



The Bush Administration is moving to change the mission of Head Start, from one of providing social services and care to low-income preschoolers and their families to also emphasizing early literacy skills. Is preschool too early to learn academic skills? In the following essays, David Elkind and Grover Whitehurst weigh the evidence, then respond to one another.

Young. Einstein

Much Too Early

by DAVID ELKIND

Children must master the language of things before they master the language of words.”

—Friedrich Froebel, *Pedagogics of the Kindergarten*, 1895

In one sentence, Froebel, father of the kindergarten, expressed the essence of early-childhood education. Children are not born knowing the difference between red and green, sweet and sour, rough and smooth, cold and hot, or any number of physical sensations. The natural world is the infant’s and young child’s first curriculum, and it can only be learned by direct interaction with things. There is no way a young child can learn the difference between sweet and sour, rough and smooth, hot and cold without tasting, touching, or feeling something. Learning about the world of things, and their various properties, is a time-consuming and intense process that cannot be hurried.

This view of early-childhood education has been echoed by all the giants of early-childhood development—Froebel, Maria Montessori, Rudolf Steiner, Jean Piaget, and Lev Vygotsky. It is supported by developmental theory, which demonstrates that the logical structure of reading and math requires syllogistic reasoning abilities on the part of the child. Inasmuch as most young children do not attain this form of reasoning until the age of five or six, it makes little sense to introduce formal instruction in reading and math until then. The theory is borne out by a number of longitudinal studies that show that children who have been enrolled in early-childhood academic programs eventually lose whatever gains they made vis-à-vis control groups.

Yet there is a growing call for early-childhood educators to

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Much Too Late

by GROVER J. WHITEHURST

Brianna and her four-year-old classmates are sitting in a circle around their preschool teacher. The teacher asks, “Who can tell me what they’re going to do when we go to our play centers?”

“I’m going to work with Play-Doh,” Brianna answers.

“Tell us what you’re going to make,” her teacher responds.

“I want to make a plate for my mom,” says Brianna.

“That’s wonderful,” says the teacher. “I’m sure your mom will really like that.”

Several other children chime in with similar plans. Circle time breaks up, and the children go to the interest centers of their choice. Their teacher circulates, engaging the children in conversations about their work and sometimes taking on the role of a play partner. When center time comes to a close, the children gather around their teacher for a review of what they’ve done. The conversation focuses on the Play-Doh gifts the children have made, with the teacher encouraging them to describe how they think people feel when they get a nice gift.

The activities of Jamel’s preschool classroom stand in stark contrast. He and his classmates sit at pint-size tables. The teacher announces, “Today we’re going to write Halloween stories. Each table gets to write its own story. When we’re finished with our stories, we’ll read them to each other, and then we’ll put them up on the wall. If you want to make up your own story, that’s great, but here is one that everyone can write if they want to.”

She holds up a handmade book consisting of four pieces of paper stapled together. “This is the title page,” she says. “It is a book about pumpkins. See, this is a drawing I made of a

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engage in the academic training of young children. The movement's beginnings lay in the fears sparked by the Soviet Union's launching of Sputnik in 1957. The civil rights movement and the growing public awareness of our educational system's inequality led to the creation of Head Start, a program aimed at preparing young disadvantaged children for school. Although Head Start is an important and valuable program, it gave rise to the pernicious belief that education is a race—and that the earlier you start, the earlier you finish. This encouraged educators like Carl Bereiter, Siegfried Engelmann, and, more recently, E. D. Hirsch to introduce early academic programs based on the learning theories of E. L. Thorndike and B. F. Skinner. These writers assume that learning follows the same principles at all age levels—ignoring both children's developing mental abilities and the fact that academic skills vary in their logical complexity and difficulty.

Concerns over our educational system, fueled by our students' poor performance in international comparisons of achievement, have reinvigorated the call for early academic instruction as a remedy for inadequate teaching later on. All too many kindergarten teachers are under pressure to teach their children numbers and letters and to administer standardized tests. In some kindergartens, children are even given homework in addition to the work sheets they must fill out during class time. In a developmentally appropriate classroom, children are busy taking care of plants and animals, experimenting with sand and water, drawing and painting, listening to songs and stories, and engaging in dramatic play. It is hard to believe that these young children learn more from work sheets than they do from engaging in these age-appropriate activities.

In the end, there is no solid research demonstrating that early academic training is superior to (or worse than) the more traditional, hands-on model of early education. Why take the

Head Start

The War on Poverty goes to school by TYCE PALMAFFY

President Lyndon Johnson's early career was spent working as a teacher in the hardscrabble of west Texas. That is where Johnson saw poverty up close and developed his faith in the power of education to eradicate it. As Johnson quipped to Yale University psychologist Edward Zigler (whose essay appears on page 12) in May 1965, "If it weren't for education, I'd still be looking at the southern end of a northbound mule." Johnson's faith became policy with the creation of Head Start, birthed during the heady, idealistic days of the Great Society's "War on Poverty."

