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Examining Early Childhood Education's Influence on Future Success

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Examining Early Childhood Education's Influence on Future Success

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Project submitted in partial fulfillment of the
requirements for the
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Abstract

There are many factors that influence the long-term outcomes of a child. This paper researches the influence that early childhood education has on children from birth to compulsory school age and the child's future success as a student and member of society. Notable long-term research studies that are examined in this paper are The Perry Preschool Study, Chicago Longitudinal Study, The Abecedarian Projects, and Tennessee Voluntary Pre-K Study. The majority of research indicates that children that receive quality early childhood services are more prepared for school, have better grades, go further in their educational careers, are less likely to do drugs, and become higher earners in the long run. Factors that influence the student are examined as a conceptual framework for understanding how early education plays a role in children's futures.

Keywords: early childhood, education, future success

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Examining Early Childhood Education's Influence on Future Success

Early childhood education focuses on the educational experiences and developmental growth of children from birth through kindergarten. Early childhood education sets the goal for students to grow in cognitive development, enhance language and literacy skills, develop healthy social and emotional learning, and help students to become ready for compulsory grades.

Predominately early childhood education serves the preschool years, three-, four-, and five-year-old students. While early childhood certainly includes younger children, for example, Early Head Start, most children that receive any type of education before kindergarten are in a preschool program. Educational experiences at this age can be in many different settings. Settings can include preschool, daycare, Head Start, and home-based learning.

Early education is of great importance for social, emotional, and cognitive learning due to the rapid brain growth and development that occurs in young children. Children's brains are developing more from the ages of 0 to 6 than they will throughout their lives. In fact, 90% of brain growth will have already occurred before a child starts kindergarten, further showing the importance of a quality education before kindergarten (Healy, 2004).

Beyond being in a program, research has shown that the quality of the student's education is of significant importance for the long-term success of the student (Currie, 2021). Children go through many developmental stages and milestones in these years and quality education before entering compulsory school is widely viewed positively to help students flourish and to seek out future problems (Editors O.S.P., 2014).

Abundant research has shown that a child's social emotional, and cognitive development are greatly impacted by the experiences had during the early childhood years. Researching the long-term effects of receiving education in the early years is important because it provides an

understanding that is crucial for assessing its overall effectiveness and value. By researching the benefits of the long-term success of a child that is involved in a preschool program parents, educators, and policymakers can make better-informed decisions.

One such decision that could be impacted is universal preschool. In the US there is no universal preschool, meaning publicly funded preschool is not made available to all people. The long-term benefits of children involved in a quality preschool program are a major factor that policymakers are considering regarding universal preschool (Curran, 2015).

Objectives

By using currently existing research in early childhood education, this paper will examine the long-term effects of early childhood education with these objectives:

1. Examination of long-term outcomes of students that received early education compared to those that did not.
2. Examination of socio-emotional skills of students that participated in early education. Socio-emotional skills include social competence, self-regulation, and behavioral outcomes.
3. Examination of the impact of the quality of education on the long-term development of students. Different factors of what is quality education will be taken into account, such as, teacher qualifications and curriculum effectiveness.
4. Identification of factors that influence long-term outcomes, for example, parental involvement.

The primary goal of this research paper is to discover the long-term effects of early education on a child. While early education includes daycare centers and other informal learning

experiences this paper focuses primarily on experiences that are considered educational, such as Head Start, public preschool programs, and kindergarten.

Overview of Early Childhood Education in America

Early childhood education in America has been growing in popularity since single and married mothers began working outside of the home and needed somewhere for their children to be taken care for. At the beginning of early childhood education, there were several influential figures and theories that programs were based upon. Such influences and theories include Friedrich Froebel, Maria Montessori, Lev Vygotsky, and Jean Piaget (Takanishi, 1976).

If the United States was compared to other industrialized countries regarding early education the United States is further behind. It is further behind in the percentage of children enrolled in preschool programs and it undoubtedly does not have enough high-quality programs for economically disadvantaged families (Morgan, 2019). The U.S. Department of Education (2022) stated that “In 2020, about 55 percent of 3- to 5-year-olds were enrolled in school overall. The enrollment rate was higher for 5-year-olds than for 3- to 4-year-olds (84 vs. 40 percent)” (para 2). The U.S. Department of Education (2022) also declared, in the same statement, that “Research has shown that children’s lifelong well-being is positively associated with early childhood services, including formal schooling such as preschool and kindergarten; this relationship is especially noteworthy among children at greater risk of poor outcomes for lifelong well-being” (para 1).

Despite the fact that American preschools are behind the times when compared to other countries, preschool education is growing. In 1965 only 20% of four-year-olds attended some type of school (Barnett, 2005). The large leap in the past 50 years has a lot to do with Head Start. Head Start was founded in 1965 by President Johnson as part of his “war on poverty”. Head Start

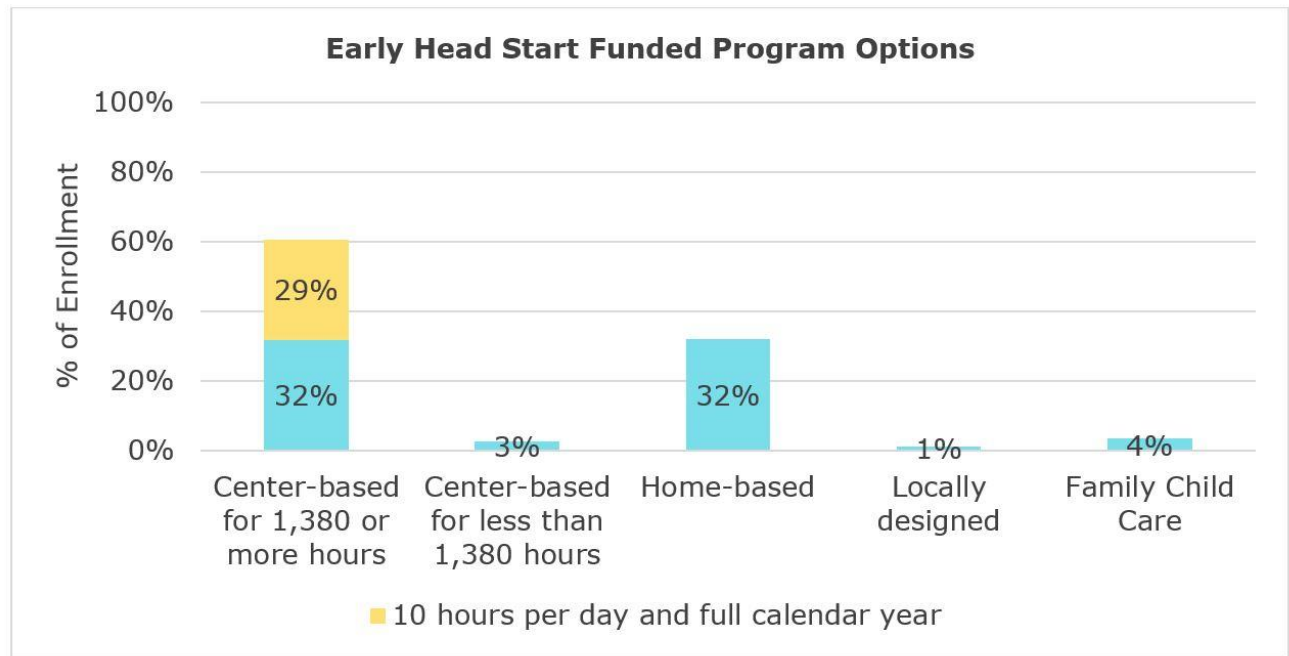
and Early Head Start are still serving disadvantaged children today. State-funded preschools that are separate from Head Start are on the rise and are steadily growing (Barnett, 2005).

Public preschools and Head Start programs are geared for three- and four-year-olds and include developmentally appropriate instruction to help students with cognitive learning and social-emotional learning. Nearly all preschool programs include pretend/dramatic play, art, reading and literacy, and motor skill work every day that the students attend school. There is a big focus on school readiness. Young children learn differently at this age than older children, but the building blocks for compulsory school are being laid. It is believed by many theorists and scholars that learning through play is, the best, and in some professional opinions, the only way for a preschool-age child to learn (Essame, 2020).

Children that are aged 0 until they turn three and can begin a preschool program are also served under the early childhood education umbrella. Since 1995 Early Head Start has been and still is the main public provider for children from birth to age three. Early Head Start programs are considered family-based services and support is given to mothers, fathers, and other caregivers—not only the child. Families can expect a range of programs for support, including home-based services and center-based services.

The majority of families utilize center-based services, but the home-based services are commonly employed. Infants and toddlers have different needs than older children and Early Head Start provides children with quality and developmentally appropriate care (ECLKC, 2022).

Chart 1 demonstrates the enrollment of different program options for Early Head Start.

Figure 1*Early Head Start Funded Program Options*

Note. From *Early Childhood Learning and Knowledge Center*, 2022.

(<https://eclkc.ohs.acf.hhs.gov/about-us/article/head-start-program-facts-fiscal-year-2021>)

Currently, kindergarten is not fully universal in the United States. The term “universal” is up for debate to many scholars and lawmakers, but in general universal means accessible to anyone who wants to attend, regardless of demographics- the age of the student and zoning for the proper school would be the only requirements. It is not unusual to see half-day programs for kindergarten, and most states mandate that at least a half-day program is available to students that meet age requirements. However, few states mandate that children must attend.

