



MIND, BRAIN, AND EARLY CHILDHOOD

Parents and educators would do well to consider . . . a broad perspective before concluding that preschool is the best option for children.

In California where I live, television, radio, and newspapers all promote the “First Five” initiative, which seeks to convince the public that preschool is vital for every child’s optimal development. Other educational systems have a similar focus. The message conveyed is that without preschool, children:

- are less likely to graduate from high school, much less go on to college;
- will likely trail behind and be victimized because they were deprived of early formalized learning; and
- will overwhelm the school system as it struggles to bring deficient children up to levels other children attained in preschool.

These are legitimate concerns, but many believe this emphasis represents a

skewed frame of reference. Current lifestyles do create the need for universal preschools; however, societal trends do not always align with what is best for children. Parents and educators would do well to consider this topic from a broad perspective before concluding that preschool is the *best* option for children.

Recent research conducted under the guidance of Walter S. Gilliam, a psychologist and associate research scientist at Yale University Child Study Center, indicates that three times as many children are expelled from preschool as from grades K-12. Why so many expulsions? Gilliam’s study, titled *Pre-kindergartners Left Behind: Expulsion Rates in State Pre-kindergarten Systems*, reports behavior as the main cause. “Behavioral problems can seriously derail a young child’s first educational experiences. Preschoolers are just learning to socialize and follow directions, and many young children resort to disruptive behaviors, including kicking and biting,” Gilliam says. “These 3- and 4-year-olds are barely out of diapers. . . . They are being viewed as educational failures well before kindergarten,” Gilliam continued.¹

These research findings suggest a barrage of related

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This article considers the rationale for formal preschool instruction as well as other ways to prepare children for K-12 schooling. Four questions seem pertinent:

- Why is there so much emphasis on universal preschool?
- What are the concerns about early childhood learning?
- What does current research suggest about the best caregivers for preschoolers?
- Does learning for preschoolers happen best in a formal setting?

Rationale for Universal Preschool

Societal trends seem to necessitate preschool programs. Preschool can be an attractive option when both parents work outside the home or when a single parent must work and cannot afford a babysitter.

Preschool benefits immigrant families, also. These parents often work long hours to establish the family in a new setting. This leaves little if any quality time to prepare children for school. Preschool helps children from these families to acculturate and to master a new language.

Children from chaotic and impoverished homes often begin kindergarten and first grade at a disadvantage. Trying to nurture

and educate children well prepared for school as well as those who are unready stresses school systems already under pressure to meet mandated standards for academic achievement.

Consequently, preschool seems the logical way to “level the playing

questions. Can universal preschools provide the individualized attention and socialization necessary for 3- to 5-year-olds? What happens emotionally to those designated as *troublemakers*—and to their victims? What are the implications of placing young children in an academic environment

for which they are unready? Will these children suffer long-lasting negative consequences from being expelled from preschool? Will these early stressors affect their later learning and development? These questions are seminal as we consider institutionalizing 3- and 4-year-olds.

field” to ensure that all children are ready for first grade. *Attack and eliminate the problem during the earliest and most impressionable years* seems to be the motto of those who seek to require universal preschool. This position assumes that emphasis on intellectual development offers a magic cure. However, another view deserves consideration.

Another Perspective

Research suggests that during the

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first five years of life, there are critical periods for psychological, physiological, sociological, emotional, and spiritual development. Enriched environments during these years are especially important. But can formal preschool programs offer optimal nurture and care for the whole child—body, mind, and spirit?

The idea that more is better—more years in school, more and earlier academics, more homework—may not prove to be true in the long run. In fact, research on the brain suggests that this unbalanced emphasis may even be counterproductive.

As reported in Carla Hannaford’s *Smart Moves*,² experiments in various schools have documented that less can be better. When these schools de-emphasized academic seatwork and included more physical education in the curriculum—as much as one-third of the school day—academic scores went up, rather than down. School morale soared, as did students’ desire to learn.