Head Start's roots lay in the troubles of the Community Action Programs, or CAPs, an early War on Poverty venture whose motivating idea was to mobilize the poor on their own behalf. The frequent controversies surrounding the programs made local officials somewhat skittish about applying for CAP grants. Left with a budget surplus and the bureaucratic tradition of "use it or lose it," Office of Economic Opportunity (OEO) director Sargent Shriver went fishing for a more politically

salable anti-poverty investment. Hence Project Head Start.

Head Start reflected the belief that quality early-childhood education could inoculate disadvantaged children against the turbulence of their home and neighborhood life. It was to be a cost-effective endeavor; an early investment in nurturing at-risk children would avert later strains on social services and the justice system.

The same rationale, educational historian Maris Vinovskis has written, underlay the "infant schools" movement of the 1820s. The infant schools, a movement that quickly spread and then just as quickly disappeared before the Civil War, withered under the now-familiar criticism that academic training before the age of six or seven could inflict "serious and lasting injury" on "both the body and the mind," as physician Amariah Brigham wrote in 1833.

Serious interest in early-childhood education wasn't seen for another century. At Head Start's inception, Zigler reports, only 32 states had kindergarten programs.

Preschool programs for four-year-olds were almost "unheard of." In the early 1960s, however, faith in the fortifying powers of preschool blossomed again on the strength of scholars Joseph McVicker Hunt and Benjamin Bloom's finding that children's IQs were not fixed at birth. Moreover, Bloom argued, the first five years of children's lives were crucial to the development of their intellectual abilities. This was, Zigler writes, the "golden age" of cognitive psychology.

From the beginning, President Johnson and other advocates strongly promoted the IQ-raising potential of Head Start. Nonetheless, Head Start's founders viewed it as much more than an academic intervention. Head Start was to provide a range of educational, medical, social, and psychological services to poor children and their families. Children can't focus on learning, the thinking went, when they don't have nutritious meals, healthy bodies, emotional stability, involved and knowledgeable parents, and social services designed to soften the impact of poverty.

Head Start's links to the Community Action Programs made parental involvement a crucial aspect of the program. Not only would low-income parents learn child-rearing skills, such as how to prepare a

risky step of engaging in formal academic training of the young when we already know what works?

Giants of the Preschool

The educators who established early childhood as a legitimate time for guided learning all emphasized the importance of manipulative experiences—of seeing, touching, and handling new things and of experiencing new sensations—for infants and young children and the dangers of introducing them to the world of symbols too early in life. Froebel, Montessori, and Steiner all created rich, hands-on materials for children to explore and conceptualize. Each of them acknowledged, in his or her own way, that the capacity to discriminate precedes the capacity to label, that the understanding of quality precedes that of quantity. Children, for example, learn to discriminate among different colors before

“Head Start gave rise to the pernicious belief that education is a race—and that the earlier you start, the earlier you finish.”

they can distinguish different shades of the same color.

This is not to suggest that the founders of age-appropriate practice were of one mind. They disagreed on such matters as the teacher's role in guiding young children's learning and the comparative benefits of individual versus collaborative learning.

Froebel, for example, believed that introducing children to different manipulative materials (which he called gifts), such as a wooden ball, a square, and a diamond, would teach young children not only geometric shapes but also abstract concepts

nutritious meal. They would also serve as employees and volunteers in Head Start centers and have a strong voice in how the local programs were run. The War on Poverty's links to the civil rights movement only enhanced their role. OEO staffers saw Head Start as a way of granting the power to minority parents that they lacked in segregated public schools.

This is crucial to understanding the resistance to the Bush Administration's proposal to shift Head Start from the Department of Health and Human Services (DHHS) to the Department of Education. Similar resistance confronted President Jimmy Carter's attempt to move Head Start to his proposed Department of Education. At the national level, Head Start parents, children's advocates, and civil rights leaders feared that a move would undermine Head Start's comprehensive approach that emphasized health care as much as education. At the local level, minority parents feared losing their voice in a white-dominated public school system. Congress ultimately nixed the idea of moving Head Start to the new Department of Education in 1978.

The overselling of Head Start's ability to raise IQ, a highly stable measure of cognitive functioning, eventually caught up with the program. When early evaluations

of the program found that children's gains in IQ were small and faded out as they aged, the resulting uproar quelled President Richard Nixon's attempt to expand the program. Funding for Head Start

When Carter proposed folding Head Start into the Department of Education, he met with fierce resistance from children's advocates, Head Start parents, and civil rights leaders.

stalled throughout the 1970s and '80s. The mixed results, however, should have come as no surprise. In the beginning, grants were handed out in a frenzy to just about anyone who set up shop in a church basement. Moreover, the intensely local nature of Head Start led to wide disparities in quality from program to program. In fact, it was hardly accurate even to call

Head Start a program, or to say that Head Start had succeeded or failed. Some local grant recipients ran exceptional programs, others ran mediocre ones. Nearly all programs suffered from a shortage of trained early-childhood educators, and few had the funds to pay decent salaries anyway. Besides, the 14 members of the original planning committee hardly mentioned IQ. To them, whether children received their vaccinations, proper dental care, and a warm, encouraging oasis amid the chaos of urban life seemed just as important.