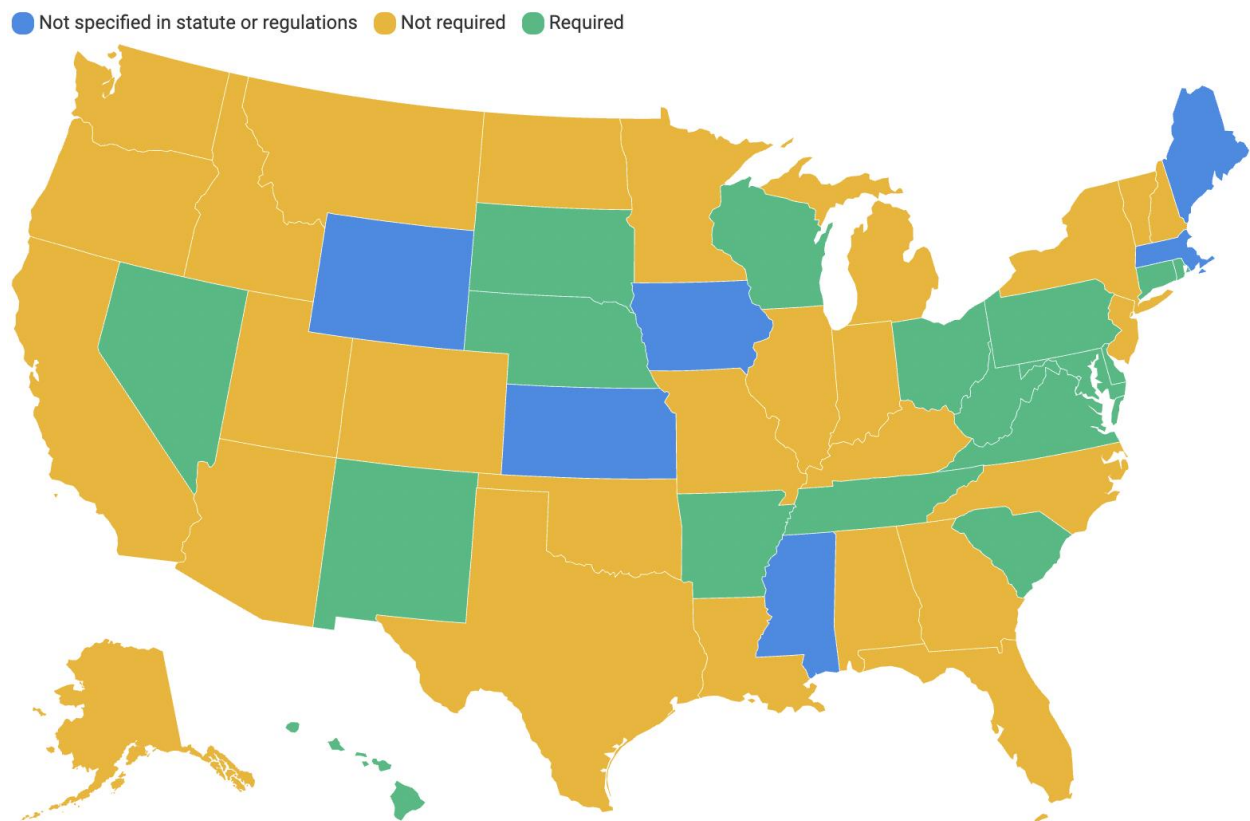
Compulsory kindergarten is on the upswing, in 2015 the number of States that required children to attend kindergarten was 15 (Snow, 2015). The latest statistic from National Center for Education Statistics (2020) shows that there are 20 States which require children that meet the

age cutoff to attend kindergarten, making it a compulsory grade for that State which is higher than five years earlier. Figure 2 illustrates which states mandate children to be enrolled in kindergarten.

Figure 2

Where Kindergarten is Required

Where Kindergarten Is Required



Note. From *Where Is Kindergarten Mandatory?*, by Amanda Gordon.

(<https://www.usnews.com/education/k12/articles/where-is-kindergarten-mandatory>)

The majority of children attend kindergarten, even though it is not mandated. The National Center for Education Statistics (2021) estimated that 3.6 million children attended public kindergarten in the fall of 2021. Less than half that amount, 1.4 million children attended

public preschool in the same semester. Because most children attend kindergarten most of the published research of the long-term benefits of early education focus on students that began their education before kindergarten and researchers pay attention to the differences between the children that attend preschool before kindergarten and those who begin school at kindergarten. A major focus in preschool is kindergarten-readiness. According to Weiland et al. (2021) evidence that children that are enrolled in preschool scored higher on standardized tests from kindergarten through third grade than their peers that did not attend preschool.

Short-Term Benefits

Short-term benefits are immediately evident or observed benefits for a child receiving early education care. The purpose of a review of short-term benefits in early childhood education is to provide an overview of what children have gained immediately in early education settings which often overflows into their long-term outcomes. By outlining a range of benefits an overview of immediate outcomes for early education students will be made clear. The importance of reviewing the short-term effects during a study of the long-term effects is made evident in the following ways:

1. Children change quickly in several domains during this period. Their brains are quite malleable during early education years. Cognitive, social-emotional, and physically and insight into the immediate changes are helpful.
2. Policy change can be greatly influenced by the short-term effects. Both, resources that are allocated on federal and state levels, and development of curriculum and programs.
3. A well-rounded understanding of how early education impacts a child's school readiness and milestones in development (Ansari et al., 2019).

There are short-term benefits for children that are involved in early education, two of which are early intervention and school readiness. When children are not reaching milestones or developing normally, early intervention will provide families with immediate action to care for or treat the child. Many services and curricula involve the whole family, parents, and other caretakers, in the education of children. For example, parenting classes are common in early education and these classes would immediately benefit the child. Many times, early intervention can help students with disabilities, for example, speech problems, from progressing and becoming a bigger problem that is harder to fix later. Early education teaches children skills that they need for positive social interactions (Boskic, 2010).

Early Intervention

For a child with developmental delays or other disabilities, programs and services are available to intervene and provide immediate positive changes. This is called early intervention. Early interventions are supports that are given to a child, their family, and educators either in a school-based setting or a home-based setting with the goal of reducing problems. As challenges arise for a child different therapy, for example, speech therapy or physical therapy, can help (Centers for Disease Control and Prevention, 2023). A few researchers (Almendingen et al, 2021, p 1) in the early childhood field have shown that the following are prevailing concerns that are addressed as early intervention “toileting, sleep, school readiness, health and hygiene, social skills development, anxiety (e.g., separation anxiety), and feeding”.

School Readiness

School readiness is defined by the Kentucky Department of Education (2023) as “each child enters school ready to engage in and benefit from early learning experiences that best promote the child’s success” (para. 1). Preschool and early childhood education should help a

child get to that goal. School readiness is one of the biggest short-term benefits for children receiving early education. According to a recent study conducted by The Ohio State University (2020), academic skills of preschoolers are higher than those who are not in preschool. The study aimed to show that attendance and the quality of education impacted the results of a child's school readiness.

School readiness is more than students being academically prepared to learn. Self-regulation is a skill that is crucial for school success (Denham et al., 2011). In a preschool class children are learning the complex skill of regulating themselves. Sharing with others, obeying school rules, and building the vocabulary to express themselves are a part of self-regulation. Skills for emotional maturity are modeled and taught in early childhood education. Students that learn these skills are ready to move on to academic learning.

Children that have behavior problems will benefit from early education when it comes to school readiness. When children have behavior problems in school research has shown that transitioning to school past preschool is a challenge (Garziano et al., 2014). Garziano found that when children with behavior disorders or are at risk for behavior disorders are involved with early intervention before kindergarten are more prepared for school and are less likely to need special education.

Notable Studies on Long-Term Effects

To study the long-term effects that early education has had on students, research must span over the years. It is not possible to know what long-term results are obtained until children reach milestones in the future. There are studies that include following the child from birth through elementary school to high school, college, and career. There are several notable research

studies that have been conducted and still are being conducted and continued. These studies and research will be examined in the following section.