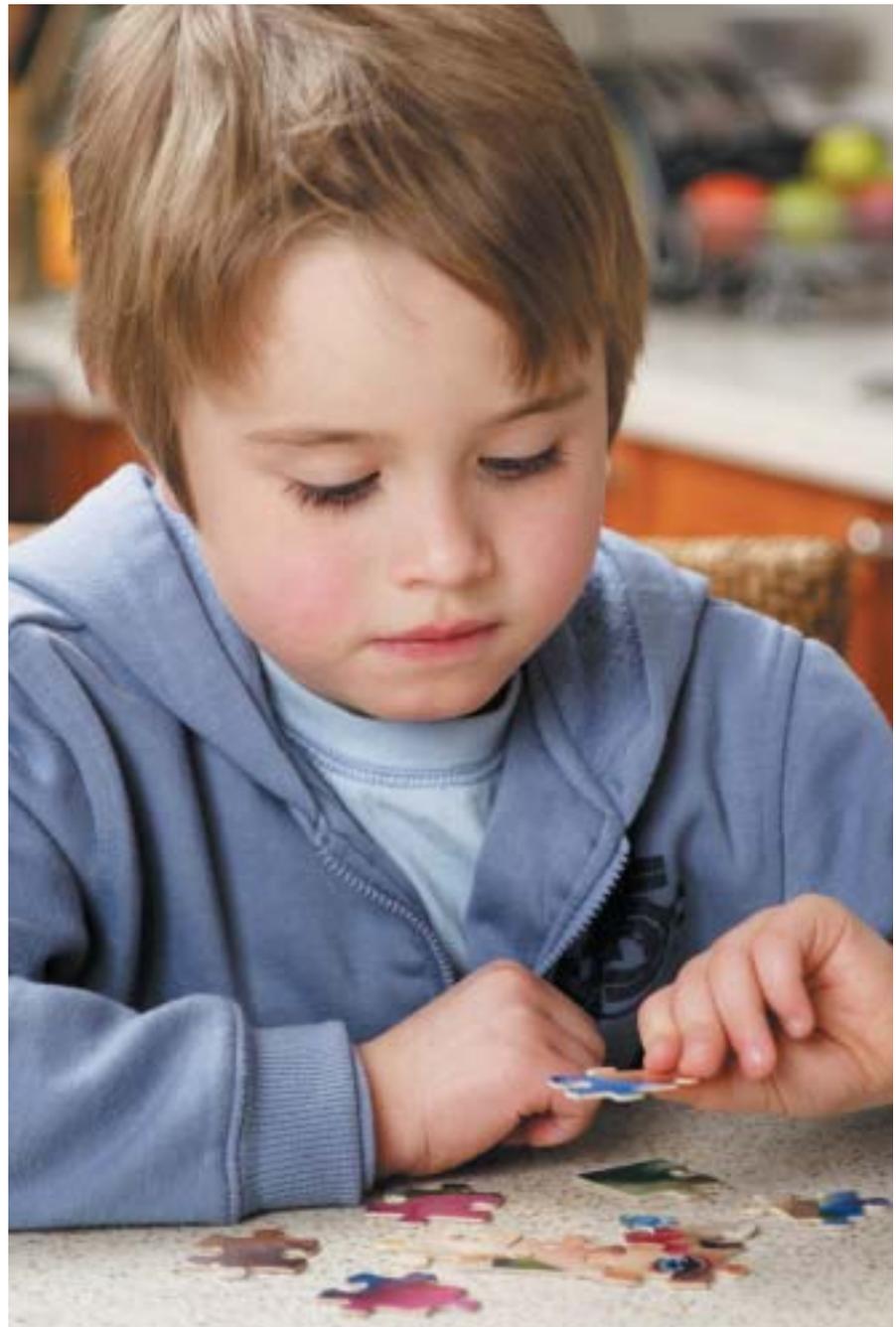
The brain wants to be in charge of its own learning, according to Case

Western Reserve University’s James Zull in *The Art of Changing the Brain*.³ Putting too much emphasis on extrinsic motivation and force-feeding facts does not match the brain’s preferred way of functioning. The human brain is constantly learning on its own. To guide that learning, the educator should honor ways the brain prefers to learn. For preschool children, the best learning opportunities are created in play-full environments.

What is needed, as we consider

the roles of preschool and kindergarten, is a balanced perspective. Unfortunately, educators tend to value intellectual prowess over physical and spiritual development. When budget cuts are necessary, physical education and aesthetic programming are usually the first to go.

Ellen White’s definition of true education—the harmonious development of physical, mental, and spiritual powers in preparation for service to humankind—points to a quite dif-



ferent philosophy. Her counsel commending this integral balance is validated repeatedly by current neuroscience research.⁴ The September 2005 issue of *Educational Leadership* cites much of this research in an issue entirely devoted to *the whole child*.

