₁ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

RQ₂ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₃ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₄ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

Null Hypotheses

In order to address the aforementioned research questions, the following null hypotheses were investigated:

H₀1 There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀2 There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀3 There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀4 There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

Purpose of the Study

The purpose of this causal comparative study was to explore the influences of curriculum selection on Prekindergarten students' kindergarten readiness skills. As federal mandates such as No Child Left Behind and Race to the Top have created educational reform movements, whose impacts can be seen with increasing accountability pressures in the K-12 world, a greater focus is being placed on Early Childhood education. The researcher sought to understand if the CCSS-ELA Standards are developmentally appropriate for Prekindergarten and Kindergarten students as revealed by individual students' KELI-4 scores.

Theoretical Framework

The research was based upon principles of Dewey's early learning theory (Dewey, 2012), Vygotsky's zone of proximal development (Vygotsky, 1978), and Piaget's stages of cognitive development (Singer & Revenson, 1996), with a focus on developmental appropriateness and early learning as the theoretical frameworks for this study. Dewey believed that children learn from doing and that children's interests should drive the planning of the curriculum. He believed that this type of learning was best achieved through imaginative play. Vygotsky defined the zone of proximal development as the distance between the most difficult task a child can do alone and the most difficult task a child can do with help. He also concurred with a focus in Piaget's stages of cognitive development which emphasizes that children learn best by doing (Garhart-Mooney, 2000).

Definition of Terms

Developmentally appropriate practice (DAP) was defined as teaching decisions that vary with and adapt to the age, experience, interests, and abilities of individual children within a given age range; it is practice that promotes young children's optimal learning and development (Copple & Bredekamp, 2006, 2009, p. 16, p.7)

Early childhood was defined as the period from birth to 8 years of age (Yelland, N., & Kilderry A., 2005, p. 4).

KELI-4 was defined as a state-created progress-monitoring tool, intended to align with the Kansas Early Learning Standards (Kansas State Department of Education, 2013).

The **kindergarten year** was defined as the period of early childhood, ages 5-6 (Copple & Bredekamp, 2009, p. xi).

Preschool or PreKindergarten was defined as the period of early childhood, ages 3-5 (Copple & Bredekamp, 2009, p. xi).

Limits/Delimits/Assumptions

These were the limitations for the study:

- The researcher collected data from Kansas State Department of Education's (KSDE's) database and had no control over any of the scores.
- Data were collected through a data request process from KSDE.
- Data were limited to 2016 and 2017, spring and Fall KELI-4 early literacy scores.
- Delimitations for the study were the following:
 - The researcher only used state-funded Prekindergarten programs in public school districts in Kansas for the study.
 - The researcher supported Dewey's early learning theory and Vygotsky's zone of proximal development with a focus on developmental appropriateness and early literacy as the theoretical frameworks for this study.
 - The researcher chose a comparative study allowing for the comparison of student readiness skills in schools that implemented curricula focusing on either single subject or multi-subject curricula.
 - These were the assumptions for the study:
 - The researcher assumed the data for the KSDE database were accurate.
 - The researcher understood the results did not generalize to all Prekindergarten programs.
 - The researcher assumed schools reported data honestly and accurately.

Design Controls

This causal comparative study began by identifying state-funded Prekindergarten programs in public school districts in Kansas. The researcher worked to divide schools prior to running the analysis into schools that used a single- subject curriculum and schools that used a multi-subject curriculum.

Summary

DAP in the Prekindergarten grade levels may be at risk due to current accountability and high-stakes testing practices in the K-12 education realm. Early childhood teachers may feel pressure to implement a pushed-down curriculum in order to meet the accountability requirements in conjunction with CCSS-ELA implementation. The author of this study strives to provide clarity for the coexistence of DAP and implementation of CCSS at the early childhood level.

In Chapter One, the author presented a problem statement and rationale for the study. Both independent and dependent variables were identified, and the research questions and hypotheses were listed. In Chapter Two relevant literature is reviewed. The focus of exploration in the literature review is the effect of implementation of Early Learning Standards on Developmentally Appropriate Practice and a number of theorists' influences on Early Learning principles. Kansas Early Learning assessments are also discussed. Chapter Three details the procedures that were applied to the study, Chapter Four presents the results of the study, and Chapter Five offers conclusions and recommendations

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

With increasing accountability pressures in the K-12 world, a greater focus is being placed on early childhood education. Brain research has increased exponentially in the last decade, so greater importance is being placed on the crucial early learning years. Strickland and Riley-Ayers (2007) stated: “unfortunately, the window of opportunity for teaching children is relatively brief and closes early” (Strickland & Riley-Ayers, p. vii). Statistics reveal that American children who are not on their way to learning to read and write well by third grade are at greatly increased risk of school failure. The Annie E. Casey Foundation (2013) reported these findings:

- One in six children who are not reading proficiently in third grade do not graduate from high school on time.
- The rates are highest for the low, below-basic readers: 23 percent of these children drop out or fail to finish high school on time, compared to 9 percent of children with basic reading skills and 4 percent of proficient readers .(p. 3)

Similarly, Casbergue (2017) stated now that curriculum and standards across the United States have been influenced by the Common Core State Standards, expectations for literacy achievement in the primary grades have risen even further. Accordingly, the researcher made this proposal:

In the era of federal policy driven primarily by No Child Left Behind legislation, success in primary grades was largely defined as the ability to read independently

by the end of third grade, with reading mostly understood to mean fluent decoding with adequate comprehension. (Casbergue, 2017, p. 645)

This is problematic because we know that as children grow as readers in kindergarten through third grade, they are learning to read. As children continue in their growth as readers, at fourth grade and beyond, we see them begin to metamorphose into reading to learn. If children have not acquired the basic skills necessary to read, learning is lost.

According to The Annie E. Casey Foundation (2013), children who do not read proficiently by the end of third grade are 4 times more likely to leave school without a diploma than proficient readers. Preschool children who do not learn the precursors of reading and writing are on the track to school failure. This could be a contributing factor to why politicians, business people, community activists, educators, and citizens are interested in early literacy education and are putting it in the forefront of public concern. Over 500 state legislators from both political parties signed a letter addressed to members of the Budget Conference Committee urging that federal investments in early childhood education become a priority in upcoming budget decisions (First Five Years Fund, 2013). President Obama's 2016 budget sought \$75,000,000,000 over 10 years for a universal preschool program and \$75,000,000 for Preschool Development Grants, an increase of \$500,000,000 (U.S. Department of Education, 2015, p. 1).

As educators continue to see the demands of accountability growing, many school administrators are now looking to early childhood as a possible area of emphasis and growth. Accountability pressures affect programs for children enrolled in not only early elementary grades, but also preschool as well. Some states have instituted annual

kindergarten accountability testing; others are attempting to link testing in kindergarten to performance of state-funded Prekindergarten programs during the previous year (Meisels, S.J. (2007). Goldstein et al (2017) reported that federal funding competitions were recently designed to ensure a level of uniformity to Kindergarten Entry Assessments (KEA) across the nation. Specifically, the Race to the Top Early Learning Challenge required that each submitting state employ a KEA that “is aligned with the State’s Early Learning and Development Standards” (p. 50). Bassok, Latham, and Rorem (2016) suggested that accountability pressures have trickled down into the early elementary grades, and that kindergarten today is characterized by a heightened focus on academic skills.

In this chapter the researcher reviews the following themes in the literature: developmental learning theories, theoretical frameworks, play, developmentally appropriate practice, whole child approach, early literacy development, brain research, stages of development, and standards and curriculum shift. In the theoretical framework section, information is presented about these very important contributors to the field of education and specifically early childhood education: John Dewey, Lev Vygotsky, Jean Piaget, Maria Montessori, and Jerome Bruner. It is the goal of the researcher to provide an informed, unbiased perspective of the field of early childhood education.

Developmental Learning Theories

Child development is the comprehensive study of how human beings develop from prenatal to adolescence. As children move through developmental stages, they progress from being wholly dependent to increasingly more autonomous. While child development is an ongoing process and follows a sequence, we know that it proceeds at

different rates and in different progressions for each individual child. The National Association for the Education of Young Children (NAEYC, n.d.) suggested that there are 12 principles of child development and learning:

1. All areas of development and learning are important.
 2. Learning and development follow sequences.
 3. Development and learning proceed at varying rates.
 4. Development and learning result from an interaction of maturation and experience.
 5. Early experiences have profound effects on development and learning.
 6. Development proceeds toward greater complexity, self-regulation, and symbolic or representational capacities.
 7. Children develop best when they have secure relationships.
 8. Development and learning occur in and are influenced by multiple social and cultural contexts.
 9. Children learn in a variety of ways.
 10. Play is an important vehicle for developing self-regulation and promoting language, cognition, and social competence.
 11. Development and learning advance when children are challenged.
 12. Children's experiences shape their motivation and approaches to learning
- (p. 1).

Proponents believed that developmental theories hold a very important place in early childhood education. Yelland, N. & Kilderry, A. (2005) stated that if developmental theories govern early childhood pedagogies (for example, by questioning if the child is

developmentally ready) and early childhood content within a curriculum (for example, by describing the type of experiences that are deemed to be suitable for preoperational or preconceptual children), then they will have far-reaching effects on the shape of early childhood education. Gadzikowski (2013) contended that:

We know that development from birth through age five occurs rapidly and in several different arenas at once: cognitive and language development, small- and large-motor development, and social-emotional development. And we have firsthand knowledge that each child is learning and growing at a unique pace. (p. 27)

This shows the importance for well-designed curriculum informed by thoughtfully designed standards that are inclusive of developmental theories and practices and take into consideration the unique needs and varied developmental levels of the students which it serves to educate. Key individuals who have made significant contributions to the study of early childhood education support these ideas. The next sections will explore the educational theories and philosophies of five philosophers who provide a historical foundation for early childhood foundations.

John Dewey. John Dewey was at the forefront of developmental theory in education in the late 1800s. With his influence on social and constructivist theories in education, he paved the way for modern theorists' developmental thinking. Dewey believed that children learn from doing and that children's interests should drive the planning of the curriculum. Dewey believed that in order for learners to make personal connections to the content, they must first have had the opportunity to build those connections through imaginative play. He thought that involving the imagination took

learning from an emotionless activity to one that provided relevance for the learner (Dewey, 2012).

Mooney (2000) revealed that Dewey believed that true education comes through the stimulation of the child's powers by the demands of the social situations in which he finds himself. Dewey believed that a child's social schema played a major role in their development and that both play, and hands-on learning belong in the curriculum because these learning modalities address both the intellectual and social aspects of learning. He reasoned that in the absence of play and hands-on learning, students are not able to achieve higher levels of learning and that rote memorization of facts is not an appropriate instructional method to engage students (Dewey, 2012). This type of learning should be reflected in early childhood classrooms in block and building centers, dramatic play, sensory tables, creative arts, and science discovery activities through an emergent curriculum.