The Perry Preschool Study

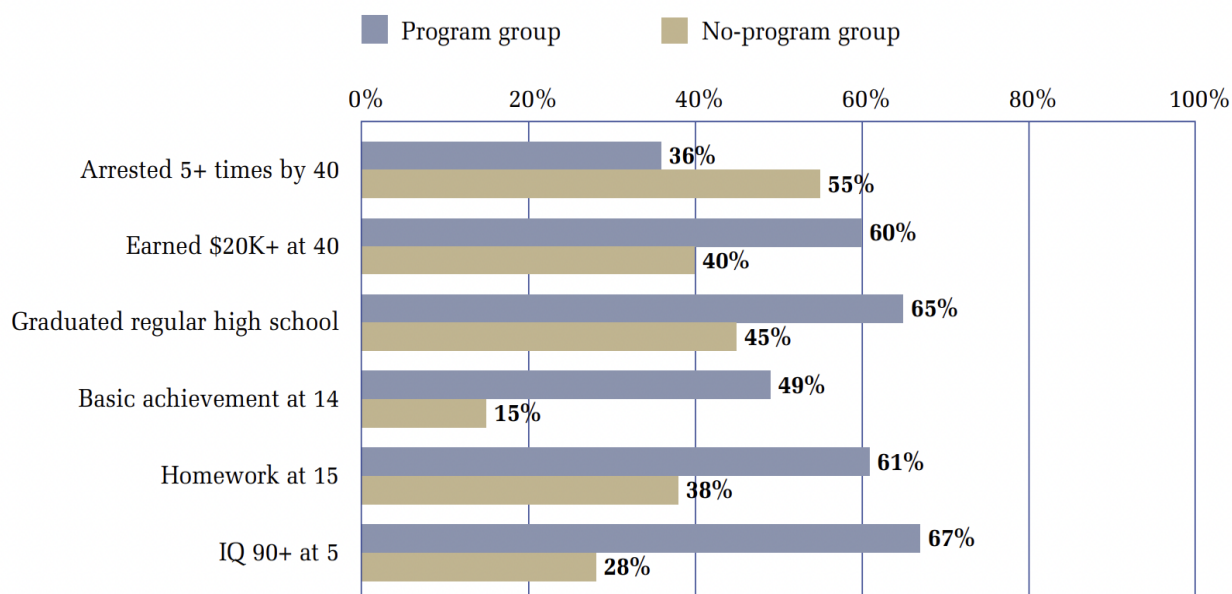
The Perry Preschool Project began operation in 1962 and was designed by Dr. David Weikart. Per the preliminary report the experiment was designed to see the long-term effects of a two-year early education program for black children that were “functionally retarded and culturally deprived” (Weikart, 1967, para 1 The goal was to serve underprivileged children and to prove that with early interventions children would be successful. The program is rated “effective” when implemented during two academic years that included classroom time and home visits (U.S. Department of Justice, 2020).

Home visits were a considerable component of the study because they involved parent and caregiver education. At the time of the study, the curriculum used was called the “Cognitive-Oriented Curriculum”. Cognitive-Oriented Curriculum is now known as “HighScope”. HighScope is a well-known curriculum that is still used. Data was collected from the participants and a control group yearly until children reached the age of eleven and then was collected again at ages: 14, 15, 19, 27, and 40 (American Public Media, n.d.).

Key findings for participants of the Perry Preschool Study compared to the control group include higher IQ scores through age eight, more likely to do homework, more likely to graduate high school, higher rates of employment and higher salaries, lower instances of arrest and crimes committed, and less drug use. Figure 3 shows major findings in the Perry Preschool Study when the program group is compared to the no-program group (Schweinhart, n.d.)

Figure 3

Major findings in Perry Preschool study



Note. Figure from *The High/Scope Perry Preschool Study Through Age 40*, by . Schweinhart, Ph.D.

Chicago Longitudinal Study

The Chicago Longitudinal Study is a federally funded study that has been following children from disadvantaged backgrounds in Chicago. Children that are part of the study were students in a program called the Child-Parent Center Program. The Child-Parent Center program is a part of Chicago Public Schools and was started in 1967. The Chicago Longitudinal Study began in 1986 (University of Minnesota, 2023). Close to 1,000 children and their families participated in the initial study and are still being interviewed today. It is important to note that the control group of students attended a regular government-funded preschool. The main objectives of the study follow and are directly quoted from the study overview written by Arthur

Reynolds (1999) the director of the Chicago Longitudinal Study of the Child-Parent Centers of Chicago:

1. To document patterns of school performance and social competence throughout the school-age years, including their school achievement and attitudes, academic progress, and psychosocial development.
2. To evaluate the effects of the Child-Parent Center and Expansion Program on child and youth development. Children and families had the opportunity to participate in this unique Head Start type early childhood intervention from ages 3 to 9 (preschool to third grade).
3. To identify and better understand the educational and psychosocial pathways through which the effects of early childhood experiences are manifested, and more generally, through which scholastic and behavioral development proceeds.
4. To investigate the contributions to children's educational and social development of a variety of personal, family, school, and community factors, especially those that can be altered by program (p. 1)

Key Findings for participants of the Chicago Longitudinal Study compared to the control group in regular a non-Child-Parent Center preschool program are higher scores on tests in math and reading, less likely to be in special education, less likely to be retained, more likely to have family support (Crane, 1998).

The Abecedarian Project

According to The University of North Carolina (n.d.), The Abecedarian Project was started in 1972 and is a landmark study that followed participants from infancy into adulthood. The participants were part of a comprehensive and intense program, which was for low-income

families, from infancy until age five. The Abecedarian Project supported the children and gave family support, provided full-time care, healthcare, and was it was educational.

Key findings from the Abecedarian Project were found when there was a long-term follow-up. There was also a control group to compare with the children that were a part of the project. The educational experiences were the “Abecedarian Approach”, which had four key elements: 1. Language Priority, 2. Conversational Reading, 3. Enriched Caregiving, and 4. LearningGames. The LearningGames are a registered trademark of the Abecedarian Project that kept children interested in learning. LearningGames are available curriculum for use today. Follow-up with participants of the Abecedarian Project were at ages 5, 8, 12, 15, 21, and 30, and then in their mid-thirties.

Key findings for participants of the Abecedarian Project listed in chronological order of when the assessments were made and compared to the control group: higher I.Q. scores through age 15, higher test scores in elementary and secondary school (math and reading), lower levels of grade retention, fewer special education placement, more likely to attend college, more likely to have a skilled job, less likely to be a teen parent, less likely to smoke marijuana, less self-reported depressive symptoms, more likely to hold a Bachelor’s degree, more likely to hold a job, better health.

The Tennessee Voluntary Pre-K Study

The Tennessee Voluntary Pre-K Study is one of the most recent and notable research projects, it began in 2009 and examines the effects of preschool on underprivileged children in three phases. The study sought to find the immediate effects of preschool attendance on math, literacy, behavior, and language. The study aimed to find what the long-term effects are too, including, academic achievement in later grades, rate of grade retention, and special education

placement. Lastly, the study set out to discover if there are subgroups of children that benefit more from early education. The study also considers how Covid 19 has affected students during the third phase (Vanderbilt University, n.d.).

Key findings for the Tennessee Voluntary Pre-K Study for participants versus the control group (Snow, 2015):

- Assessed as socially competent and appropriate behaviors.
- Higher assessment scores in math and literacy
- High growth for dual-language learners.
- Scored lower on assessments by the second grade.

Professionals in the field of early education are having a hard time coming to terms with the Tennessee Voluntary Pre-K Study findings for the long-term effects. While there was no surprise to professionals in the short-term findings that quality preschool raised participants scores, it was shocking to see *regression* in the second grade and worse scores than peers in the control group that had not attended preschool by the third grade (Weiland, et al., 2022). It is important to note this study because it is newer and has different results than the Perry Preschool Study and The Abecedarian Project. The study has not followed students into adulthood, yet, as older studies have. Understanding the plethora of factors that influence the long-term effects can lead to deciphering meaning from the notable research studies.

Table 1 summarizes the beneficial longer-term effects of early intervention from key studies shared above.

Table 1*Summary of Long-Term Benefit Studies*

Key Findings	Study Name			
	Perry Preschool	Chicago Longitudinal	Abecedarian Project	Tennessee Voluntary Pre-K Study
Higher IQ scores through age eight	X	X	X	X
Homework Completion	X		X	
High School Graduation	X	X	X	
Higher Rates of employment and salaries	X	X	X	
Decrease Criminal Activity / Arrests	X	X	X	
Decreased Drug Use	X	X	X	

Theories and Models of Early Childhood Education

Early childhood education theory came to prominence in the 19th century by theorist Friedrich Froebel, a German reformer and educator. Since the 19th century there has been a great deal of early childhood theorists and educators that have uncovered the importance of an early foundation. Theorists of great importance in the field include Montessori, Vygotsky, and Piaget (Anderson, 2005). Models were developed by studying theories. There are many models that preschools are based on, such as the Montessori Method, Reggio Emilia approach, HighScope, Direct Instruction, and Project Approach. The National Association for the Education of Young Children (commonly known as NAEYC) was founded in the US in 1926. NAEYC is still in operation and is responsible for improving the quality of education for young children. NAEYC

is not a model or theory for education but is a commonly accepted professional association that has done work toward promoting quality education programs. Familiarity with NAYEC could be a factor in understanding the nuances of early childhood education.

Theory and curriculum models carry significant weight on effective learning. Theory and curriculum models that are evidence-based are important to researching the long-term effects of early education. According to Woodhead's (2006) paper, "Changing perspectives on early childhood: theory, research and policy", a child's role in family, community, and society carries weight in how a child develops and society and cultural norms are a factor in choosing certain curriculum models that a class will follow.

Friedrich Froebel

Froebel is credited with founding kindergarten in the 19th century and theorized that children learn all things through play. Early childhood education holds true to this standard still and most early learning classes are play-based. Play-based learning can come in different forms and varies from solely child-led "free play" to teacher-guided play and can continue on to teacher-directed play, where a child would have little agency over the direction of play (University of New Hampshire, 2021) Many scholars would argue that Froebel is the most significant theorist in early childhood education. Froebel focused on free play, and teachers acting as guides for students. Today, Froebel's theory is put into practice by educators helping children make choices and by providing children with the opportunities to move and play (James, 2023).

Maria Montessori

Montessori is another theorist that still holds relevant today. Montessori was an Italian educator that was born in 1870. She is the founder of the “Montessori Method” that is used in classrooms and Montessori schools throughout the world today. Montessori is quoted in saying:

A child who has become master of his acts through long and repeated exercises, and who has been encouraged by the pleasant and interesting activities in which he has been engaged, is a child filled with health and joy and remarkable for his calmness and discipline (American Montessori Society, n.d., para 6).