Mind, body, and spirit function together. To try to separate them is illogical and impossible. To achieve a balanced education, we must find ways to integrate children's intellectual, physical, emotional, social, and spiritual development.

As we consider the educational needs of preschoolers, we should evaluate our assumptions, practices, and innovations. For education to be truly brain-body-spirit and learner-friendly, it must focus on the whole child. Any initiative that values mental, physical, or spiritual function over the full integration of all three is incomplete and harmful.

Who Should Care for Children?

A number of researchers have investigated the best environment for young children. Relevant factors they cite include: attachment, self-realization, and neurological issues (stages of development, the role of emotion, neural development, etc.). Current media promotions for preschool, however, rarely even mention these important issues.

Trust. During the first six or seven years of life, patterns form in a child's brain that largely determine what kind of person he or she will become. This early imprinting is optimized in loving environments that bond caregiver and child. Georgetown University's Karl Pribram and Claremont Graduate School's Paul Zak⁵ describe research on beneficial oxytocin levels produced in both mother and child when they are synchronized in spirit. The body systems (immune, respiration, digestion, and cardiac) all function better when a trusting relationship exists between children and parents—especially the mother. This sets the stage for optimal learning.

Emotion. Emotion is based on

neurochemistry.⁶ The caretaker's opinion of a child affects his or her performance and self-concept. If the caretaker perceives a child as a behavior problem or a troublemaker, the child detects this and reacts negatively. Preschool teachers, who interact with many children each day and have different children in class every year, will have difficulty forming long-term bonding relationships with multiple children.

Neuroscience helps explain why sustained levels of negative emotion compromise brain function and efficiency and how positive emotions help children thrive. Whether preschools provide the optimal environment for emotional and academic development is a question parents and educators must consider.

Heart/Brain Connections. The more we learn about heart-brain connections, the more we realize how much the heart is involved in learning! Earl Bakken, inventor of the first wearable heart pacemaker and author of more than 100 scientific articles on heart-brain connections, explains that more connectors extend from the heart to the brain than from the brain to the heart. According to Bakken, the heart has a profound effect on the brain and cognition.⁷

Research reveals that the heart contains neuron-like structures similar to those in the brain, though in greatly reduced numbers.⁸ Thus, the heart can store memories. In fact, the heart can be described as "having a mind of its own." As a sensory organ, it is a major player in cognition. Recent research on heart-brain connections may provide new insight regarding biblical statements about the heart. Perhaps "As a man thinketh in his heart, so is he" (Proverbs 23:7, KJV) is more literal than previously thought.

The child is uniquely linked to

the brain and heart of the mother. Ellen White suggests that when the mother experiences an intimate relationship with God, she is empowered to nurture her child.⁹ The father, too, has a vital role in nurturing the growing child.¹⁰

If circumstances prevent sustained interaction between parent and child, the heart/brain can adapt; but the *best* situation for young children is loving nurture in their own home, especially when parents are attuned to the heart and mind of God and to that of the child. If some other case is a must, parents should ensure that there is a trusting relationship between the child, parents, and teacher, in a family-like situation or in a developmentally sound Christian preschool.

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Developing Mind. Psychiatrist Daniel Siegel, in his book, *The Developing Mind*, says, "Interpersonal experiences directly influence how we mentally construct reality. This shaping process occurs throughout life, but is most crucial during the early years of childhood. Patterns of relationships and emotional communication directly affect the development of the brain. . . . Studies of human subjects reveal that different patterns of child-parent attachment are associated with differing physiological responses, ways of seeing the world, and interpersonal relationship patterns. The communication of emotion may be the primary means by which these attachment experiences shape the developing mind. Research suggests that emotion serves as a central organizing process within the brain. In this way,

an individual's abilities to organize emotions—a product, in part, of earlier attachment relationships—directly shapes the ability of the mind to integrate experience and to adapt to future stressors.”¹¹

As a proponent of child nurture by parents, Ellen White wrote 100 years ago: “The little ones should be educated in childlike simplicity. They should be trained to be content with the small, helpful duties and the pleasures and experiences natural to their years. . . . Children should not be forced into a precocious maturity, but as long as possible should retain the freshness and grace of their early years. The more quiet and simple the life of the child—the more free from artificial excitement and the more in harmony with nature—the more favorable it is to physical and mental vigor and to spiritual strength.”¹²

Quality of Parental Nurture

Is simply being at home with a parent enough to ensure a well-adjusted and academically successful child? Not necessarily. The *quality* of time is also important. Appropriate at-home nurture requires discipline, a regular routine, varied educational experiences with real-life applications, academics appropriate to the child's interests and age, abundant physical activity in fresh air and sunshine, proper nutrition and water intake, adequate rest, social relationships with other adults and children, a balanced lifestyle, and consistent modeling of trust in God on the part of the caregiver. All this takes time and commitment. In today's world, many parents have to work and cannot invest this kind of time and attention in their children. When the ideal is not attainable, parents must find caregivers who will provide these advantages.