Lev Vygotsky. In the early 1900s, Lev Vygotsky revealed the construct of the zone of proximal development. Vygotsky defined this as the distance between the most difficult task a child can do alone and the most difficult task a child can do with help (Vygotsky, 1978). The zone of proximal development was important because it created a connection to the important concept in education of scaffolding, or the supportive organization an adult or teacher may provide to reinforce children's learning. Critics of the current CCSS look to Vygotsky's social learning theory for support. According to Mooney's (2000) interpretation of Vygotsky's theories, the current CCSS could be criticized as lacking in social learning standards, but praised for their emphasis on stretching students' thinking:

Vygotsky showed that children's cognitive development is affected not only by their physical development, but also by their social surroundings and interactions. His idea of developmental readiness is more flexible than Piaget's, because it encompasses the skills or ideas that children have not yet come to on their own, but which they can acquire from the example of peers or adults. This theory encourages teachers to plan curriculum that extends children's knowledge, and to scaffold their learning by putting them in situations where their competence is stretched. (Mooney, 2000, p. 85)

Vygotsky's theories are important to this study because they inform the practice of social learning through play. This type of learning should be reflected in early childhood classrooms in centers as a means of social learning, table toys and manipulatives, and implementing scaffolding through careful teacher observation of student learning.

Jean Piaget. Jean Piaget stressed play as an important part of learning. He believed that children construct learning by doing and that social aspects play a large role in learning as children exchange ideas and cooperate with others. Gadzikowski (2013) reiterated the constructivist theory:

For all young children, learning is not only a cognitive experience, but also a physical and social experience. A constructivist approach, commonly accepted as best practice in early childhood education, emphasizes the connection between the cognitive and physical. Constructivists assert the idea, as defined by Jean Piaget, that children construct their own knowledge through hands-on, sensory experiences (p. 60).

Piaget's theory (Singer & Revenson, 1996) explained that children operate in three distinct phases of development. The preoperational child forms ideas based on their perceptions and tends to overgeneralize based on their limited experience. In this stage, learning is establishing relationships between experience and action. The second stage, also known as concrete operations, sees the child form ideas based on reasoning. Children at this stage tend to limit thinking to objects and familiar events and learn through trial and error. In the third stage of development, or formal operational, Piaget says that children think conceptually and begin to think hypothetically. Piaget believed that children learn best by doing the work themselves, creating their own understanding, rather than being provided content by teachers. He believed that teachers should not direct all of the learning as a "sage on the stage," but rather their role should be enacted as a "guide on the side."

A recurring concern with the CCSS and DAP revolves around play within the early learning curriculum. Many educators are concerned that play is being forced out of classroom time for those in the earliest grades despite its proven relevance. The importance of language and literacy development has taken a front-row seat in educational discussions across the country. Play is at the vortex of these discussions as educators and others attempt to balance the academic focus prevalent in many primary schools with a more holistic view of children. Unfortunately, many educators see play as a waste of school time. In actuality, play provides a risk-free context in which children can practice and experiment with language and literacy skills and to apply general knowledge (Nell, Drew, & Bush, 2013, p. 19). This type of learning should be reflected in early childhood classrooms in self-guided learning in sand and water activities,

creative arts and construction materials and teacher-guided learning activities like cooking with recipes, conducting experiments (science exploration), doing math activities, and playing with puzzles and matching games.

Maria Montessori. Maria Montessori promoted educating the whole child before it became a key term in school reform. Montessori advocated for not only advancing the physical development of children, but also for the emotional, cognitive, and social development—or the whole child. The Association Montessori Internationale (n.d.) informed of the Montessori approach:

Academics and knowledge-building are key qualities of Montessori, as is the ability to think creatively and understand the needs of others. When these fundamental skills are fostered early in life, children gain the capability to problem solve, persevere, and interact well with others (p. 1).

Montessori advocates further believe that effective early childhood education should include sensory-rich learning experiences in open-ended environments.

Montessori was an advocate for giving children the gift of time. As Mooney (2000) stated:

Montessori believed that children learn best by doing, and through repetition. She thought they did things over and over to make an experience their own, as well as to develop skills. Montessori urged teachers not to interfere with the child's patterns and pace of learning. She thought it was the teacher's job to prepare the environment, provide the materials, and then step back and allow the children the time and space to experiment" (p. 29).

This type of learning should be reflected in early childhood classrooms in large open blocks of self-directed play, child-sized furnishings, climbing equipment, swings, creative arts, and manipulatives.

Jerome Bruner. Interestingly enough, education theorist Jerome Bruner foretold of the very issues we are facing in education today and advocated for changes 58 years ago in the way we teach the youngest children to learn. In Bruner's (1977) *The Process of Education*, he recounted a 10-day meeting, which was comprised of scientists, scholars, and educators tasked with the problem of improving the dissemination of scientific knowledge in America. Bruner lamented that it was not the intent of the group to institute a crash program, but rather to examine the fundamental processes involved in imparting to young students a sense of the substance and method of science: "If all students are helped to full utilization of their intellectual powers, we will have a better chance of surviving as a democracy in an age of enormous technological and social complexity." (p. xvii)

Jerome Bruner (1977) believed that we as a society were at a pivotal point in education and that we needed to question what should be taught, when, and how. He argued that in previous generations the psychology of learning focused on exact details of learning in extremely basic temporary circumstances, and therefore, lost the connection with the long-term education effects of learning. Bruner alleged the focus of the 1950s and 1960s was on training of rote memorization but believed that greater impact could be made by "learning how to learn." His theory of learning indicated that the teaching and learning of structure, rather than simply mastery of facts, was at the center of the problem. Bruner explained that while there are many facets to learning, educators must

support the idea and provide the resources for active, hands-on learning in order to facilitate higher levels of learning. Connections made in learning in the early years provide the foundation for the depth of learning in later years (Bruner, 1977).

Wendy Ostroff (2012) shared the idea that the focus must be on how students learn:

Incorporating developmental science research into the classroom means shifting the focus of education from teaching back to learning. In the United States, the content of schooling is determined at the state, local, and national level and is often given the highest priority. Students' ability to remember facts for standardized tests determines how well their schools will get funded. But what children learn depends on how they learn. (p. 5)

Bruner's (1977) second posit revolved around the payoff of earlier learning extracting more efficient later performance or what he referred to as nonspecific transfer—the transfer of principles and attitudes. It was Bruner's belief that learning, initially not a skill but a general idea, could then be used as a basis for recognizing ensuing problems as special cases of the idea originally mastered. Bruner contested that this type of learning is at the heart of educational process, the continual broadening and deepening of knowledge in terms of basic and general ideas. Bruner relayed that in order for students to reach the level of application, they must first have a clear understanding of the concept.

Bruner cautioned that when moving forward with curriculum revisions, taking into consideration even a large-scale revision of curriculum would require more than solely the presentation of fundamental ideas. He suggested that educators could not continue to focus solely on mastery of general principles of a subject, but rather a

propensity towards inquiry-based learning and a student's ability to problem solve must be included. Bruner advocated that this was necessary to make learning and thinking usable and meaningful to students. This is important to this study because we know that young children are engaged in their learning when they are constructing meaning through hands-on, exploratory learning activities.

Theoretical Framework

The researcher used Dewey's early learning theory, Vygotsky's zone of proximal development, and Piaget's stages of cognitive development, with a focus on developmental appropriateness and early literacy as the theoretical framework for this study. Dewey believed that children learn from doing and that children's interests should drive the planning of the curriculum. He further believed that imaginative play was key to forming connections in learning. Vygotsky defined the zone of proximal development as the distance between the most difficult task a child can do alone and the most difficult task a child can do with help. Vygotsky believed social learning played a major role in children's development and that there was a great connection between physical development and a child's social surroundings and their interactions. Piaget's stages of cognitive development state that children in early childhood classrooms operate in three distinct phases of development: preoperational, concrete operations, and formal operational. Piaget believed that children constructed knowledge by creating their own understanding. Each one of these theories lead us to examine the importance of play in the early childhood classroom.

Play

We see play as a means of fun and entertainment first and foremost. Play, however; also serves the dual purposes of learning and work. Play is universal and knows no language barriers. Piaget was well known for his philosophy that play was children's work. Fred Rogers expounded on that statement explaining: "Play is often talked about as if it were a relief from serious learning. But for children, play is serious learning. Play really is the work of childhood" (PBS.org, n.d., p.1).

From Piaget, to Vygotsky, to Montessori, and many more, theorists, practitioners, and researchers alike support the notion that play and learning go hand-in-hand. David Elkind (2007) taught that children's play is their inborn disposition for learning, curiosity, imagination, and fantasy. Children are born to learn, and play is the very vehicle that facilitates children's natural curiosities.

Play development in children serves various purposes at different ages and stages. Gordon and Browne (2017) informed that there are three specific developmental play stages in early childhood: babies solitary play, toddlers solitary and parallel play, and preschoolers cooperative play. Babies socialize through their interactions. Baby play at this stage looks like cooing, smiling, and moving their eyes in response to mother's and father's attention. During the Toddler stage, they play on their own or with adults. While they may still observe their peers or adults, they begin to participate in solitary play around one year of age. We also see that as they move from being more egocentric to less egocentric, they begin to participate in parallel play. They may not interact with their peers, but rather may play alongside or imitate their peers' actions. During the preschool years, we see much progress in children's social development and they become

more socially interactive. At this time, children may still play alongside peers in a shared center and we begin to see them play cooperatively with their peers in shared games, centers, and roles.

Piaget reasoned that play was the key to reaching children because it appealed to children's natural interests and when children are interested, they are engaged. Piaget believed that play was an essential piece to education because it allowed for the higher order learning processes of assimilation (building on preexisting learning) and adaptation (new learning). Similarly, Phillips (2014) relayed Vygotsky's belief that play provided an avenue for scaffolding learning in the zone of proximal development.

A persistent concern within the early childhood community is the gradual disappearance of play in early childhood programs. Since Piaget first spoke of children learning through play, the early childhood community has embraced play as a pivotal component of early childhood instruction. Rushton and Larkin (2001) stated that since no two children learn at the same rate, it is crucial that children be given repeated opportunities and ample time to explore, play, and socialize while they work in various curricular areas (paint, blocks, dramatic play, listening center, water table, or science). A typical K-3 classroom today covers content in reading, writing, and mathematics, and, time permitting, social studies, science, and the arts, which leaves little, if any, time for students to be engaged in play. According to Carlsson-Paige and McLaughlin (2015),

Children learn best when they are engaged in activities geared to their developmental needs. As they construct their ideas through play and hands-on activities that make sense to them, children's knowledge builds in a gradual progression that is solid and unshakeable. They build a foundation of meaning

that provides the basis for understanding concepts in language, literacy, math, science and the arts. In active learning, their capacities for language development, social and emotional awareness, problem solving, self-regulation, creativity, and original thinking develop, transforming them into effective learners (p. 5).