The Montessori method is not a conventional teaching method and relies on using concrete simple materials that children work with independently. The “guide” of the classroom is what a “teacher” in a common classroom would be called, and the guides are highly trained. In the Montessori method it is child-centered, older children guide younger children, and students set their own learning pace (Meinke, 2019).

Lev Vygotsky

Vygotsky was a Russian psychologist born in the late 1800s that became prominent because of his concept of “The Zone of Proximal Development” or ZPD. ZPD is defined by Vygotsky (1978) as "The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (p. 86). ZPD has helped educators determine how to use “scaffolding”, a very popular teaching technique. Scaffolding can be explained as a teaching technique where teachers offer their students supports while gradually removing supports so the student can do the work on their own.

Jean Piaget

Piaget was a Swiss psychologist that was born in the late 1800s. His theory of cognitive development is what he is best known for. The theory of cognitive development states that all children go through the same four stages of development: the sensorimotor stage is zero to two years, preoperational stage is two to seven, concrete operational stage is seven to 11 years, and formal operational stage is 11 years and up (Piaget, 1963). Piaget proposed that the way children think is different from the way adults think, therefore should be taught according to the operating stage the child is currently in. The majority of children that are serviced by early education are in the preoperational stage. The Preoperational stage can be explained as a developmental period where children are learning to use mental representation. The work that Piaget did influenced modern-day learning specifically stage-based learning.

Popular Models

Curriculum models are the theoretical framework that is needed to operate a program. Most models have apparently been developed by following the teachings of the theorists. Some schools and educators follow models explicitly, while others take from several models to design a curriculum that benefits a diverse range of students. There are several popular early childhood education models that are implemented worldwide. Some of the most well-known curriculum models are the Montessori Method, which was developed by theorist Maria Montessori, the Reggio Emilia approach from Italy, HighScope curriculum which was developed during the Perry Preschool Project, Direct Instruction, and Project Approach (Lunnenburg, 2011). Each model has its own unique characteristics and its own approaches to learning.

Conceptual Framework and Factors Influencing Long-Term Outcomes

The theoretical framework for understanding early childhood education is established, the conceptual framework will go deeper into specific factors and variables that shape long-term outcomes. It is critical to understand the factors and variables that are influential in student outcomes over time to build a conceptual framework. When looking at the research that has been conducted on the effectiveness of early childhood education there are clear components that should be used to build the framework for this paper. They are program quality, teacher-child interaction, parental involvement, economic and social factors, cultural influences, developmental trajectories, relationships, and some foundational elements. The conceptual framework will highlight the components separately while recognizing that components influence each other. For example, program quality can impact parent involvement by making opportunities for parents to be involved.

Program Quality

The quality of the early education program is called into question in all the long-term research that was looked at in this paper. It is of great importance to know what the quality of the program is to assess the effectiveness of the program. Consideration of the structure of the quality includes the curriculum that is used and the learning environment. Teacher qualifications and education have been shown to affect the quality as well. According to Barnett (2003), teachers that are in classrooms in kindergarten and above all have bachelor's degrees or higher. Most teachers in public preschools have bachelor's degrees, and less than half of the Head Start teachers have bachelor's degrees even though teachers with a better education are more effective. Some researchers believe that teacher qualifications are the most important factor in assessing a quality program. Lee (2018, p. 1) suggests "...teacher quality, compared with other commonly

measured school-level factors such as class size, curriculum, school climate, and technology, is the most influential factor in students' educational outcomes”.

The term “quality” is up for debate, but there is some general consensus. According to the National Association for the Education of Young Children (NAEYC) all high-quality preschool programs have something in common: developmentally appropriate practice (n.d.). What makes a *quality* program? There are many acceptable ways to measure quality, including the use of the Quality Rating Improvement System (QRIS) or Environment Rating Scales (ERS).

To measure the quality of the early education programs with ERS, one of four measuring standards, depending on the age of children in the program would be implemented. ERS scales are widely accepted tools for monitoring and determining quality (Gordon et al, 2015). The four scales are used based on the age of the students. For example, the Early Childhood Environment Rating Scale (ECERS) would be implemented to determine the quality of a class of three- to five-year-old students.

ECERS scores are divided into six subscales, space and furnishings, personal care routines, language and literacy, learning activities, interaction, and program structure, which have 35 items within (Environment Rating Scales®, n.d.). The other scales in ERS are Infant/Toddler Environment Ratings Scales (ITERS), School-Age Care Environment Rating Scale (SACERS), and Family Child Care Environment Rating Scale (FCCERS).

The Quality Rating Improvement System (QRIS) is another tool that schools and programs can use to assess quality. A QRIS is a star rating system, much like what is familiar in restaurants and hotels. Schools and programs use the rating system to check their current situation and develop ways to add quality to the program to get more stars. Often, parents are

able to look up how many stars programs have earned when choosing where their child will attend school. According to Mitchell (2005), QRIS have three categories:

1. Structure—the size of the group of students and the ratio of staff to students
2. Staff qualifications and characteristics—the teacher’s formal education, specific training, and experience; the administrator’s experience; and staff compensation and turnover
3. Program dynamics—this category has several aspects
 - a. Curriculum integrated across developmental areas (cognitive, language, approaches to learning, social, emotional, etc.)
 - b. Nature of the learning environment (teacher-child interactions, positive teacher behaviors, small-group activities, and implementation of the curriculum)
 - c. Engagement of parents, especially in educational activities at home with their children (reading to children, talking with them, etc.). (p. 30)

Teacher-Child Interactions

When it comes to the component of teacher-child interactions, warm, respectful, and loving interactions are characteristics of a supportive relationship. These interactions play a pivotal role in long-term outcomes, research has shown that supportive teacher-child interactions are associated with cognitive and social-emotional development (Kirkland, 2013). In The Perry Preschool Project and Chicago Longitudinal Study, positive relationships with students were part of the program and curriculum.

The category of teacher-child interactions includes the social interactions, facilitation of instruction by the teacher, classroom management, and behavior support. Interactions are named as resources for a student’s development (Hamre et al., 2014). Hamre (2014) with The University of Virginia conducted a study searching for evidence of association between teacher-child

interactions and a preschooler's development. The study concluded that "Children in classrooms with more responsive teachers made greater gains in early literacy and language, developed better working memory skills, and decreased in levels of teacher-report conflict." (p. 1270).

Teachers need specialized training to be able to provide quality teacher-child interactions. Providing students with a responsive interaction is more than being a warm person to the child and there is professional development programs that teachers use to gain and freshen these skills. Dealing with behavior in a developmentally appropriate way, for example, positive attention, is a major part of specialized training to improve relationships (Fawley et al., 2020). Teachers that have better discipline techniques and teaching strategies are better equipped to build the type of relationships that support a child's growth.

Parental Involvement

Parental involvement was a large component of the reviewed long-term studies and is still an important element of early education. The Perry Preschool Study had weekly one-and-a-half-hour home visits. The time spent at home visits gave teachers the opportunity to teach parents and other caregivers how to support their child (U.S. Department of Justice, 2011). Parents that actively and attentively engage in their child's school create a positive and nurturing atmosphere at home. Having an atmosphere like this at home will lead to improved academics, enhanced language skills, and children that are more likely to be excited for school (Froiland, 2021).

Parental involvement in a child's education will reach further than just improved academics and enhanced language skills. A child's emotional development is impacted by their parent's involvement too. Participation in school activities and discussing school with each other promotes positive social interactions for children to mimic which overall effects a child's self-esteem and emotional health. Teachers are better able to teach their students when they have an

understanding of the child's home life, culture, and dynamics. A parent showing up to their child's school gives teachers this insight (Kelty, 2020).

Parental involvement from children from disadvantaged homes are especially critical. Academic success or failure of a child, the child's mental health, and their emotional health can all be predicted by parental income level, education level, and occupation (Pakulak et al., 2017). This revelation has strongly directed educators to implement parental outreach and involvement programs that can help reduce these risks. Children from disadvantaged homes do not receive as much interaction from their parents as their peers from more affluent families. There are varying reasons for why this is the case, some of which are surmised to be: logistics—poor parents may not have transportation, social class differences between family and school which create an unwelcome or hostile environment, difference in parenting styles, non-traditional work hours, and language barrier (Li & Fischer, 2017).

Economic and Social Factors

Economic and social factors are known components that significantly shape long-term outcomes of early childhood education (U.S. Department of Health and Human Services, n.d.). These factors show the context in which children develop and grow outside of a school program. Economic factors can include family income level, what school options families have available to them, resources at home and in the community that the child can access, and employment opportunities for the child's parents or caregivers. Some of the social factors that play a role in a child's development are education levels, parenting styles, and family structure. Factors vary from child to child and the factors can interact with each other in different ways, which will shape the experiences of the child.

The economic position that families are in provides insight into a child's future outcome, whether it is a low background or a high one. A survey was conducted (Sparks & Harwin, 2017) of households that grossed \$30,000 or less per year and households that grossed \$75,000 or more per year to analyze if families from different income levels have disparities that schools may be overlooking. When asked "Did you move so your child could attend a particular school?" 19% with low-income said "yes" compared to 48% in the high-income group. When asked "Did your child get the school you most wanted him or her to attend?" 27% of the low-income group did not, and only 18% of the high-income group did not. When parents were asked if they volunteered at their child's school 24% of the low-income group had and 53% of the high-income group had (para. 3).