In *Reclaiming Our Children*, Peter R. Breggin warns: “A meaningful parent-child relationship—where parents give unconditional love and genuine attention to the child—is the single most important factor in providing a child with a secure, emotionally stable life. Conversely, the loss

or absence of beneficial relationships with significant adults is the single most important source of suffering in a child's life.”¹³

Concerns About Hothousing Children

Current research highlights significant concerns regarding the quality of learning in formal preschool settings. A major concern is preschool and kindergarten programs that are developmentally inappropriate for the children they serve.

About 20 years ago, experts began to express alarm about the pressure

for children to learn formal academics at younger and younger ages. Irving Sigel of the Educational Testing Service in Princeton, New Jersey, coined the term *hothousing* to describe these efforts—attempts to teach children to read or do math before being enrolled in grade school.¹⁴ More recently, research on brain function has intensified this concern. Though the brain is highly adaptive, pressuring children to perform academically before they are developmentally ready can lead to neuroses and other complications later in life.

In their 1998 book *Magic Trees of*

Developmentally Appropriate Practice in Early Childhood Programs

For 3-year-olds: allow and encourage

- Play, alone and with friends;
- Exploration, indoors and out, with active running, jumping, chasing, tricycling, or catching balls, and hands-on activities like using construction sets, art materials, puzzles, and so on;
- Experimentation with blocks, sand, water, bubbles, seeds, and other objects in the environment;
- Language and musical skills through conversation, stories, songs, rhymes, and instruments.

For 4-year-olds, expand the list above to include:

- Field trips to zoos, puppet shows, etc.;
- Learning centers in a classroom where a child can choose between puzzles, books, math games, science games, blocks, recordings, art, and dress-up and dramatic role playing;
- Simple problem solving in areas like math, science, social studies, and health; using tools, wood, water, measuring devices, clay, blocks, cooking ingredients, and so on;
- More development of language, music, and art abilities through hearing and looking at stories and poems, play-acting, drawing, copying letters, singing, and playing instruments.

For 5-year-olds, expand the list above to include:

- Theme learning, such as taking a topic of interest to local children—like the ocean in coastal towns, or the prairie in Midwestern schools—then working reading, writing, math, science, social studies, art, and music activities around this topic.

Adapted from Marian Diamond and Janet Hopson (1998). *Magic Trees of the Mind: How to Nurture Your Child's Intelligence, Creativity, and Healthy Emotions From Birth Through Adolescence*. New York: Penguin Putnam. Original source: National Association for the Education of Young Children (NAEYC) in Washington, D.C.: *Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8*.



the Mind: How to Nurture Your Child's Intelligence, Creativity, and Healthy Emotions From Birth Through Adolescence, University of California Berkeley's Marian Diamond and Janet Hopson cite numerous authorities' concerns over hothousing children. David Elkind, a professor of child studies at Tufts University, in his books *The Hurried Child and Miseducation: Preschoolers at Risk*, warns parents and educators about the dangers he sees in teaching academic subjects to young children. Over the short term, he says, young children stressed by educational pressure tend to show fatigue, decreased appetite, lowered effectiveness at tasks, and psychosomatic ailments.

Over the long term, says Elkind, these children may show less interest in learning, less ability to work independently to judge their own progress, and the tendency to worry and compare their intelligence with other children's. Although some parents fervently believe that their children's po-

tential is wasted by letting them play until they reach school age, Elkind insists that exposing them to anything other than self-directed activities can be harmful and dangerous.¹⁵

Jane Healy relates school readiness to brain development: "Since myelin formation enables more efficient brain use, making demands on undeveloped areas may be a real mistake. We have very little information on ways to speed the growth of myelin; although it is age-related, the schedule varies widely among individuals, and it is unclear how much—or if—the process can be accelerated. It seems evident that our efforts to stimulate learning must be tempered by patience until the child's mental transmission systems are equal to the task or we risk frustration, inferior skill development, and an abiding distaste and incompetence for the activity. We may even be programming in bad habits and negative motivation at a neurophysiological level."¹⁶