Sadly, all too often what we see in classrooms today is curriculum that is often presented as separate subjects in distinct units with little overlap or transfer of skill from one subject to the next, which contradicts Piaget's claim that children construct their own knowledge by giving meaning to the people, places, and things in their world (Mooney, 2000).

Miller and Almon (2009) and Snow (2013) professed that harmony can and does exist between play and learning. Miller and Almon argued that while a healthy balance between play and instruction has been prevented by educational reform movements it is possible and children deserve environments with a thoughtful balance. They proposed the following model, Figure 1, which focuses on the middle constructs as a means of compromise. The model encompasses Dewey's belief that education in an early childhood classroom should be facilitated by the teacher participating as a guide on the side, providing enriching classroom situations that allow for student experimentation.

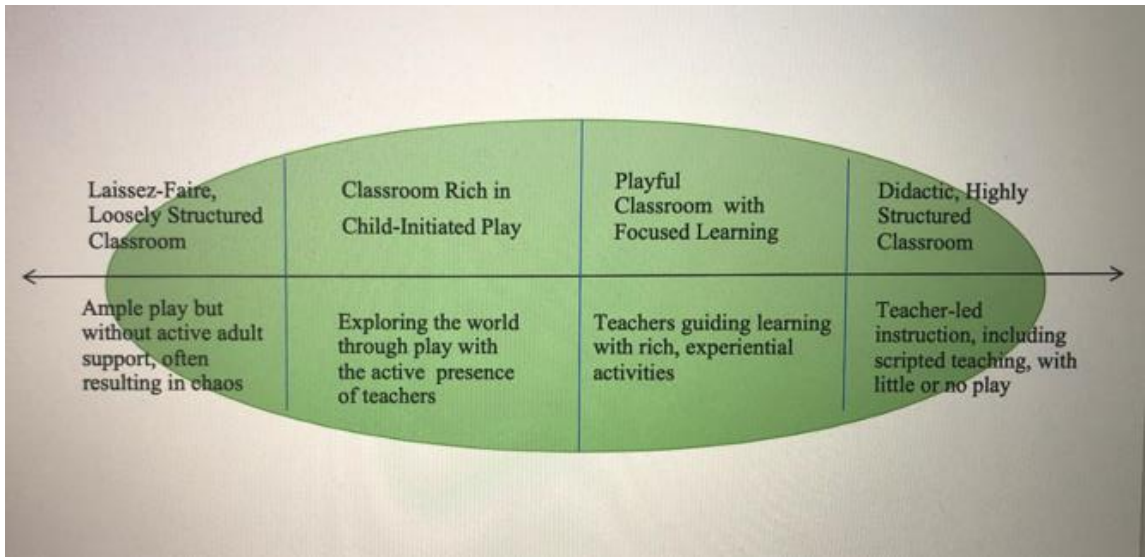


Figure 1. Kindergarten classroom models for balanced DAP

Adapted from “Crisis in the kindergarten: Why children need to play in school” by

Miller, E., & Almon, J. 2009 Retrieved from Alliance for Childhood website:

www.allianceforchildhood.org/sites/allianceforchildhood.org/files/file/kindergarten_report.pdf

Developmentally Appropriate Practice

The divide between finding the right balance among instructional standards, content, and instructional methodology continues to grow. The cornerstone of practice in the early childhood community is that of DAP. According to Graue (2008), the concept of DAP was a revolutionary move in the history of early childhood curriculum. Motivated by concerns about curriculum escalation, DAP was a stance on professionalism, constructed from empirical knowledge about child development. For the purposes of this study, DAP will be defined as teaching decisions that vary with and adapt to the age, experience, interests, and abilities of individual children within a given

age range; it is practice that promotes young children's optimal learning and development (Copple & Bredekamp, 2006, 2009).

Whole Child

Formerly known as the Association for Supervision and Curriculum Development, ASCD, whose original mission was to empower educational leaders through knowledge and support, felt so strongly about the direction that education reform was heading, it launched its Whole Child Initiative in 2007. Similar to NAEYC's definition of DAP, ASCD prescribes a Whole Child approach to learning. ASCD (n.d.) outlined a Whole Child approach to education this way:

The development of children who are healthy, safe, engaged, supported and challenged. ASCD's Whole Child approach is an effort to transition schools and systems from a focus on narrowly defined academic achievement to one that promotes the long-term development and life success of all children (p. 1).

The Whole Child Initiative's definition mirrors the teachings of Maria Montessori, who was pivotal in helping the early childhood community understand the concept of the whole child. The Association Montessori Internationale informed of this (n.d.):

Academics and knowledge-building are key qualities of Montessori, as is the ability to think creatively and understand the needs of others. When these fundamental skills are fostered early in life, children gain the capability to problem solve, persevere, and interact with each other in any circumstance (p. 1).

Proponents of sound early childhood instruction believe there is a congruent relationship between DAP and the whole child approach. Specifically, the whole child approach aligns with NAEYC's program standards for curriculum, which promote

learning and development in each of the following areas: social, emotional, physical, language, and cognitive. Gordon and Browne (2017) agree:

The whole child approach makes the point that interaction and relationship of the developmental domains are interconnected and work together to help children find meaning in and mastery of their world. Think of an integrated curriculum in the same way because it weaves across many subject areas throughout the school day so that skills and concepts are developed in the context of other learning. Subjects such as math, science, reading, writing, and social studies are planned components of the daily curriculum and not taught as separate topics. An integrated curriculum makes it possible for teachers to include skill development activities in context, not in isolation (p. 317).

In a recent paper Jenkins et al (2018) relayed that most preschool classrooms in the United States use whole child curricula. They describe whole child curricula as a model that seeks to promote learning by encouraging children to engage independently in a classroom stocked with prescribed toys and materials designed to promote noncognitive and, in some cases, cognitive skills. They further explain, rather than explicitly targeting specific academic skills (e.g., math, reading), they seek to promote learning by encouraging children to interact independently with the equipment, materials, and other children in the classroom environment (p. 108).

One might question whether providing a set of common early learning standards would be the beginning of a developmentally appropriate transition from Prekindergarten to kindergarten. According to Early, Pianta, Taylor, and Cox (2001), although high-quality experiences prior to the beginning of school and a high-quality kindergarten

program are critical to child success, some attention must also be given to the discontinuities between the settings. Goldstein et al (2017) relayed the results of a study by the National Institute of Child Health and Human Development which, identified associations between skills at school entry and later school success. The study found that children who entered with stronger school readiness skills tended to maintain their advantage over time, while children who entered with lower school readiness skills tended to maintain their relative disadvantage over time.

By providing students with a seamless transition from grade level to grade level and state to state, and including families in the education process, the gap in transition practices is further limited. The Massachusetts Department of Early Education & Care (n.d.) reiterates the point by stating “school readiness is a key concept in aligning Prekindergarten standards with elementary and secondary education standards since they can help measure important foundational skills for achievement in later grades” (p. 3).

Early Literacy Development

Early literacy plays a vital role in the future success of each student, which is the reason it is the primary focus of this study. According to Neuman, Copple, and Bredekamp (2000), the early childhood years—from birth through age—8—are the most important period for literacy development. C. S. Brown (2014) echoed this, stating: “Preschool education plays a critical and significant role in promoting literacy, preventing reading difficulties, and preparing young children for kindergarten” (p.36).

Blamey and Beauchat (2016) provided a framework of eight areas that comprise Literacy. Early Literacy incorporates eight of the following areas of skills development: Oral Language, Vocabulary, Alphabetic Knowledge, Phonological Awareness, Word

Recognition, Fluency, Comprehension, and Writing. (a) Oral language is the system through which we use spoken words to express knowledge, ideas, and feelings. Listening comprehension, oral language vocabulary, and verbal expression are categorized as oral language skills. (b) Vocabulary is students' understanding of the meaning of words; words they hear and words they use in conversation. (c) Alphabetic knowledge is knowledge of the 26 letters of the alphabet. It is exhibited as the relationship between spoken sounds in oral language and the graphic forms in written language. (d) Phonological Awareness is the knowledge that each spoken word consists of a series of individual sounds and is exhibited in a child's familiarity with words, rhyming words, onsets and rimes, syllables, and individual sounds. (e) Word Recognition is a child's ability to recognize written sight words correctly and easily. (f) Fluency measures the speed, accuracy, and flexibility in a child's ability to decode words. (g) Comprehension is a child's ability to understand what is read. Finally, (h) writing is a child's representation of the spoken word. These eight components work together to form the basis for early literacy. Blamey and Beauchat summarized that the "learning" of literacy is a very complex process that involves interpreting and creating: becoming literate involves the development of a network of skills. Therefore, teaching literacy is a complex business of juggling students' development in a range of interconnected skills (p. 10).

Just when literacy instruction should begin is left to debate. A review of headlines in recent years reveals a divide with statements such as: "The Joyful, Illiterate Kindergartners of Finland" (Walker, 2015), "The New Preschool is Crushing Kids" (Christakis, 2016), "Report: Requiring Kindergarteners to Read- as Common Core Does- May Harm Some"(Strauss, 2015b), "Early Academic Training Produces Long-Term

Harm” (Gray, 2015), “4 Things Worse Than Not Learning to Read In Kindergarten” (Christmus, 2017), “Delaying Kindergarten Until age 7 Offers Key Benefits to Kids-Study” (Strauss, 2015a), “Pediatricians: Read Aloud to Infants to Prepare for Academic Success” (Smith, 2014), “Cultivating Young Readers”, “Play, Common Core, and Early Reading Untangled” (Gentry 2015a), and “An Ode to Common Core Kindergarten Standards” (Gentry, 2015a). In a recent study by Kenner, Terry, Friebling, and Namy (2017), the findings indicated that phonemic awareness capabilities (the ability to hear, identify, and manipulate individual sounds in spoken words) can be seen prior to 4 years of age, and these skills follow a developmental sequence when using developmentally appropriate teaching methods. Present theories of phonological awareness (the knowledge that each spoken word consists of a series of individual sounds development) call for very small entities of sound discrimination as children progress in age; however, the findings of this study revealed an unconventional course. Their evidence suggests the appearance of fine-grained phonemic awareness can be seen as early as 2.5 years of age. The process of literacy is significant because children are not only learning the concepts of language, but as Gordon and Browne (2017) added: “children learn two kinds of language: cognitive academic language, which is used in classrooms and books; and basic interpersonal communication, which is used in social situations” (p. 412). The art of language acquisition is comparable to the art of learning to read. In kindergarten through third grade, children are learning to read. At fourth grade, and beyond the focus for reading turns to reading to learn. This is important to this study because talk in Prekindergarten students is all about developing oral language, which is accomplished through play.