Job and employment opportunity directly affects the family's economic position and beyond that, steady employment has been associated with a child's overall well-being (Pilkauskas et al., 2017). The child's well-being is affected when parents do not have steady employment because of the disruptions it causes in the child's life. Disruptions in healthcare coverage, routines, and resources are all affected. Children will have varied outcomes based on the working arrangement their parents have that should be considered, for example, two working parents, one working parent, and a stay-at-home parent, the schedule and hours of employment, and part-time versus full-time employment (Friedman, 2018).

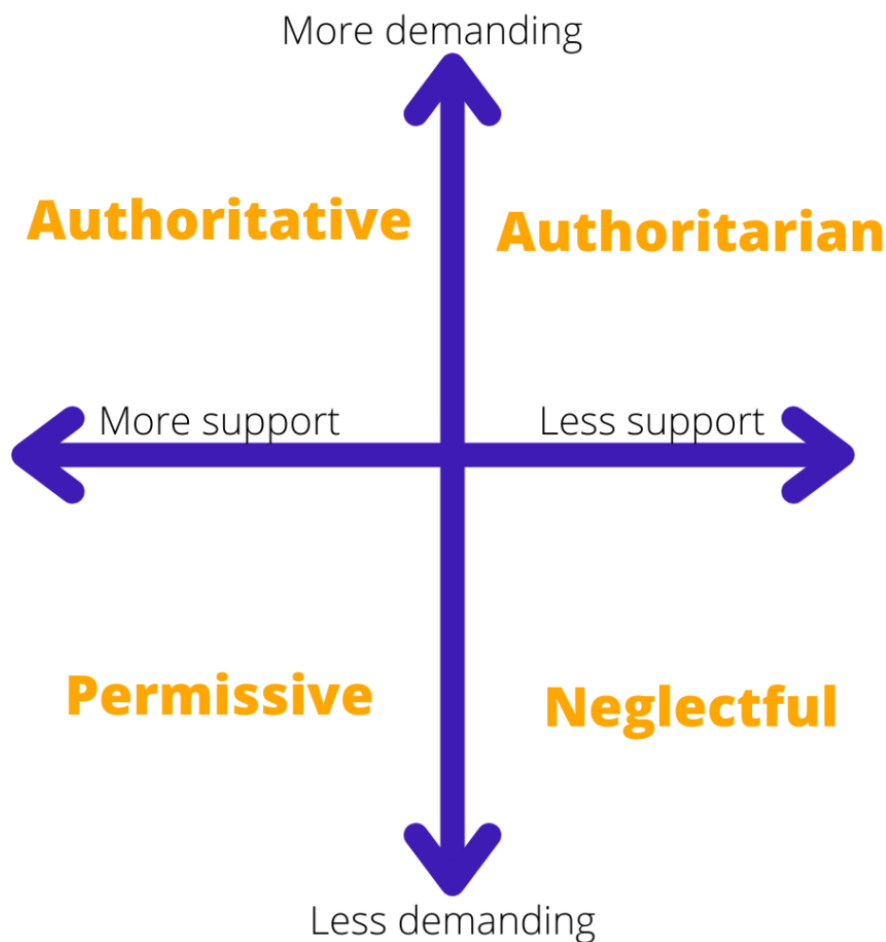
Parenting styles and practices have an impact on the development outcomes of a child. There are many factors that come together that establish a family's parenting style, including culture, ethnicity, religion, socioeconomic status, and family structure (Sanvictores & Mendez, 2022). There are four main styles of parenting on a scale that was created by Diana Baumrind (Kemp, 2004), each with their own unique characteristics, the parenting styles are Permissive

(commonly called indulgent), Authoritative, Neglectful (commonly called uninvolved), and Authoritarian. The parenting styles are two-dimensional on a scale of demandingness and responsiveness.

Permissive parenting style is low in demandingness and high in responsiveness. Characteristics of permissive parenting style are few rules or boundaries set, and parents do not like to say “no”. Children that were raised by permissive parents tend to have developed poorer emotional regulation and have poor self-control. Authoritative parenting style is high in demandingness and high in responsiveness. Characteristics of authoritative parenting styles are age-appropriate expectations for children, set rules and boundaries, and guidance. Children that were raised by authoritative parents are independent, secure, and have the highest academic performance when comparing the parenting styles outcomes. Early education experts agree that authoritative parenting is the prime parenting style. Authoritarian parenting style is high in demandingness and low in responsiveness. Characteristics of authoritarian parenting styles is the expectation of obedience, stern discipline, and one-way communication. Children that were raised by authoritarian parents have the tendencies to be insecure, have a rebellious stage, and internalize. Neglectful parenting is low in demandingness and low in responsiveness. Characteristics of the neglectful parenting style are indifference, lack of involvement, and often the parent is suffering from a mental illness or addiction. Children that were raised by neglectful parents tend to have poor school achievement, poor self-regulation, and are prone to mental health issues (Kemp, 2004). Figure 3 summarizes the parenting styles and what their positions are on the demandingness and responsiveness scale.

Figure 4

Parenting styles and their demandingness and responsiveness



Note. From *Is There a Right Parenting Style* by Pusat et al., 2021.

Family structure is a component that can determine the parenting style that is used, for example, a multi-generational home with several parenting figures in a child's life. Family structure, in reference to a child's development, describes the child's family that is in the home and sometimes the child's caretakers. Two married parents, single parents, multi-generational homes, and a child living with a grandparent or other non-parent caretaker are all examples of what a family structure could be for a young child. The structure of the family has changed over

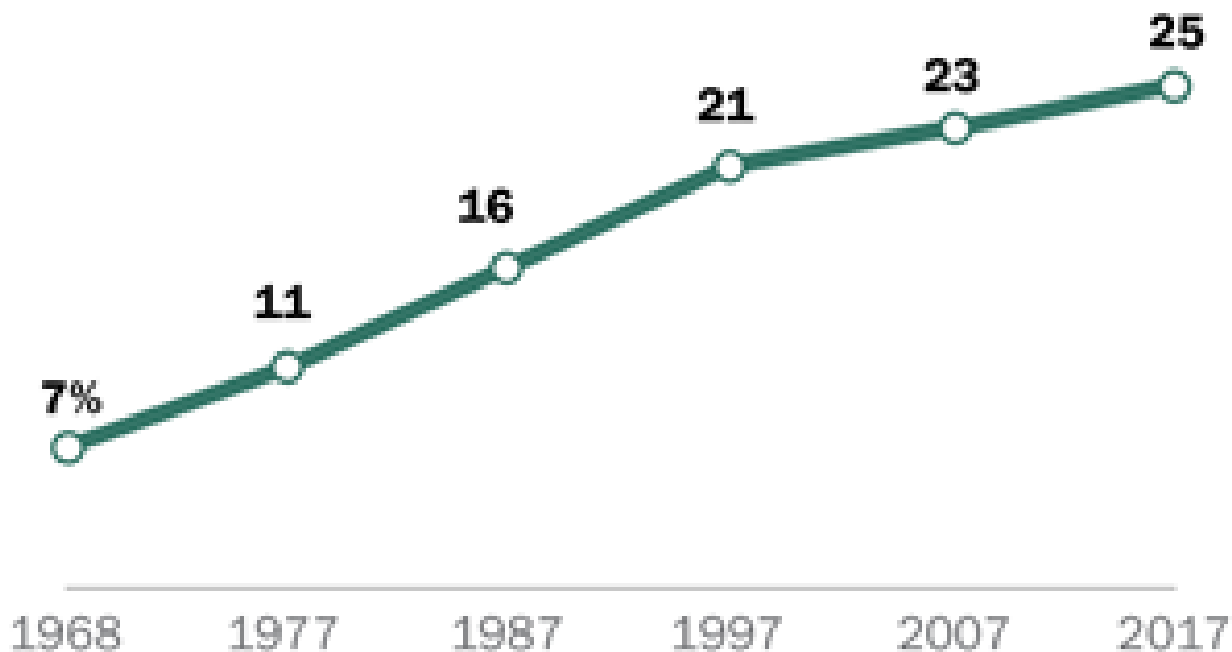
the last several decades. Single parenthood has been steadily climbing since the 1960's. Figure 5 illustrates the steady climb of single parents in the United States from 7% to 25% in the last 49 years.

Figure 5

Percentage of parents that are single from 1968 through 2017

One-in-four U.S. parents are unmarried

% unmarried, among all parents living with a child



Note: From *Pew Research Center*. 2017. (https://www.pewresearch.org/social-trends/2018/04/25/the-changing-profile-of-unmarried-parents/04-24-18_singleparents-00/)

Research has shown that children have the best outcomes when they come from a home with their two married biological parents (Pollok & Ginther, 2003). There are multiple reasons

that children living with both parents have better long-term outcomes. First, economically a married couple is making more money and have better advantages than a single parent or even two parents that are co-habituating but not married. There is also less interruption to a child's life when their parents remain married. When a change, such as divorce occurs, changes such as moving take place, which interrupt the child's life and affect them negatively. There are steady childcare and living arrangements in place for children living with both parents.

Cultural Influences

Cultural influences play a pivotal role in a child's early development. Cultural influences have three considerable domains in which they affect a child's development: psychologically, emotionally, and cognitively (Pumariega & Joshi, 2010). For a child cultural influences during early development are influenced by beliefs, value, and traditions of the people in the child's group. Cultural beliefs and values differ among people and not all children will have the same influences. For example, in Japanese culture education is taken very seriously. Parents will build a rapport with their child's teacher and children are expected to take school seriously. Other cultures may value social development. Cultural values can influence the attitude of parents, along with the choices they make for where and if their child will be involved in early education at all.