In 1890, when educational envi-

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ronments were far more primitive than today, Ellen White offered similar advice: "Many children have been ruined for life by urging the intellect and neglecting to strengthen the physical powers. . . . Their minds were taxed with lessons when they should not have been called out, but kept

back until the physical constitution was strong enough to endure mental effort. Small children should be as free as lambs to run out-of-doors. They should be allowed the most favorable opportunity to lay the foundation for a sound constitution.”¹⁷

Religious Education in Early Childhood

No responsibility assumed by human beings is more important than the care and nurture of children—they are our future. In the busyness of daily life, it is easy for parents to lose sight of children’s seminal needs—for routine, structure and discipline; for synchrony in spirit with parents and caregivers; for nurturing strengths and strengthening weaknesses; for adequate sleep, nutrition, and physical activity; and most importantly, for a consistent example of God-likeness. No more sacred privilege is afforded to parents and teachers than to restore the image of God in children and to introduce them to God’s plan for their lives.

Six years ago, I began a research study to compare brain science research with Ellen G. White’s educational counsels. Again and again, I was amazed at how closely they aligned. Even though neuroscience favors a naturalistic perspective, many researchers have concluded that emotion, love, and a positive spirit are critical to mental and physical health.

Similarly, a major emphasis in Ellen White’s writings is the harmonious development of physical, mental, and spiritual powers in preparation for service to humanity—and throughout eternity. Science’s reiteration of Ellen White’s emphasis is another reminder that parents and educators must address the needs of the whole child.

Spiritual nurture is as vital as physical and mental development. Failure to provide this nurture not only represents unfaithfulness to God, it is a form of child abuse. By offering developmentally appropriate religious training, the Christian preschool can enhance human potential

and prepare children for the kingdom of heaven. If they offer a wholistic program that combines physical, emotional, mental and spiritual training, they can rightfully market themselves as offering care that is superior to that of secular preschools.

When children are young and impressionable, lessons in spirituality are vitally important. During these years, the brain is patterned in indelible ways that determine the child’s character. Through neglect of balanced

training and nurture, we skew children’s development in ways that will require much effort and pain to overcome. One of the most valuable gifts that we as loving parents and educators can give to children is spiritual nurture. Children crave the love of their parents and teachers. Wise caregivers will seek God’s guidance through prayer and study in order to provide developmentally appropriate and theologically sound training for the children in their care.



Summary

Societal trends have created the need for non-parental care for young children. This has led to recommendations for universal preschool attendance. The goal of such programs is to prevent academic deficiencies—system-wide as well as in specific groups of children—and to provide care and nurture for children whose parents are unable to provide full-time care. Enriched environments during preschool years do seem to help students from deprived backgrounds to succeed in primary school and can stimulate creativity in gifted children.

However, many preschool programs are developmentally inappropriate and even harmful. They warehouse children and force-feed them academics before their brains are ready. Preschools with large enrollments and a few ill-trained and badly paid teachers cannot individualize their offerings to meet the needs of each child, and some do not recognize the need to do so.

Such preschools are not the *best* choice for child nurture during the earliest years. Young children need loving nurture from consistent, God-fearing caregivers with whom the child has developed a long-term bond. Along with emotional nurture, children need opportunities for creative expression, abundant physical activity, and stress-free environments. Preschools that place undue emphasis on academic development can cause more harm than good. They are unlikely to address children's wholistic developmental needs.

Parents are often "taken in" by the hype about the need for universal preschool. Churches and schools can make a significant contribution to the present and the future of their communities if they seek ways to help parents understand and fulfill their responsibility to provide a nurturing climate for their children. When children cannot be cared for at home, Adventist schools can offer developmentally appropriate and loving Christian preschool care.

The idea that more is better—more years in school, more and earlier academics, more homework—may not prove to be true in the long run.

Addressing the problem of low academic achievement and school dropouts is important, but it requires more than mandates for formalized preschool education. It would be better achieved by helping families understand the way children develop and how to provide quality care. Education at its best nurtures the uniqueness of each individual. Though well intended, bureaucracy does not excel in individualization. Adventist educators do well to keep in mind the sacredness of individual human potential, especially during children's most impressionable years. ✍



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15. *Ibid.*, p. 167.

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