As we reevaluate the argument that DAP in the Prekindergarten grade levels may be at risk due to current accountability and high-stakes testing practices in the K-12 education realm, we see this reflected in the professional literature. Almon (2013) believed that a shift towards more cognitive tasks in learning in early childhood, with less time for play, can be attributed to a common belief that children should begin to read in kindergarten. The hypothesis, she relayed, is that if educators delay learning to read until age 6, student reading ability will not be as great as when they begin to read at age 5. Almon contested there is fundamentally no evidence to support this hypothesis.

Vygotsky's social learning theory (Phillips, 2014) presented the idea that children learn from a "knowledgeable other" (p. 845) or in other words, children learn from external input. A child's ability to communicate is dependent on language and affects children's social interactions. When children participate in cooperative play with their peers, they build oral language through those external inputs.

Brain Research

Brains are built through a process that begins before birth and continues into childhood. The first 5 years are the most important in the developmental sequence, specifically for emotional and interpersonal learning (Cozolino, 2013). This is when the brain is most flexible or “plastic.” There are definite windows of time when children are most ready to learn. While the windows remain open, the connections become more and more difficult to modify with the passage of time. First Things First (n.d.) tells us that 90% of the brain is formed by age. This means more is learned in early childhood, at a faster rate, than at any other time in a child’s entire life.

This rapid growth in the minds of young children inspires them to explore, to discover, to play, and to make the natural connections between self, others, and their surrounding world. No aspect of biological growth is more critical than the rapid growth of the brain. (Gordon & Browne, 2017, p.131)

Advances in medical technology such as Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) scans have provided a wealth of information in the last 20 years that surpassed all previously known information about the brain and have allowed scientists to make sophisticated maps of the brain. We now know that babies are born with all the brain cells or neurons that they will have their entire lives. It is the connections that are formed in early childhood that provide the architecture of the brain. The domains of language and cognitive development, social-emotional and motor development, all rely on a “serve and return” relationship that exists between young children and parents or other adult caregivers (The Center on the Developing Child, n.d.-

b). Serve and return interactions are those where a child may make a vocalization, gesture, or cry and a parent or caregiver responds.

Brain growth in early childhood is attributed to the constant process of growth and pruning. The Center on the Developing Child (n.d.-b) reported this: “During optimal growth, more than 1 million new neural connections per second are made” (p.1). When the connections are not used, they are pruned. This is why the quality of the early childhood environment is crucial to brain development. DAP settings provide many new neural connections. On the converse, early childhood stressors and adverse experiences add to the pruning effects. Miles Gordon and Williams Browne (2017) informed that most pruning has occurred by the age of 2.

Brain scans and brain maps show us that the brain is an intricate highway of neural connections and synapses. These highways often cross paths and have many “vehicles” entering the highways at the same time. We know that as children build these connections, their thinking becomes more sophisticated. Gordon and Browne explained the significance to the early childhood classroom environment:

A number of areas of the brain are simultaneously activated during a learning experience. Children are active learners, drawing on direct physical and social experience as well as culturally transmitted knowledge. Field trips, activities, presentations from families, technology, and multicultural units are offered. The brain changes physiologically as a result of experience, with new dendrites forming that connect new experiences to old ones (p.133).

Early childhood practitioners must give thoughtful consideration to DAP and the classroom environment. Gordon and Browne (2017) relayed the following implications for early childhood classrooms:

- Children ages birth to 2 have a limited attention span and can be overstimulated unless the environment is kept simple.
- 3- to 5-year-olds can absorb more information and finer detail, as they have more developed motor and perceptual skills.
- Older preschoolers and kindergartners learn best trying to solve real problems that are right in front of them, such as making a river in the sandbox or building and connecting castles in the block area (p. 393).

Stages of Development

While child development is an ongoing process and follows a sequence, we know that it proceeds at different rates and in different progressions for each individual child. Many children meet established progressions through developmental milestones. These milestones often form the basis for standards, screeners, and assessments. There are generally ranges associated with these milestones for which average development would be expected. Most skills development is relational in nature, in that skills build upon one another. Developmental milestones exist for each of the domains of development: physical development, social and emotional development, language development, and cognitive development. The prerequisite skills for cutting with scissors or holding a crayon or pencil are dependent on fine motor development. In the early childhood setting that may look like some students commanding writing utensils to convey a written message while others are still manipulating Play-doh and clothespins.

It is the connections with the environment that are formed in early childhood that provide the architecture of the brain. Those connections provide the neural pathways for cognitive growth. Therefore, brain development and cognitive growth are inextricably linked. As children move through developmental stages, they progress from being wholly dependent to increasingly more autonomous. A study in which Alford, Rollins, Padron, and Waxman (2015) utilized classroom observations to explore student engagement through teacher's developmentally appropriate instructional practices highlighted the importance of teacher knowledge of each student's individual developmental levels when designing the classroom instruction. They cautioned:

Quality early childhood programs must take into account multiple developmental domains—cognitive, social/emotional, and physical. Young children differ greatly from each other in each of these areas; therefore, the need for teachers to individualize and differentiate their instruction is great. Higher-quality and effective instructional strategies must, therefore, consider a student's prior knowledge, culture, and overall levels of development. An almost entirely direct instruction, whole class approach to a singular group of children injudiciously discounts the range of differences and contexts that are present within an early childhood classroom. (Alford, et al., p. 630)

Early childhood professionals must possess a specialized skill set in order to understand typical developmental needs and differentiate instruction to meet the unique learning needs of each individual student. The NAEYC principles of child development and learning remind us that children learn in a variety of ways and that development and learning advance when children are challenged. Creating a learning environment that is

inclusive of all students' needs and unique levels of development and scaffolds learning does not happen by chance, but rather requires skillful interpretation and planning.

Standards and Curriculum Shift

Unlike the K-12 world, there are many different types of standards in early childhood education. Bodrove, Leong, and Shore (2014) provided the following definitions for early childhood standards:

Program Standards—The resources, activities, and instruction programs offer to help children learn (incorporates both Classroom Standards and Teaching and Curriculum Standards).

Classroom Standards—Identify classroom characteristics such as the maximum number of children in a classroom; the allowable ratio of adults to children; and the materials and supports available to children and families.

Teaching and Curriculum Standards—Sometimes described as opportunities to learn, educational experiences, or activities, generally intended to guide administrators.

Child Outcome Standards—Describe the knowledge and skills children should acquire by the end of the year (encompasses Content Standards and Performance Standards).

Content Standards—Define the range of knowledge and skills that children should master.

Performance Standards—Describe how it can be demonstrated that children have met the content standards (p. 2).

Early childhood outcome and content standards are typically focused on developmental domains. Gordon and Browne (2017) defined developmental domains as the social-emotional, physical, language, and cognitive areas of growth that work together to make up the “whole child” (p. G-3). The discussion of child development and early learning domains typically centers around five to seven learning domains. Those domains are recognized as motor skills (gross motor and fine motor), language, cognitive, social/emotional, self-help/adaptive, with content or discipline specific material (e.g., Literacy, Math, Science, Social Studies) falling under the cognitive skills domain. Kansas Early Learning Standards (Heintz et al.) include eight domains or developmental content areas: Approaches to Learning, Physical Development, Social and Emotional Development, Communication and Literacy, Mathematics, Science, Social Studies, and Creative Arts. (p.7). The Kansas approach to early learning standards is unique because it combines both domains and disciplines.

The development of content guidelines or standards at the Prekindergarten level is an indication of the seriousness with which educators have recently begun to view preschool education (Schickedanz, 2004). DeBruin-Parecki and Slutzky (2016) reported that at the time of their study, in the United States, 50 states, 5 territories, and the District of Columbia have established Prekindergarten age 4 learning standards that were intended to outline skills and knowledge that set children on a path to success in kindergarten and upcoming grades. Standards play a pivotal role in guiding high-quality instruction in early childhood. In a quest for the United States to once again be considered a top-performing nation, more and more states are implementing early learning standards to guide state-funded Prekindergarten programs. Graue (2008)

contested that early childhood education has come to the forefront in education by means of standards-based accountability. The idea of K-12 Standards, now inclusive of Prekindergarten, underscores the universal character of the education system.

Proponents of the CCSS and some early childhood organizations indicate that strength of the new standards lies in the rigor. According to the National Association for the Education of Young Children and the National Association of Early Childhood Specialists in State Departments of Education (2010), standards that are challenging and achievable, appropriate to children's development, and that address each area of children's inter-related development are an important component of teaching and learning success for every child. Finding the balance between maintaining relevancy and progressiveness may be the key to early learning standards implementation. Yelland, N. and Kilderry, A. (2005) advised that as the field of early childhood is experiencing rapid change, educators must have involvement at all levels in the most serious issues facing the field. Educators must push the boundaries, and yet be flexible and open to the changing educational realm. By being involved, and knowledgeable, and asking the difficult questions about personal practice, they can create new meaning and educate audiences about standards, education reform, and developmentally appropriate practice. DeBruin-Parecki and Slutzky (2016) concurred: for standards-based instruction to be successful for all children, teachers and administrators should be familiar with early learning standards, knowledgeable about child development, and able to work with diverse populations, enabling them to engage in effective developmentally appropriate practice (p. 6).

Standards and DAP

One of the concerns shared by most early childhood advocates is that Early Learning standards are inconsistent with DAP. NAEYC's (2012) position statement informed that DAP may be at risk due to a downward pressure of increased academic focus and more narrowed instructional approaches. It is often felt that standards for Early Childhood are developed with a focus on the end product of desired results, without consideration to the developmental nature of children at this age. Logue (2007) contended, "In this age of accountability, teachers must focus on activities related to the outcomes standards for which children will be assessed" (p. 40). Valencia and Wixson (2013) agreed that high stakes testing, often tied to standards-based reform, frequently drive poor instruction, which focuses on the wrong ideas. Eventually with the focus on the testing, rather than improved teaching and learning, the idea of the standards is lost.

Bodrova, Leong, and Paynter (1999) argued that in order for the implementation of early learning standards to be successful, thoughtful analysis of the issues that are unlike those in the K-12 realm will be required. They relayed that the following ideas must be contemplated when crafting early learning standards:

- First, defining literacy in preschool and kindergarten requires more than adding "the student begins to" to literacy standards borrowed from higher grades.
- Second, standards implementation requires a redefinition of the early childhood teacher's role in literacy instruction. Teachers may find their role broadening to include guiding and even directing learning, a role that many will view with certain wariness.

- Third, successful early literacy instruction requires that teachers use instructional strategies specifically designed for young children. (Bodrova et al., p.42).