Language and communication is an important part of culture and its role in early childhood development is significant. Children are developing language and communication skills at a fast pace in the early years, the home language, cultural norms revolving around communication, and school language differing from what they hear at home can be impactful on language development. Teachers in early education need the training to support students and families that speak languages other than English. In state-funded preschool programs almost

30% of students are English Language Learners (Mitchell, 2018). Head Start programs have the same number, nearly 30% of Head Start student are learning English (U.S. Department of Health and Human Services, 2023).

Environmental Context

The environment of the classroom is a broad category that has many factors to consider. The environment includes the physical layout of the room, the comfort level such as temperature and furniture, and good organization. The environment is also the classroom climate and social interactions. Bronfenbrenner's ecological systems theory states that children's development is shaped by their settings (Bronfenbrenner, 1979).

The social interactions in the class can be student-to-teacher and student-to-student. Finally, the resources that are available to both teachers and students are components of the long-term effects of early education. In poorer areas the resources in school are less than in more affluent areas. When schools are located in higher poverty areas the lack of resources impacts effectiveness of cognitive and social development of students (Commonwealth Institute, 2014).

The environmental context outside of school can vary greatly from student to student. Inside of the classroom it will be the same for all students, but the factors outside of school must be considered. The environment of the student includes their family environment, their community and its resources, and the diverse culture of students.

Parental support and parental involvement at the school has been shown to have a huge effect on students. Furthermore, parents from low-income households, which are already at risk for poor academic achievement, have been unable to put in a great deal of involvement in their child's school life as described in the parental-involvement section, but their involvement at home is low as well (Gay et al., 2021). A great deal of research on the long-term benefits of early

education has been conducted on children living well under the poverty line, an important environmental component to the study. In the Perry Preschool Study, The Abecedarian Project, and Chicago Longitudinal Study all served disadvantaged students.

Developmental Trajectories

Developmental trajectories are patterns of growth and change that occur in development over time. It is the path that a child is following (Carroll, 2009). Developmental trajectories that should be included in examining how early learning influences outcomes are individual differences in cognition, social and emotional abilities, language, and motor skills. By using several different domains research is more comprehensive. The development differences in individual students lead to specific outcomes in academic achievement and social-emotional maturity. Early childhood education, if it is high-quality, can influence a child's trajectory by encouraging cognition, social and emotional abilities, language, and motor skills. Developmental trajectories will vary from child to child. While some stay on their trajectory and progress or accelerate, some children will weave in and out of theirs (de la Osa et al., 2022).

Relationships

Relationships and interactions that children form and make during early childhood have an impact on their long-term outcomes and the quality of care that the child receives in the first three years is crucial for their development. According to Shirvanian & Michael (2017), "Young children whose physiological and psychological needs are satisfied develop self-confidence, advanced cognitive abilities, and self-regulation capacities" (p. 97).

Secure attachment theory was introduced by psychologist James Bowlby in the 1970's and is the idea that when a child's needs are met, they are able to form bonds with their caretakers (Shirvanian & Michael, 2017). Bonds will be formed with the parents and caretakers

of the child and studies have proven that attachment is the foundation for socioemotional and cognitive development. There are four types of attachment a child develops based on their caregiver's response in Bowlby's theory (Benoit, 2004).

First, is secure attachment. Secure attachment is formed from caregivers that react quickly to the child's needs and is responsive to the child's needs. The second is insecure-avoidant attachment. This type of attachment is formed when a caregiver is unresponsive to the child's needs and uncaring. The third is insecure-ambivalent. This type of attachment is developed when caregivers are inconsistent with taking care of the child's needs. Fourth and last, is insecure-disorganized attachment. This type of attachment develops from abusive care. Figure 6 illustrates on a grid the levels of anxiety children encounter when separated from their caregivers and the levels of the child's desire for proximity to their caregivers.

Figure 6

Attachment Theory Grid. Levels of anxiety and avoidance

	Low Anxiety	High Anxiety
High Avoidance	Secure	Ambivalent
Low Avoidance	Avoidant	Abusive

Relationships that children form with their peers and interactions that occur are also a factor in long-term outcomes. Due to how important social skill development is for a young child, positive peer interactions impact outcomes by the acquisition of empathy, cooperation, and conflict-resolution capabilities (Domínguez et al., 2010). Children that have the ability to create healthy peer relationships during the preschool years are more likely to progress in their development and make meaningful relationships in the future, which leads to emotional and social well-being.

The relationships that children have when they are young also have effects on a child's language and communication. Relationships with peers, family, and other caretakers directly

have a hand in language development (Stephens, 2007). Language skills can be used by young children to set a foundation for success. Brain neurons are activated when a young child is stimulated through responsive language and building detailed pathways for future learning. Strong language and communication skills are the basis for long-term cognitive and social skill development.

Foundational Elements

There are known foundational elements in early childhood education classrooms and programs that promote positive outcomes in the long-term. These factors are important to note, whether a program is implementing developmentally appropriate learning or not, when studying the research. The foundational elements can be used for examination and analyzation of the other factors that make up the conceptual framework, such as program quality, teacher-child interaction, parental involvement, economic and social factors, cultural influences, developmental trajectories, relationships, and how they influence outcomes.

One early foundational element that plays a role in long-term outcomes is the type of environment that the child had as an infant (Weisleder & Fernald, 2013). Infancy is a vital brain development period when a child is making neural connections, and slower brain development as an infant predicts academic difficulties in the future. If an infant was in a quality early care program teachers would be monitoring milestones and starting early interventions if they were needed. Responsive caregiving, bountiful language play such as peek-a-boo, and age-appropriate activities lay the groundwork for rich development later.

Social and emotional learning (SEL) is defined the Collaborative for Academic, Social, and Emotional Learning (2023):

The process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions. (para. 1)

Social-emotional learning and development skills are another important foundational element of early education. Social and emotional learning has been shown to be crucial for academic and life success (Ferreira et al., 2021). On the opposite side, neglecting to implement social-emotional learning at a young age can have negative outcomes on a child, such as depression and anxiety from internalizing behaviors.

Another foundational element in an early childhood classroom is language and literacy skills. From rich and meaningful interactions with an infant and toddler to literacy development by the means of read alouds and a print rich classroom in preschool, early language and literacy skills acquired in early childhood education, or not acquired in some cases, have a huge impact on long-term outcomes (Strickland & Riley-Ayers, 2006). Building a love for reading at a young age has been shown to encourage a vast vocabulary (Rich, n.d.). There are milestones that children should be reaching in language and literacy starting at a young age. An early education program that is implementing the foundational element of language and literacy would be able to notice if a child was not reaching milestones and begin intervention before a bigger problem occurred in the future. Figure 7 illustrates the type of milestones that trained early education professionals are keeping track of and monitoring.

Figure 7

Example of milestones for language development

Age	Milestone Trick	Speech/Language	Hearing/Understanding
3 Months	3 Letter Word = “Coo”	Coos and smiles Cries differently for different needs	Recognizes your voice May stay quiet/smile when spoken to
6 Months	6 Letter Word = “Babble”	Babbles; Laughs and giggles more Vocalizes excitement and displeasure	Notices sound, music, changes in tone of voice; Moves eyes toward sound
9 Months	9 Letter Word = “Imitation”	Imitates speech/non-speech sounds Babbles longer strings of sounds	Imitates actions and gestures Looks at objects when talked about
12 Months	1-2 Words	1-2 word vocabulary Meaningful use of “mama” and “dada”	Understands simple phrases Recognizes words for common items
18 Months	18 Words	Vocabulary of 18 words (10-20 words) Repeats words overheard in convo	Follows simple commands/questions Points to pictures/objects in book
2 Years	2 Word Phrases	Uses 2 word phrases Vocabulary of 50 words or more	Follows 2 step directions Uses gestures during pretend play
3 Years	3 Word Phrases	Uses 3 word phrases Vocabulary of 200 words or more	Understands spatial/time concepts Understands pronouns/plurals
4 Years	4 or More Word Sentences	Uses 4 or more word sentences Uses 4 or more sentences to tell story	Understands how/why questions Groups objects; Identifies colors

Note. From *OpenMed*, 2021 (<https://www.openmed.co.in/2021/09/pediatrics-language-milestones-mnemonic.html>)

The final foundational element that promotes positive outcomes is play based learning. Play based learning is not a new concept. As mentioned previously, Piaget was an avid believer that early learning is an essential key to the development of young children. Play based learning is nuanced and can be hard to decipher between play-based learning and regular play (Danniels & Pyle, 2018). Types of play that are identified in the early learning setting are free play, sociodramatic play, and guided play. Free play is when children have freedom to choose what and how to play.

Free play is known as “child-guided” and is beneficial for children because they can get creative and can explore. Sociodramatic play, commonly called dramatic or pretend play, is when a child takes on a role and acts, for example in a play kitchen a child may be pretending to be a chef. Sociodramatic play is usually child led but can sometimes be guided by a teacher or

mutually led by child and teacher. Guided play is set up by a teacher to guide learning. The degree from how much guidance the teacher gives can vary. Examples of guided play would be a nature walk outside or playing a board game, guided play can be distinguished from free play by observing the role of the teacher.

Policy Considerations

Policymakers, educators, and parents make decisions about early childhood education which will go into practice and law. The decisions made will make a difference in the economy, society, and of course the children's lives. Knowledge from the research that is in this paper helps the decision-makers. The following section will examine policies already in place and show recommendations for enhancing early childhood education.

Current Policies

The U.S. government does not have a policy for early childhood education (Kamerman & Gatenio-Gabel, 2015). States are largely left with the responsibility to make decisions regarding early childhood education policies. One exception is Head Start, its programs are federally run. The majority of state-funded early childcare focus goes to children that are disadvantaged, disadvantaged could be economically, cognitively, or physically. As discussed in the overview of early education in America section, there are some states that have made kindergarten compulsory and others that have not. There are currently no states that have made school compulsory for children under five, and it is not a debate to do so.

Universal services being made available, however, is debated. Some educators, politicians, and parents believe that preschool for three and four-year-olds should be available for parents who choose to enroll their children. The Every Student Succeeds Act (ESSA) is a federal act that has placed new importance on preschool.

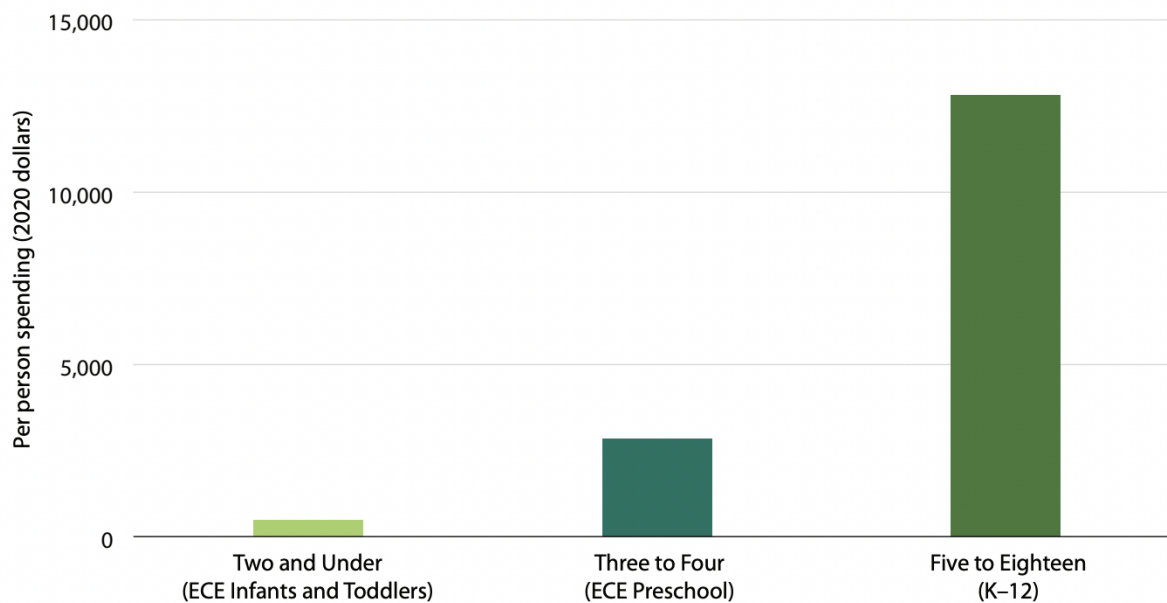
Every Student Succeeds Act (ESSA)

ESSA is a bipartisan act that has been signed into law since 2015. ESSA is a replacement for the No Child Left Behind Act from 2002. In terms of preschool, ESSA has made an investment in developing quality preschool programs in the country (U.S Department of Education, 2018). States can apply for and get grants for developing high-quality preschool programs under ESSA. Every year there is 250 million dollars available for states to apply for through the grant. The grants must be used for assessing the quality of current programs, making plans for improvements, providing information for parents about preschool, and then professional development for preschool educators. The money from the grant is federal, but the states decide how to use the money within these parameters.

Even with ESSA, the investment that the government has put into early childhood education does not come close to the investment in older children (Davis & Sojourner, 2021). K-12 education invests over \$13,000 per student, per year. Three and four-year-olds come in under \$5,000, and birth to two is even less than that. Table 2 illustrates the differences by age.

Table 2

Federal, State, and Local Government Spending on Child Care and Education in 2019



Note. From *Davis & Sojourner*, 2021.

(<https://www.brookings.edu/wpcontent/uploads/2021/05/Child-Care-PP-final.pdf>)

What Matters in Policy

It is evident that the majority of research shows that early childhood education is beneficial. Children are at an advantage by learning during a critical brain development period and they benefit from research-backed quality programming. The economy, the families, and most importantly, the children, all benefit from early childhood education programs. In the next section policy considerations will be examined.

Quality Standards

The quality of the programs makes a difference. In the long-term studies, especially The Perry Preschool Project, Abecedarian, and Chicago Longitudinal Study. There is no official way to evaluate a program as “high-quality”. There are rating systems, such as the QRIS, that were

discussed above, but it is not official. It would benefit the decision-makers for early education to have an agreed-upon meaning to what constitutes a high-quality program. The Learning Policy Institute has recommended building blocks that make up a quality program (Wechsler et al., 2016).

The institute recommends using comprehensive early learning standards and curriculum. This means standards that would be appropriate for early education and backed by a researched based curriculum. Standards for education are set by the government, usually the state, and define what a child should know or skills they should possess by a certain developmental period. Standards include the content that an educator should be teaching, performance and expectations for the students, and benchmarks to measure learning.

The next recommendation is appropriate child assessments. Early childhood education is not only academic, but also social-emotional learning, and physical. There is a great deal of emphasis on large and small motor skills in early childhood education. All domains of development should be assessed. If a program is using a research-based curriculum, child assessments should be included, but there may be additional assessments that educators deem necessary. It takes a teacher that is trained to be able to perform these assessments.

The next building block is professional knowledge and skill. Studies have shown that teachers that hold bachelor's degrees and higher have more knowledge of childhood development and provide a better classroom all around. Decision makers need to realize that to attract quality teachers with high levels of education, pay is a factor. According to the U.S. Bureau of Labor Statistics (2022), the median preschool teacher salary in the U.S. is \$30,210 per year. The median teacher salary for kindergarten and elementary teachers is \$61,359 per year. A major difference in the two is education level. Kindergarten and elementary teachers are required to have at least a

bachelor's degree, while many preschool teachers have associate degrees. Support for advancing teacher education is a must.

Support for diverse learners is the next building block. Students learn differently and have different needs. English language learners need extra support, especially in preschool. Language and literacy are the cornerstone of preschool and are important for all children, but the importance for extra support for English learners is critical. The majority of students in preschool and Head Start that are English language learners have the home language of Spanish (McNamara, 2017).

The next recommendation is meaningful family engagement. Studies have shown that when families are involved in their child's education there are multiple beneficial outcomes, including academic motivation and better social-emotional skills. Children will benefit from seeing their parent's model pro-social behavior and will benefit from the skills that parents learn through school programs, for example, parenting classes. Many schools offer support for parents in working towards getting their high school diploma or GED, which would also benefit the child in the long run.

Finally, class size and teacher-to-student ratio as the last building block that the institute recommends. Preschool classes should be small, and the teacher-to-student ratio should be small too. Studies show that teachers are unable to make meaningful connections and have meaningful interactions when class sizes are too large. Small class sizes cost more money, but the payout is worth it when the benefits are considered (Barnett, 2004).

Poverty and Early Education

In the United States, there are 37.9 million people living in poverty (Creamer, et al., 2022). Childhood poverty rates have just hit an all-time low in 2021, falling from 9.7% to 5.2%

of children living in poverty. In 2021 the “Child Tax Credit” was expanded and is credited for the dramatic reduction in childhood poverty levels (Collyer et al., 2023). Early childhood education is another tool that can be used to combat the effects of childhood poverty.

The Perry Preschool Program, The Chicago Longitudinal Study, and The Abecedarian Project showed that the outcomes of the participants benefited from early educational programs financially. Children are directly benefited by attending preschool through early interventions leading to being less likely to be in special education and more likely to graduate—both of these factors lead to higher-paying jobs in the future (Lamy, 2014). Indirectly, families that are living at or below the poverty lines can be influenced by early childhood education through parent resources, such as high school completion programs that are made available through family education programs in preschools.

The amount a person can earn is directly linked to the education level that is obtained (Torpey, 2018). The differences between not graduating high school and a diploma are astronomical and would change a family's socioeconomic status. When higher education is attained unemployment rates are also shown to be lower. Figure 8 illustrates the earning power of education levels and their unemployment rates.

Figure 8

Median weekly earnings based on education level and the corresponding unemployment rate

Educational attainment	Median usual weekly earnings	Unemployment rate
Doctoral degree	\$1,743	1.5%
Professional degree	1,836	1.5
Master's degree	1,401	2.2
Bachelor's degree	1,173	2.5
Associate degree	836	3.4
Some college, no degree	774	4.0
High school diploma, no college	712	4.6
Less than a high school diploma	520	6.5
Total	907	3.6

Note. From *U.S. Bureau of Labor and Statistics*, by Elka Torpey.

(<https://www.bls.gov/careeroutlook/2018/data-on-display/education-pays.htm>)

There is research that shows promise for policy to reduce poverty through early childhood education (Duncan et al., 2007). The investments would start very young, in fact, prenatal care and infant health are programs that are run through early education programs that are shown to be the start to getting a child out of poverty. Parents that enroll in prenatal and early infant care are more likely to seek out and be exposed to the importance of enrolling their children into high-quality preschool at three-and-four years.