Some of the circumspection surrounding CCSS is directly related to the unknown. A report by The Associated Press indicated that about 52 % of parents said they had heard only a little or nothing at all about the standards, and one third of parents said they were unsure whether the standards had been adopted in their state (as cited in Thompson, 2013, p. 1). In response, The Common Core State Standards Initiative has created informational sites, relaying what parents should know. The Kansas State Department of Education (KSDE, 2013) informed of this:

In Kansas, the Common Core State Standards, known here as Kansas College and Career Ready Standards (KCCRS), are a critical part of our state's plan to support teachers as they prepare all students for success in college and career. These education standards provide a clear set of shared goals and expectations for the knowledge and skills in English language arts and mathematics that will help our students succeed. We joined with state leaders across the country to embark on a bold endeavor – to create academic standards in math and English that, once achieved, will ensure that any student graduating from high school is capable of successfully completing first-year college courses without remediation. Moving far beyond simply memorizing facts and figures, the new standards will challenge our students to develop a deeper understanding of subject matter, learn how to think critically and apply what they are learning to the real world. The new standards allow Kansas to share information and knowledge with other states

across the country. Because we are all striving toward the same standards, for the first time we'll be able to pool resources, share best practices, and benefit from economies of scale. (p. 4)

Since 1990, early childhood educators have begun to notice greater pressure on academic skills being pushed-down because of the adopted standards. Skills that were once being taught and tested in first grade are now kindergarten expectations. In Missouri, one such skill is Kindergarten Writing 2. C. :

With assistance, draw or write fiction or non-fiction narratives and poems that: a. use a combination of drawing and/or writing to narrate a story or experience the student has had or has imagined, b. tell the reader about a character or personal event, c. place events in the order they occurred, d. use words that are related to the topic, e. provide a reaction to what happened in the events. (Missouri Department of Elementary and Secondary Education, p. 31).

This skillset was previously expected to be demonstrated by a student by the end of first grade. Now, a kindergarten student is expected to demonstrate this skill. Schwartz and Copeland (2010) noted this trend as well, stating that “the multiple forces working to reshape the preprimary curriculum nationally and locally have relentlessly tried to impose conventional academic demands on Prekindergarten and kindergarten programs” (p. 1). According to Carlsson-Paige et al. (2015), developmental milestones have not changed drastically, but society’s expectations of what children should know and be able to do by age six has. They share findings of a recent study by the Gesell Institute that developmental milestones haven’t changed much since the first published data in 1925.

Hatch (2002) reported during the 1980s, early childhood educators waged a battle to resist attempts to require more and more of young children at younger and younger ages. This movement to push expectations from the primary grades down to kindergarten and preschool programs was characterized as “curriculum shove down” by mainstream early childhood educators, who argued that young children were not developmentally ready for the academic emphasis of such an approach. Carlsson-Paige et al. (2015) agreed:

The 1980s saw the beginnings of a shift in kindergarten education from play-based experiential approaches to more academic approaches, from hands-on exploration to worksheets and teacher-led instruction. The new approaches gained momentum like a snowball growing in volume and speed. They were given a mighty push by No Child Left Behind and another by Race to the Top’s early childhood competitive grants, causing many to describe kindergarten as the new first grade. (p. 2).

Critics of the Common Core movement point to examples such as New York State. An article in the *New York Daily News* on October 10, 2013, highlighted some of those concerns. The article titled “Kindergarten Gets Tough as Kids are Forced to Bubble in Multiple Choice Tests” (Monahan, 2013) parlayed readers into the argument that Common Core introduces developmentally inappropriate practices. The first paragraph read, “They don’t even know how to hold a pencil yet, but kindergarteners are getting a taste of the tough side of education with Common Core standardized math tests” (Monahan, 2013, p.1).

The dilemma for early childhood teachers today is in finding the balance between adopted standards and DAP. Hatch (2002) noted,

“It is axiomatic in early childhood that children develop at different rates. Some young children will be ready to meet the challenges of the new expectations associated with the standards movement; many will not. Holding all children to the same standard guarantees that some will face failure” (p. 458).

Carlsson-Page et al. (2015) suggested that we cannot ask students to participate in more difficult assignments with more difficult texts and expect success with those standards. They proposed that student success with standards lie in educators’ ability to interpret and impart an understanding of the concept and objective of those standards, and the ability to differentiate instruction based on student needs.

Knowing that “imposing common standards on all students ignores individual differences, limiting the development of the most talented and jeopardizing the learning opportunities of those who need the most help and support” (Hatch, 2002, p. 460), early childhood practitioners are faced with the challenge of delivering learning environments that provide the stability of developmental knowledge and the challenge of achievable learning goals. In a review of high-quality practices for Grades Prekindergarten-3rd in the age of Common Core, the Erikson Institute relayed the need for rigor that is balanced with appropriate practice. Young children can—and should—be provided with rigorous educational environments that afford opportunities to learn important concepts in math, science, literacy, social studies, and art. However, the methods of instruction and types of learning experiences must be appropriate for young children (Raver et al., 2012, p. 3). Brown, Feger, and Mowry (2015) advise that by providing academically rigorous,

developmentally appropriate instruction, early childhood teachers engage in learning experiences that help children learn the foundational knowledge and skills they need to succeed in elementary school.

A highlighted strength of the Common Core State Standards may lie in the implementation in a common social setting. According to Gadzikowski (2013), most young children will best benefit from a core classroom experience that is part of a general early childhood program serving a diverse population of learners. An integrated curriculum is especially important for children with asynchronous development—those who excel in one area but may be lagging behind in another.

While additional standards are currently in the process of being written (social-emotional), a look at the current CCSS reveals standards for English Language Arts and Mathematics only. Proponents of Early Childhood Education decry the omission of Social-Emotional standards, which are considered to be a pillar of learning for children at early stages of development. Lilian G. Katz (2015), a pioneer and unfaltering advocate of Early Childhood Education made this observation:

“The extent to which academic instruction should be a major goal of the curriculum for Preschool and kindergarten children is a constant topic of debate among the many parties concerned with early childhood education. The introduction of local, state and national standards has exacerbated the complexities involved in resolving these issues” (p. 1).

Proponents further claimed that others are concerned the standards might favor certain domains and, therefore, slant the very fiber of early education.

State-funded Prekindergarten programs in the state of Kansas, from 2014 to 2018, under the Program Requirements and Assurances were required to implement an evidence-based curriculum aligned with the Kansas Early Learning Standards and additionally implement an evidence-based assessment to measure children's developmental growth upon entry and exit of the program. No specific curricula were mandated as long as they met the requirements of being evidence-based and were aligned to the Kansas Early Learning Standards. The selected assessment for Prekindergarten programs was KELI-4 Literacy domains. Beginning in 2016 with the introduction of new Education Commissioner Randy Watson, and a new focus on kindergarten readiness, the Program Requirements and Assurances language was modified to add specific changes to both curriculum and assessment. Programs must now implement evidence-based preschool curriculum that includes literacy, math, and social-emotional components. Additional changes to assessments included the requirement to implement an evidence-based assessment to measure children's developmental growth upon entry and exit of the program, specifically the Ages and Stages Questionnaire 3 and Social-Emotional assessments.

A recent study by Jenkins et al. (2018) compared literacy-and math-focused curricula against two whole child curricula, specifically Creative Curriculum and HighScope. Short-term student achievement was measured, and the results of the study indicated that students gained more cognitive skills in early childhood programs that provided supplemental academic instruction in math and literacy content, compared to programs that provide an exclusive whole child curriculum. The authors noted that

content specific curricula often supplement a classroom's regular curriculum (e.g. Creative Curriculum or a teacher or locally-developed curriculum).

Similarly, another current study by Le, V.-N., Schaack, Neishi, Hernandez, and Blank (2019) examined the relationship between advanced content in kindergarten and children's academic achievement and social-emotional outcomes. The results of the study indicated positive associations for both math and ELA and improved social-emotional outcomes. The authors believed that these results support researchers who proclaim that challenging academic content and children's appropriate development do not have to be a dichotomy.

The research for this project developed around the concern that developmentally appropriate practice in the Prekindergarten grade levels may be at risk due to current accountability and high-stakes testing practices in the K-12 education realm. Specifically, early childhood teachers may feel pressure to implement a pushed-down curriculum in order to meet the accountability requirements. There seems to be a conflict between pedagogical theories on child development and play-based instructional methods and a greater emphasis on cognitive instruction. As a practitioner in the field for over 16 years, the researcher has operated as a teacher and administrator for early childhood programs in two different states and four different districts. Each time curriculum selection was left to the school site, with little oversight or guidance from the state departments of education. Overseeing many different types of programs within the early childhood program, ranging from regular education, to Title I programs, to Special Education, and knowing the great value of early intervention, curriculum selection was always of utmost importance. Gordon and Browne (2017) explained it this way:

In an early childhood setting, the curriculum includes all developmental areas of children's growth, addressing the needs of the whole child. A curriculum is more than a lesson plan, a dinosaur project, or a trip to the museum. A curriculum moves and flows with children's attention and needs. (p. 314)

In early childhood programs we typically see one of two types of selected curricula: single-subject or multi-subject curricula. Single-subject curricula are commercially produced, content- or discipline- specific programs. Multi-subject early childhood curricula are commercially produced programs, which focus on learning domains. Remembering that the field of early childhood is unlike its K-12 counterpart in that there are many different types of standards, so too are there different foci for the learning. Some programs choose to focus on learning domains and some programs choose to focus on content. Those domains are recognized as motor skills (gross motor and fine motor), language, cognitive, social/emotional, self-help/adaptive, with content- or discipline- specific material (e.g., Literacy, Math, Science, Social Studies) falling under the cognitive skills domain.

Summary

As educators continue to see the demands of accountability growing, many states are now looking to early childhood as a possible area of emphasis and growth. As all 50 states have created early learning standards, the divide between finding the right balance among instructional standards content and instructional methodology continues to grow. It is often felt that standards for early childhood are developed with a focus on the end product of desired results, without consideration to the developmental nature of children at this age. This is often lost in the struggle to accommodate federal, state, and district

directives that are the affiliated with , or are the aftereffect of, high-stakes testing. The cornerstone of practice in the early childhood community is that of developmentally appropriate practice, which was motivated by concerns about curriculum escalation, and is based on empirical knowledge about child development. DAP was defined as teaching decisions that vary with and adapt to the age, experience, interests, and abilities of individual children within a given age and range; it is practice that promotes young children's optimal learning and development (Copple & Bredekamp, 2006,2009). In conclusion, there is strong evidence that standards present an opportunity for rigorous learning opportunities for our earliest learners. Standards also need not be at odds with developmentally appropriate practice; but rather when carefully and intentionally executed, they can exist in balanced affiliation.

Chapter Three details the methodology for collection and analysis of the data in this study. Chapter Four offers a presentation of the study findings. Chapter Five provides a summary of the project and offers conclusions and recommendations for Kansas school districts in regard to Prekindergarten Standards and DAP.