According to research, all children benefit from quality preschool programming, but the benefits are not equal across socioeconomic groups (Sanchez, 2017). The key findings of the researchers that examined the benefits for preschoolers across socioeconomic groups are quoted as saying, "Researchers who study pre-K education often find that children who have had early

experiences of economic scarcity and insecurity gain more from these programs than their more advantaged peers." (Sanchez, 2017, para 5).

The Economics of Early Education

The economics of early education must be considered in decision-making. Federal and state-funded early education programs are expensive. In fiscal year 2019 Head Start and Early Head Start costs over \$11,000 per child to operate and there were 873,019 children enrolled (U.S. Department of Health & Human Services, 2022). That is over nine billion dollars a year and all paid for by federal appropriations. It would be irresponsible to not take economics into consideration when making decisions. Empirical evidence shows that by expanding *high-quality* early education, the economy will be substantially boosted (Bartik, 2014).

The list of reasons why the economy will be boosted by early education expansion is a long and winding road with many spillover benefits. First, studies show that children who attend high-quality preschool are better income earners than those who did not (Bartik, 2014). Higher income earners are more self-sufficient and rely less on public assistance. They are less likely to have criminal activity, which would save taxpayers money, and it means more tax revenue. When children develop skills in preschool that will set them up to learn skills through the rest of their academic careers and eventually create a better workforce. An immediate economic boost comes from parents being able to join the workforce because their child has care. Parents of children in preschool are more likely to work.

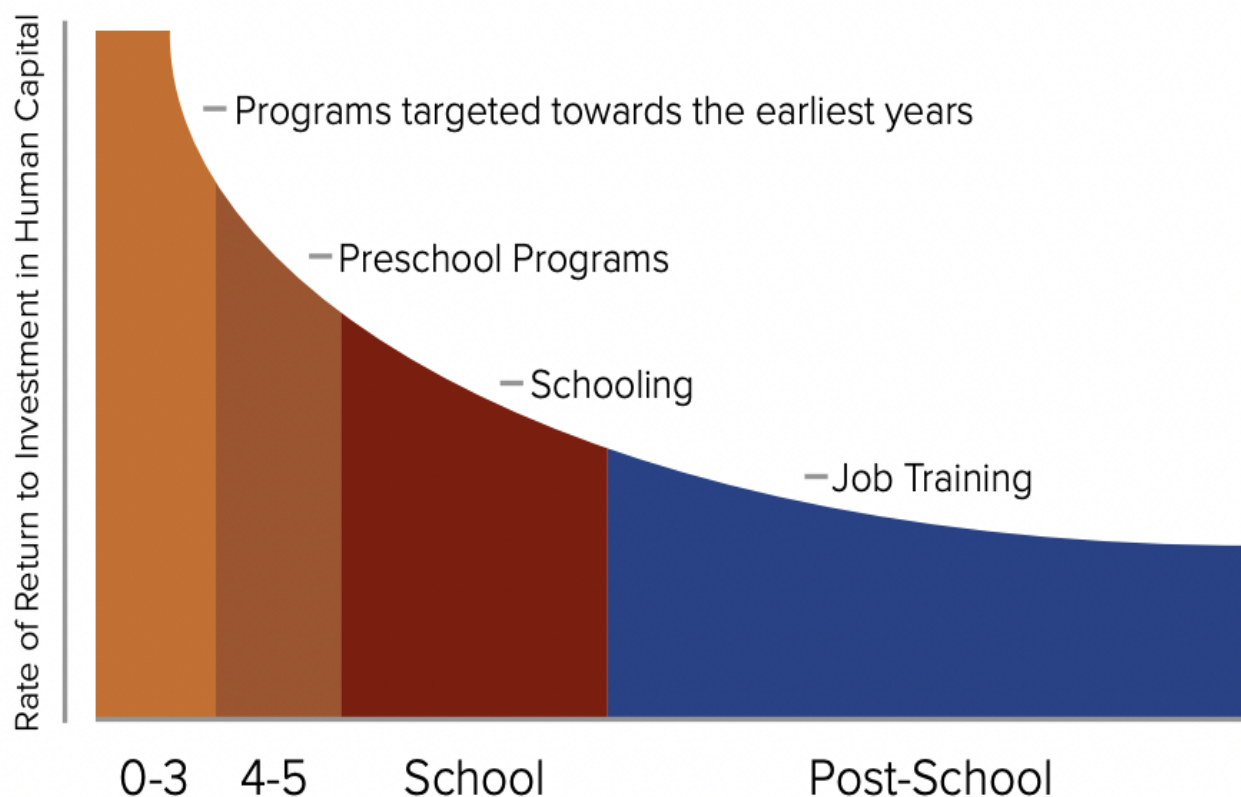
An "investment in early education" is a phrase that is used by some educators, parents, and early education advocacy groups (The University of Pennsylvania, 2017). It could be referencing the personal cognitive and social growth of a child, but it also has meaning in economics. Estimating the exact number is possible because there are so many children that do

not attend any type of preschool, they are a built-in control group. To figure the return-on-investment economists compare the outcomes of children that were a part of programs with children who were not. On average, for every \$1 invested in early childhood \$4-\$9 is yielded. The return on investment in early education is not the same for every program. High-quality programs appear to have a better value. The Perry Preschool Program, for instance, estimates returns from \$7-\$12 for every \$1 spent.

Research has shown that the best value for return is starting investment in early childhood right away. When you compare the return of money spent on early childhood education to compulsory school and post-secondary education, early learning has the best return. Figure 9 illustrates the return on investment from when the investment starts in the child's life.

Figure 9

Returns to a Unit Dollar Invested are Highest in Earliest Years



Note: From *High Return on Investment* by the University of Pennsylvania, 2017.

Conclusion

The effects that early childhood education has on children in the long-term are evident and beneficial. Early childhood education focuses on cognitive development, language and literacy skills, and social and emotional development. By ensuring these early learning milestones are adequately taught, children have better outcomes than those who do not and are better prepared for compulsory grades. Early learning is crucial for development and education goes beyond the child. Parent and caregiver education was shown to be an important part of the early learning puzzle in the research studied for this paper. Parental involvement is important for

all ages and a parent that has the skills to help their child develop at a young age is an asset to the child's overall outcome.

In addition to the long-term benefits that children receive from early education, there are short-term benefits. Children change quickly in the early years of their lives and insight into their developmental milestones can help keep children on track. Early intervention will be used to help children with developmental delays or other disabilities, for example, speech therapy. Children being ready to start school is considered a short-term outcome and children that attend preschool are shown to be more prepared for compulsory school than those who did not attend.

Four notable long-term studies were examined in this paper, The Perry Preschool Program, The Chicago Longitudinal Study, The Abecedarian Project, and the Tennessee Voluntary Pre-K Study. All four studies showed that children that were enrolled in the programs had higher IQ scores than those who did not. The Perry Preschool Program, The Chicago Longitudinal Study, and The Abecedarian Project were the three longest ran studies and they all showed better high school graduation rates, higher rates of employment, a decrease in criminal activity, and decreased drug use in the participants.

Early theorists and popular curriculum models provided a path to help in understanding the research of children's outcomes from early childhood education. Early theorists discovered and studied how young children learn and how it differs from older children and adults. Many of the theories, even from as far back as the 19th century, still ring true today. Most profoundly the research has shown that quality programming for early childhood education is a key for positive outcomes. Quality is measured in several different ways but teacher qualifications, such as advanced degrees and specialized training, along with teacher-child interactions are shown to be one of the most profound elements.

Studying the research and long-term studies uncovered that early childhood education has many working parts and components that must be considered when determining the impact that education has had on a child. The quality of the child's education is extremely important, as mentioned above, but parental involvement and parenting styles also play a huge role on the child's development. Economic and social factors, cultural influences, environmental context, developmental trajectories, peer relationships, and the foundational elements of a class all work together, or in some cases against each other, in influencing the long-term outcomes of a child's success if they went to preschool.

It is my recommendation, based on the findings reported in this paper, that preschool should be available to all children that are four or older no matter what the child's abilities or what the family's economic status entails. Early education should be made available for all children under four that are at risk for school failure.

Parents should be able to make the decision for their own child if preschool is a right fit for their child and should be provided with the tools that they need to make such a decision. I recommend that schools make resources widely available for parents to make educated decisions about their child's future. This is the beginning of parent involvement in education and should be nurtured throughout the child's life. I recommend making parent involvement and parent education a top priority for schools and teachers.

My final recommendation is that schools adopt a quality rating system for their program. The quality level of the program is the crucial element to producing long-term effects that are positive. By adopting and implementing a quality rating system, such as Quality Rating and Improvement System (QRIS). Programs such as QRIS provide assurance that educators and students are getting what they need for success in the classroom and outside of the classroom.

States need to continually monitor that the quality rating system that is implemented is reaching the needs of schools, educators, and students all while staying relevant to current research on what quality programming entails.

In conclusion, it is my opinion that preschool has positive effects for all children and their long-term outcomes. The benefits are numerous when high-quality education is received, especially for children that are at risk for failure. Children positively benefit by being prepared to start school, reducing their risks of being held back and being put in special education, learning how to be a part of a group, and by beginning basic literacy skills. Children are the future and education and development should not start at compulsory school age due to lack of quality education options for children and families.

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