CHAPTER THREE

METHODOLOGY

Introduction

The purpose of this causal comparative study was to explore the influences of curriculum selection on Prekindergarten students' kindergarten readiness skills. As federal mandates such as No Child Left Behind and Race to the Top have created educational reform movements, whose impacts can be seen with increasing accountability pressures in the K-12 world, a greater focus is being placed on early childhood education. It is often felt by proponents of DAP that standards for Early Childhood are developed with a focus on the end product of desired results, without consideration to the developmental nature of children at this age. The researcher sought to understand if the CCSS-ELA Standards are developmentally appropriate for Prekindergarten and Kindergarten students as revealed by individual students' KELI-4 scores.

In this chapter, the researcher details the methodology for collection and analysis of the data in this study. Participants are identified. This included the research questions and hypothesis, identification of the participants, selection and sampling procedures, the research setting and design, and data analysis.

Research Questions

This research sought to answer the following research questions:

RQ₁ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

RQ₂ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₃ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₄ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

Null Hypotheses

In order to address the aforementioned research questions, the following null hypotheses were investigated:

H₀₁ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₂ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₃ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₄ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

Participants

Participants in this study consisted of Prekindergarten students and programs in state-funded Kansas public school districts with Prekindergarten programs. At the time of the study, Kansas had 1,407 schools that served 491,270 students. In those schools, 38.7% of students meet low-income guidelines, 5.3% of students were considered to be Limited English Proficient, and 14% of students met the definition of a student with a disability. Kansas public schools maintained the following distribution by region type: 27.4% city, 17.6% suburban, 26.9% town, and 28.2% rural.

In 2017-2018, there were 14,467 students enrolled in state-funded Prekindergarten programs. Looking specifically at Prekindergarten, seven thousand forty-two students were enrolled in the 4-Year- Old At-Risk Preschool program, and 7,047 students were in enrolled in the Prekindergarten Preschool program. Of those students, 59% were White, 6.9% were Black, 25% were Hispanic, .8% were American Indian or Alaskan Native, 3.7% were Asian, and 5.1% were Multi-Ethnic. A data set of KELI-4 test scores for Prekindergarten programs for the 2016 and 2017 school years, spring and fall, was obtained from the Kansas State Department of Education.

Selection and Sampling

The target population for this study was Kansas school districts with state-funded Prekindergarten programs. The researcher contacted the Kansas State Department of Education for a data request to include KELI-4 student assessment scores. The researcher divided the state-funded Prekindergarten programs into programs that implemented a curriculum focusing on a single subject, and programs that implemented a curriculum focusing on more than one subject. The researcher randomly contacted state-funded Prekindergarten programs to determine which type of curriculum each adopted. These 80 randomly identified districts then became the sample used for this study.

Research Setting

All state-funded Prekindergarten programs whose data were utilized in this study were in the state of Kansas. Only schools that were using the same curriculum for the 2015-2106 and 2016-2017 school years were able to be a part of the sample. Eighty school districts across city, suburban, town, and rural settings were represented.

Research Design

The purpose of this quantitative causal comparative study was to gain an understanding of the current status of early childhood education as it becomes an integral part of the K-12 education continuum. This study compared the kindergarten Readiness of Prekindergarten students in state-funded Prekindergarten programs across the state of Kansas as evidenced by KELI-4 assessment scores. The independent variable was the selected curriculum of each individual district's Prekindergarten program. The

dependent variables were KELI-4 scores for individual students in Prekindergarten programs across the state of Kansas.

Instrumentation

The researcher used Kansas Early Learning Inventory for Fours (KSDE, 2014) assessment scores to measure student achievement in relationship to kindergarten readiness. The KELI-4 consists of Communication and Literacy, General Knowledge and Mathematical Knowledge, Self-Help, and Social-Emotional items fully aligned to Kansas Early Learning Standards and CCSS. The KELI-4, given two times during the school year (in the fall and spring), provided teachers with a tool for progress monitoring of Prekindergarten student development.

Reliability and Validity of Instrument

Independent reliability and validity tests were run utilizing the IBM Statistical Package for the Social Sciences (SPSS) and Cronbach's alpha. The results of the reliability and validity testing follow.

Reliability

"Reliability is the degree to which an assessment tool produces stable and consistent results" (Phelan & Wren, 2006, p. 1). The Cronbach's alpha results, or the estimate of internal consistency associated with the scores, from the independent tests were .957, indicative of a very reliable instrument when used over and over again.

Validity

"Validity refers to how well a test measures what it is purported to measure" (Phelan & Wren, 2006, p. 3). A principal components analysis of the KELI-4 instrument in the form of SPSS output from the independent tests validated that the questions all

measured one single construct-English Language Arts. The results indicated a strong relationship among the variables.

Data Analysis

Student achievement data were retrieved from a KSDE data request and were examined to determine if single-subject or multi-subject curriculum yielded any influence on the kindergarten readiness skills of Prekindergarten students. Individual student assessment scores on the KELI-4 were disaggregated into the four achievement levels for early literacy. A *t* test was used to determine if there was a statistically significant difference between students who attended a Prekindergarten program that implements a single-subject curriculum as compared to students who attended a Prekindergarten program that implemented a multi-subject curriculum.

The assumptions of the independent sample *t* test included:

1. There is a continuous dependent variable (Early Literacy KELI-4 scores)
2. There are two levels within the independent variable (single-subject and multi-subject curriculum).
3. The samples are random from their respective population (each had an equal probability of being selected for the sample).

Budget and Timeline

Expenses were minimal. The researcher presented a data request to the Kansas State Department of Education (KSDE). Data requests through KSDE are charged at a rate of \$56 per hour. It was determined by the data department that it would take 3 hours to complete the data request. The researcher submitted a check in the amount of \$168 to complete the data request. Lodging was not necessary due to electronic means of communication. Minimal funds were budgeted for possible clerical needs. It was anticipated the researcher would have to purchase additional supplies/services including but not limited to: dissertation quality paper and binding costs.

The researcher completed all research during the fall semester of 2018. Additional assistance with proofreading and evaluation of APA formatting was considered and monies were allocated. Additional consideration was given to seeking assistance from professors with statistical analysis as needed.

Summary

In this chapter, the researcher provided a brief overview detailing the objective of the study and detailed the methodology of this study. This included the research questions and hypotheses, identification of the participants, selection and sampling procedures, the research setting and design, the instrumentation, reliability and validity, and data analysis. In Chapter four, the researcher analyzes the collected KELI-4 data and reveals the findings of the study. Chapter five presents a summary of the study findings and conclusions from the causal comparative study. Additionally, Chapter five offers recommendations from the study and topics for future study.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

Introduction

This purpose of this causal comparative study was to explore the influences of curriculum selection on Prekindergarten students' kindergarten readiness skills. In this chapter, findings are presented in two different sections. The first section covers the student achievement results as based on the KELI-4 data. The second section describes the curricula selected.

In Chapter Three, the researcher detailed the methodology of the study including participants, selection and sampling, research setting, research design, instrumentation, reliability and validity, and data analysis. The KELI-4 data were uploaded into IBM Statistical Package for Social Sciences (SPSS) Statistics program for analysis.

In this chapter, descriptive statistics are used to present the quantitative data, as well as inferential statistics to analyze the data to determine if any statistical differences existed for student achievement between Prekindergarten programs that administered a single-subject curriculum versus Prekindergarten programs that administered a multi-subject curriculum.

Overview of Research Project

Student achievement results were retrieved from a KSDE data request and were examined to determine the kindergarten readiness skills of students. Scores were disaggregated into the four achievement levels for early literacy. A *t* test was used to determine if there was a statistically significant difference between students who attended

a Prekindergarten program that implemented a single-subject curriculum as compared to students who attended a Prekindergarten program that implemented a multi-subject curriculum.

Research Questions

This research sought to answer the following research questions:

RQ₁ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

RQ₂ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₃ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₄ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

Null Hypotheses

An independent samples *t* test was performed in order to test the aforementioned research questions:

H₀₁ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₂ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₃ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₄ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

Purpose

The purpose of this causal comparative study was to explore the influences of curriculum selection on Prekindergarten students' kindergarten readiness skills. As federal mandates such as No Child Left Behind and Race to the Top have created educational reform movements, whose impacts can be seen with increasing accountability pressures in the K-12 world, a greater focus is being placed on early childhood education. The researcher sought to understand if the CCSS-ELA Standards are developmentally appropriate for Prekindergarten and Kindergarten students as revealed by individual students' KELI-4 scores.

Student Achievement Results –Descriptive Statistics

Participants in this study consisted of Prekindergarten students and programs in state-funded Kansas public school districts with Prekindergarten programs. At the time of the study Kansas had 1,407 schools that served 491,270 students. Of those students, 38.7% meet low-income guidelines, 5.3% of students were considered to be Limited

English Proficient, and 14% of students met the definition of a student with a disability. Kansas public schools maintained the following distribution by region type: 27.4% city, 17.6% suburban, 26.9% town, and 28.2% rural.

In 2017-2018, there were 14,467 students enrolled in state-funded Prekindergarten programs. Within the state-funded Prekindergarten programs, 7,042 students were enrolled in the 4-Year-Old At-Risk Preschool program, and 7,047 students were enrolled in the Prekindergarten Preschool program. Of those students, 59% were White, 6.9% were Black, 25% were Hispanic, .8% were American Indian or Alaskan Native, 3.7% were Asian, and 5.1% were Multi-Ethnic. A data set of KELI-4 test scores for Prekindergarten programs for the 2016 and 2017 school years was obtained from the Kansas State Department of Education. The data for this study encompassed 80 school districts and included 2 school years of data during two assessment periods each school year.

Data Analysis and Findings

In this chapter, descriptive statistics are used to present the quantitative data, as well as inferential statistics to analyze the data. Student achievement results were retrieved from KSDE data request and were examined to determine the kindergarten readiness skills of students. The data were analyzed to determine if any statistically significant differences existed in KELI-4 Early Literacy Prekindergarten students' scores between schools that used a single- subject curriculum and schools that used a multi- subject curriculum.

Results

The first research question and hypothesis were as follows:

RQ₁ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

H₀₁ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

An independent samples *t* test was performed to test the hypothesis that single-subject and multi-subject curricula were associated with statistically significant different means on KELI-4 scores in spring 2016. Levene's test indicated equal variance ($F = .026$, $p = .871$), so degrees of freedom did not need to be adjusted. When examining Spring 2016 KELI-4 achievement scores, there was no statistically significant difference between schools that used a single-subject curriculum ($N = 563$, $M = 85.56$, $SD = 15.7$) and schools that used a multi-subject curriculum ($N = 1705$, $M = 86.18$, $SD = 16.768$). Further, the 95% confidence interval was (-2.221 to .981). The effect size ($d = .036$) suggested low practical significance. The results are listed in Tables 1 and 2 below.

Table 1

Group Statistics Spring 16 KELI-4

	Curriculum	<i>N</i>	Mean	Std. Deviation	Std. Error Mean
Spr16KELI	Single-Subject	563	85.56	17.106	.721
	Multi-Subject	1750	86.18	16.768	.401

Table 1.

Independent Samples Test Spring 16 KELI-4

		Levene's Test for Equality of Variances		t test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
Spr16 KELI	Equal variances assumed	.026	.871	-.759	2311	.448	-.620	.816	-2.221	.981
	Equal variances not assumed			-.751	934.491	.453	-.620	.825	-2.239	.999

The mean Spring 2016 KELI-4 did not differ significantly, $t(2311) = -.759$, $p = .448$, two tailed. When testing for a statistical difference, the researcher looked for p -values. When the p value is 5% or lower ($p < .05$), it is considered statistically significant and did not occur by chance (Pelham, 2013, Chapter 6). In this case, the p value was .448 ($p > .05$) and was not considered to be statistically significant. Therefore, based on the results, there was not a statistically significant difference and the researcher failed to reject the null hypothesis.

The second research question and hypothesis were as follows:

RQ₂ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

H₀₂ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

An independent samples t test was performed to test the hypothesis that single-subject and multi-subject curricula were associated with statistically significantly

different means on KELI-4 scores in fall 2016. When examining Fall 2016 KELI-4 achievement scores, there was a statistical difference between schools that used a single-subject curriculum ($N = 577, M = 59.51, SD = 17.023$) and schools that used a multi-subject curriculum ($N = 1929, M = 57.80, SD = 16.359$). Further, the 95% confidence interval was (.182 to 3.255). The effect size ($d = .102$) suggested very low practical significance. The results are listed in Tables 3 and 4 below.

Table 2.

Group Statistics Fall16 KELI-4

	Curriculum	<i>N</i>	Mean	Std. Deviation	Std. Error Mean
Fall16KELI	Single-subject	577	59.51	17.023	.709
	Multi-subject	1929	57.80	16.359	.372

Table 3.

Independent Samples Test Fall 16 KELI-4

		Levene's Test for Equality of Variances		<i>t</i> test for Equality of Means						
		F	Sig.	<i>t</i>	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Fall 16 KELI	Equal variances assumed	2.239	.135	2.193	2504	.028	1.718	.784	.182	3.255
	Equal variances not assumed			2.147	917.307	.032	1.718	.801	.147	3.290

The mean Fall 2016 KELI-4 scores did differ significantly, $t(2504) = 2.193$ $p = .028$, two tailed. In this case, the p value was $.028$ ($p < .05$) and was considered to be statistically significant. Therefore, based on the results, there was a significant difference and the researcher rejected the null hypothesis and accepted the alternative hypothesis.

The third research question and hypothesis were as follows:

RQ₃ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

H₀₃ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

An independent samples t test was performed to test the hypothesis that single-subject and multi-subject curricula were associated with statistically significantly different means on KELI-4 scores in spring 2017. When examining Spring 2017 KELI-4 achievement scores, there was no statistically significant difference between schools that used a single-subject curriculum ($N = 570$, $M = 89.27$, $SD = 16.925$) and schools that used a multi-subject curriculum ($N = 1794$, $M = 83.27$, $SD = 16.310$). Further, the 95% confidence interval was (-1.552 to 1.552). The effect size ($d = 0$) suggested low practical significance. The results are listed in Tables 5 and 6 below.

Table 4.

Group Statistics Spring 17 KELI-4

	Curriculum	N	Mean	Std. Deviation	Std. Error Mean
Spr17KELI	Single-subject	570	83.27	16.925	.709
	Multi-subject	1794	83.27	16.310	.385

Table 5.

Independent Samples Test Spring 17 KELI-4

		Levene's Test for Equality of Variances		t test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
Spr17 KELI	Equal variances assumed	.085	.771	.000	2362	1.000	.000	.791	-1.552	1.552
	Equal variances not assumed			.000	928.625	1.000	.000	.807	-1.583	1.583

The mean Spring 2017 KELI-4 scores did not differ significantly, $t(2362) = .000$, $p = 1.00$, two tailed. The p value was 1.00 ($p > .05$) and was not considered to be statistically significant. Therefore, based on the results, there was not a statistically significant difference and the researcher failed to reject the null hypothesis.

The fourth, and final, research question and hypothesis were as follows:

RQ₄ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

H₀4 There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

An independent samples *t* test was performed to test the hypothesis that single-subject and multi-subject curricula were associated with statistically significantly different means on KELI-4 scores in fall 2017. Levene's test indicated unequal variances ($F = 4.334, p = .037$), so degrees of freedom were adjusted from 2256 to 831. When examining Fall 2017 KELI-4 achievement scores, there was a statistical difference between schools that used a single-subject curriculum ($N = 524, M = 61.54, SD = 16.605$) and schools that used a multi-subject curriculum ($N = 1734, M = 58.48, SD = 15.853$). Further, the 95% confidence interval was (1.450 to 4.666). The effect size ($d = .188$) suggested small practical significance. The results are shown below in Tables 7 and 8.

Table 6.

Group Statistics Fall 17 KELI-4

	Curriculum	<i>N</i>	Mean	Std. Deviation	Std. Error Mean
Fall17KELI	Single-subject	524	61.54	16.605	.725
	Multi-subject	1734	58.48	15.853	.381

Table 7.

Independent Samples Test Fall 17 KELI-4

		Levene's Test for Equality of Variances		t test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Fall17	Equal variances assumed	4.334	.037	3.826	2256	.000	3.058	.799	1.490	4.625
KELI	Equal variances not assumed			3.723	831.758	.000	3.058	.819	1.450	4.666

The mean Fall 2017 KELI-4 scores did differ significantly, $t(831) = 3.723$, $p < .001$, two tailed. The p value was $<.001$ and was considered to be statistically significant. Therefore, based on the results, there was a statistically significant difference and the researcher rejected the null hypothesis and accepted the alternative hypothesis.

Conclusion

In this chapter the findings of the study were presented. The researcher randomly selected 80 school districts, 40 implementing a single-subject Prekindergarten curriculum and 40 implementing a multi-subject Prekindergarten curriculum, to be included in the study. KELI-4 Early Literacy scores for spring and fall 2016 and 2017 were collected from KSDE and analyzed. The researcher disaggregated the data based upon selected curriculum implementation into the four achievement levels for early literacy to determine if any statistical significance in KELI-4 Early Literacy Prekindergarten students' scores existed between schools that used a single-subject curriculum and schools that used a multi-subject curriculum.

Statistical analysis was performed using the SPSS program. Descriptive statistics identifying the number of samples included and standard deviations were reported. Next, inferential statistics consisting of independent sample two-tailed t tests were used to determine if there was a statistically significant difference in KELI-4 Early Literacy Prekindergarten students' scores between schools that used a single- subject curriculum and schools that used a multi-subject curriculum. The researcher found a statistically significant difference in the fall 2016 and fall 2017 scores and therefore accepted the alternative, rejecting the following null hypotheses:

H₀₂ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use single-subject curriculum and schools that use multi-subject curriculum.

H₀₄ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use single-subject curriculum and schools that use multi-subject curriculum.

In Chapter Five a summary of the study is presented. The findings and conclusions from the causal comparative study are presented as well as a discussion of the conclusions. Finally, the chapter offers recommendations from the study and topics for future study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

With increasing accountability pressures in the K-12 world, a greater focus is being placed on early childhood education. The purpose of this causal comparative study was to explore the influences of curriculum selection on Prekindergarten students' kindergarten readiness skills. While we understand that student achievement across an academic year is dependent upon the quality of learning experiences, there is currently little to no empirical evidence that supports which curricula is best for our youngest learners. Through data analysis, the researcher relayed the effect of curriculum selection on DAP and kindergarten readiness in Prekindergarten. This chapter presents a summary of the study findings and conclusions from the causal comparative study as well as a discussion of the conclusions. Finally, the chapter offers recommendations from the study and topics for future study.

In Chapter Two, the researcher reviewed the relevant literature in the themes of developmental learning theories, theoretical framework, developmentally appropriate practice, early literacy development, and standards and curriculum shift. The literature revealed that learning in early childhood occurs in developmental stages. Children move from being wholly independent to more autonomous, learning is an ongoing process, and learning proceeds at different rates and progressions for each child. Dewey and Piaget advocated that children learn best by doing, and Vygotsky prescribed rigor in early childhood with his zone of proximal development.

The literature defined developmentally appropriate practice as practice that promotes young children's optimal learning and development. The literature also clearly

defined that DAP advocates propose a balance between instructional standards content and instructional methodology. Proponents of DAP have surmised that the gradual disappearance of play in the early childhood classroom may be attributed to the increased academic focus and more restricted instructional strategies. And finally, the literature informed that children learn best by activities that meet their developmental needs.

According to Carlsson-Paige et al. (2015):

Children learn best when they are engaged in activities geared to their developmental needs. As they construct their ideas through play and hands-on activities that make sense to them, children's knowledge builds in a gradual progression that is solid and unshakeable. They build a foundation of meaning that provides the basis for understanding concepts in language, literacy, math, science and the arts. In active learning, their capacities for language development, social and emotional awareness, problem solving, self-regulation, creativity, and original thinking develop, transforming them into effective learners. (p. 5)

The literature also suggested that the whole child approach transitions schools and systems from a focus on narrowly defined academic achievement to one that promotes the long-term development and life success of all children (ASCD, n.d., p. 1). Maria Montessori advocated for a whole child approach, similar to this, that addressed not only the cognitive, but also the physical, emotional, and social development of a child. The literature provided a definition of whole child curricula that focused on learning through the materials, environment, and other children as opposed to focusing on content-specific material.

A review of the literature for early literacy development revealed that early literacy plays a vital role in the future success of each student. Neuman, et al. (2000) informed that the early childhood years-from birth through age 8-are the most important period for literacy development. Finally, the review of literature informed that a shift towards more cognitive tasks in learning in early childhood, with less time for play, can be attributed to a common belief that children should begin to read in kindergarten. Skills that were once being taught and tested in first grade are now kindergarten expectations.

The review of literature and personal experience led the researcher to question whether or not children were developmentally ready to tackle these expectations and which type of curriculum would best prepare them. The research developed around the concern that developmentally appropriate practice in the Prekindergarten grade levels may be at risk due to current accountability and high-stakes testing practices in the K-12 education realm. In a review of district-selected Prekindergarten curricula, programs fell into one of two categories: single-subject or multi-subject curricula. Single-subject curricula are commercially produced, content- or discipline-specific programs. In a review of selected single-subject curricula in this study, programs selected included but were not limited to the following:

- Early Literacy: Animated Literacy (J. Stone Creations), Zoo-phonics (Zoo-phonics, Inc.), Big Day for PreK (Houghton Mifflin Harcourt), OWL-Opening the World of Learning (Pearson), Pathways to Reading (Pathways to Reading, Inc.), Imagine It (McGraw- Hill), and World of Wonders (McGraw-Hill)

- Math: Get Set for School -Numbers & Math (Learning Without Tears), Splash (Houghton Mifflin Harcourt), EngageNY (New York State Education Department), and The Learning Box (The Learning Box Preschool); and
- Social Emotional: Second Step (Committee for Children) and Conscious Discipline (Conscious Discipline).

Multi-subject early childhood curricula are commercially produced programs, but they focus on learning domains. Selected curricula included but were not limited to: Creative Curriculum (Teaching Strategies), Frog Street (Frog Street Press, LLC.), Curiosity Corner (Success for All Foundation), HighScope (High Scope Educational Research Foundation), DLM Express (McGraw-Hill), and DIG (Abrams Learning Trends).

In Chapter Two we learned that early childhood standards are typically focused on developmental domains. Gordon and Browne (2017) defined developmental domains as the social-emotional, physical, language, and cognitive areas of growth that work together to make up the “whole child” (p. G-3). The discussion of child development and early learning domains typically centers around five to seven learning domains. Those domains are recognized as motor skills (gross motor and fine motor), language, cognitive, social/emotional, self-help/adaptive, with content or discipline specific material (e.g., Literacy, Math, Science, Social Studies) falling under the cognitive skills domain. Kansas Early Learning Standards (Heintz et al., n.d., p. 7) included eight domains or developmental content areas: Approaches to Learning, Physical Development, Social and Emotional Development, Communication and Literacy, Mathematics, Science, Social Studies, and Creative Arts. The Kansas approach to early learning standards is unique because it combines both domains and disciplines.

Summary of Methods

Prekindergarten KELI-4 data from KSDE were analyzed. The target population for this study was Kansas school districts with state-funded Prekindergarten programs. The researcher contacted the Kansas State Department of Education for a data request to include KELI-4 student assessment scores. The researcher divided the state-funded Prekindergarten programs into those that implemented a curriculum focusing on a single subject and those that implemented a curriculum focusing on more than one subject. The researcher randomly contacted state-funded Prekindergarten programs to determine which type of curriculum each adopted. These 80 randomly identified districts then became the sample used for this study. Scores were disaggregated into the four achievement levels for early literacy. A *t* test was used to determine if there was a statistically significant difference between students who attended a Prekindergarten program that implemented a single-subject curriculum as compared to students who attended a Prekindergarten program that implemented a multi-subject curriculum.

Summary of Findings

The study focused on four research questions in order to determine if the kindergarten readiness skills of students were higher for students attending a PreKindergarten program that implemented a multi-subject curriculum versus a single-subject curriculum (Early Literacy). The research questions and null hypothesis were as stated:

Research Questions

RQ₁ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

RQ₂ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₃ What are the differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum?

RQ₄ What are the differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single- subject curriculum and schools that use a multi-subject curriculum?

Null Hypotheses

H₀₁ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₂ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2016 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₃ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Spring 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

H₀₄ There will be no statistically significant differences in Prekindergarten students' KELI-4 Early Literacy Fall 2017 scores between schools that use a single-subject curriculum and schools that use a multi-subject curriculum.

When examining Spring 2016 KELI-4 student achievement scores, schools that used a single-subject curriculum ($N = 563$, $M = 85.56$, $SD = 17.106$) scored no higher than schools that used a multi-subject curriculum ($N = 1750$, $M = 86.18$, $SD = 16.768$). When examining Fall 2016 KELI-4 student achievement scores, schools that used a single-subject curriculum ($N = 577$, $M = 59.51$, $SD = 17.023$) scored higher than schools that used a multi-subject curriculum ($N = 1929$, $M = 57.80$, $SD = 16.359$). When examining Spring 2017 KELI-4 student achievement scores, schools that used a single-subject curriculum ($N = 570$, $M = 83.27$, $SD = 16.925$) scored no higher than schools that used a multi-subject curriculum ($N = 1794$, $M = 83.27$, $SD = 16.310$). When examining Fall 2017 KELI-4 student achievement scores, schools that used a single-subject curriculum ($N = 524$, $M = 61.54$, $SD = 16.605$) scored higher than schools that used a multi-subject curriculum ($N = 1734$, $M = 58.48$, $SD = 15.853$). Overall, analysis of the data showed a small statistical difference during the fall 2016 and fall 2017 data periods, with students enrolled in Prekindergarten programs that implemented single-subject curriculums showing greater achievement on KELI-4 skills assessment.

Conclusions

The statistical treatment of the data yielded two statistically significant relationships: Fall 2016 and Fall 2017 KELI-4 scores between single-subject curriculum implementation and increased kindergarten readiness skills. The t test results indicated students developed higher kindergarten readiness skills in programs that implemented

single-subject curricula. The p -values of .028 and $<.001$ provided strong indication that a narrowed focus on developmental domains contributed to the increased readiness skills in the sample schools. While the effect size was small, this was similar to the research findings by Jenkins et al. (2018) that preschool students and kindergarten students Le et al. (2019) scored higher on tests of school readiness when they received instruction on content-specific curricula, specifically literacy and math.

The statistical treatments of the data additionally revealed no statistically significant differences for the spring 2016 and spring 2017 KELI-4 data. The spring 2016 p value was .448 ($p > .05$) and was not considered to be statistically significant. The Spring 2017 KELI-4 p value was 1.00 ($p > .05$). Therefore, based on the results, there was not a statistically significant difference and the researcher failed to reject the null hypothesis. This was again consistent with the research of Jenkins et al. (2018), which found that programs that administered a multi-subject curriculum did not show greater student readiness.

As an administrator in the field of early childhood education the results of this study were surprising to me and caused me to reflect on past practices within the programs I oversaw. As practitioners, both myself and my staff believed that emphasizing the social-emotional domains and ready to learn behaviors over content was the best indication of kindergarten readiness. The results of this study and review of literature definitely made it clear that perhaps a greater focus on content skills is warranted.

Educational Implications

With standards being pushed down, students are being forced to rise to meet those new learning challenges. For the students that are capable of meeting this challenge, it works. However, when students are not developmentally ready for this accelerated learning, we see already underperforming students falling further behind. Le et al (2019) reported that when underachieving students enter kindergarten, advanced academic content creates an incongruity amid the requirements and offerings of classroom activities and their current developmental levels. As funding streams for early childhood have been dubious at best, criteria for state-funded programs, so too, have changed almost yearly; specifically, early childhood curricula criteria have ranged from conservative to more stringent. Jenkins et al. (2018) concurred: Many states allow early childhood education providers not otherwise subjected to curriculum requirements to develop their own lesson plans or curriculum rather than purchasing a published curriculum (p. 109).

As state departments of education and school districts begin to understand the importance of the early learning years and begin the process of integrating Prekindergarten programs into the K-12 educational realm, it is vital that curriculum selections take into consideration the unique learning needs of our earliest learners. Child development is an ongoing process and follows a sequence. It also proceeds at different rates and in different progressions for each individual child. For these very reasons, it is important that curriculum selection take into consideration differing progression rates of students and offer scaffolding strategies to individualize learning. Prekindergarten cannot be treated as a “mini” kindergarten by borrowing from standards and practices of

higher grades, but rather must focus on a whole child approach that focuses on social emotional development and skills progression instruction rigor that is balanced with appropriate practice.

Further Research

The basis of this study was an examination of single-subject and multi-subject curricula. American children who are not on their way to learning to read and write well by third grade are at greatly increased risk of school failure. Similarly, Casbergue (2017) stated now that curriculum and standards across the United States have been influenced by the Common Core State Standards, expectations for literacy achievement in the primary grades have risen even further.

As the research advanced, the researcher contemplated additional questions. Recommendations for further study would include the following proposals. One of the limitations of the study was the data were limited to 2016 and 2017, spring and fall KELI-4 early literacy scores. Consideration should be given to reviewing other domains of KELI-4 assessment (e.g., early numeracy, social/emotional) to determine if any correlation exists for specific curricula content areas showing greater kindergarten readiness scores. This would provide information about content-specific instruction and help to determine if the effects would continue across domains or if the results were limited to a single content on the KELI-4.

The KELI-4 assesses student readiness skills in Early Literacy, General Knowledge and Mathematical Knowledge, Social-Emotional, and Physical/Self-Help, based on 4-year-old learning standards. The review of literature revealed that early experiences have profound effects on development and learning (NAEYC, n.d., p. 1). Therefore, it is

recommended that student demographic information be reviewed to determine if any effects of previous early learning experience participation (i.e., 3-year-old preschool program, Parents as Teachers, or none at all) exist. The statistical treatment of the data yielded two statistically significant relationships: Fall 2016 and Fall 2017 KELI-4 scores between single-subject curriculum implementation and increased kindergarten readiness skills. By examining this information, it would help practitioners understand if the results of the study were linked to initial curriculum exposure, and if previous early childhood experiences had any effect on the students' readiness skills.

Because different program requirements exist for each early childhood program, further research could focus on how specific program requirements contribute to student achievement scores. In Kansas, state-funded Prekindergarten and At-Risk Prekindergarten programs required KELI-4 and my Individual Growth and Development Indicators (myIGDI's) assessments and implementation of research-based curricula, while Early Childhood Special Education programs were required to administer Kansas Early Childhood Outcomes (ECO) and did not require research-based curricula. A comparison of student performance across all available public preschool programs (i.e., Regular Prekindergarten, Title 1 Prekindergarten, and Early Childhood Special Education programs) would allow for identification of specifics and outcomes in each of these environments.

Early childhood teachers may feel pressure to implement a pushed-down curriculum in order to meet the accountability requirements in conjunction with CCSS-ELA implementation. Jenkins et al. (2018) relayed that federal, state, and local policies can and do influence the effectiveness of preschool programs by prescribing curricula, as

well as by regulating and monitoring early care settings. A survey of teachers' perceptions on curriculum and DAP within their respective classrooms would be warranted to determine if teachers must sacrifice what they know about developmental learning theories in order to appease building, district, and state leaders and directives.

Finally, since children learn best when they are engaged in activities geared to their developmental needs (Carlsson-Page et al., 2015), the researcher recommends observations of learning environments, specifically seeking to determine developmentally appropriate practice in conjunction with implemented curriculum. This further research could illuminate consequences students experience (if any) because of academic accountability at the early childhood level.

Summary

The intent of this study was to provide insight for practitioners on the effects of curriculum selection, specifically whether students who attended a state-funded Prekindergarten program which implemented a curriculum which focused on more than one developmental domain would have higher academic gains in kindergarten Readiness on the KELI-4 assessment than students who attended state-funded Prekindergarten programs that implemented a curriculum focusing on one single-learning domain (Early Literacy). This study compared the difference in Prekindergarten students' kindergarten Readiness in schools that implemented a single-subject curriculum as opposed to a multi-subject curriculum. The results indicated that single-subject curriculum showed slightly higher kindergarten readiness skills and echoed the results of a recent study by Jenkins et al. (2018). Further investigation into content-specific curricula is warranted.

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