Still, Head Start survived the slash-and-burn Reagan years and became newly relevant with President George H. W. Bush's national educational goal of having all children starting school "ready to learn" by the year 2000. In addition, the promising findings from model, much-more-expensive preschool programs such as the Perry Preschool Project in Ypsilanti, Michigan, have renewed hopes for what Head Start could be. Funding quickened in the 1990s, with federal spending rising from roughly \$1.6 billion in 1990 to \$5.3 billion last year. Like its young charges, Head Start has proved remarkably resilient.

—Tyce Palmaffy is the articles editor of Education Matters.

of unity and harmony. Montessori, by contrast, doubted whether children would learn abstract concepts by using manipulative materials. She did argue that there were critical periods in development during which children had to exercise their sensory-motor abilities if they were to fully realize them. Montessori regarded children's exercise of their sensory abilities, and indeed of all their activities, as preparation for adult life. Froebel saw play as a valuable mode of learning for young children; to Montessori it was frivolous and should be the child's work. For example, she wrote that children would be better served if

they used their imaginations to fantasize about real foreign countries rather than fairytale kingdoms.

Steiner, founder of the Waldorf schools, believed that education should be holistic. In Waldorf schools, handicrafts, the arts, and music are integral parts of the curriculum. Children are asked to write and illustrate their own textbooks in science, history, and social studies, for example. Whereas Froebel and Montessori focused on having children learn from their own individual activity, Steiner's activities were more social and collaborative.

Piaget, while not supporting any particular early-education

More than the Three Rs

The Head Start approach to school readiness

by EDWARD ZIGLER & SALLY J. STYFCO

Head Start is, and has always been, a school-readiness program. In 1964, the project's planning committee convened and was charged with designing an intervention to help young, low-income children begin school on an equal footing with their peers from wealthier families. There was little scientific evidence at the time to identify the needs of poor preschoolers or to suggest how to meet them. The plan-

ners therefore had to build a construct of school readiness relevant to the population Head Start would serve. The members represented a variety of professional disciplines, and each contributed the latest knowledge in his or her field. Together they crafted the comprehensive services, whole-child approach that has come to define Head Start. Because children cannot devote their full energies to learning when they are not in good health, Head Start would ensure access to medical care. Hunger can also

take a child's attention away from school-work, so Head Start would provide nutritious meals and snacks and teach parents to do the same at home. Cognitive skills would be emphasized, of course, but children would also be taught social skills so they could learn to get along with others and follow social rules in the classroom. Special attention would be paid to their emotional health so they could gain the confidence and motivation to succeed in

school. Because parents are the child's first and most influential teachers, they would be invited to participate in all facets of the preschool and in adult education and training as well. Finally, because poverty carries many stresses that can interfere with healthy functioning, social-support services would be available to children and their families. Nearly four decades later, these components of Head Start have come to define quality early care and education. The effectiveness of the model has been

proved in a plethora of studies over the years showing that Head Start graduates are ready for school and in fact show good progress in literacy, math, and social skills in kindergarten. However, their academic gains during preschool are not as great as they should be, leading some experts and some policymakers to propose making Head Start more academic and less comprehensive. Admittedly, Head Start teachers are not all well qualified, due in part to low salaries and community staffing patterns. But recent revisions in the Program Performance Standards, which govern the quality of Head Start services, have begun to address weaknesses in teacher training as well as curricula.

Strengthening the preschool-education component in such ways is the appropriate response to calls to bolster the school readiness of children who attend Head Start. Focusing on this component to the exclusion of the others is not. Children who have uncorrected vision or hearing problems, who are ill or malnourished, who don't sleep at night because of fear or hurt, or who have parents too preoccupied with their own problems to pay attention to them, will struggle with learning to read no matter how good the teacher.

—Edward Zigler is a professor of psychology at Yale University and was one of Head Start's founders. Sally J. Styfco is the associate director of the Head Start section at the Yale Center in Child Development and Social Policy.

program, argued that children learn primarily from their own spontaneous exploration of things and a subsequent reflective abstraction from those activities. This is an indirect argument for the importance of manipulative materials in early-childhood education. Vygotsky, while also believing that much of intellectual growth was spontaneous, nonetheless proposed that children could not fully realize their abilities without the help of adults. He argued that there was a zone of proximate development that could be attained only with guidance and modeling by adults. Vygotsky emphasized the teacher's role much more than other writers, who entrusted much of young children's learning to the children themselves.

Contemporary early-childhood educators also disagree on the teacher's role in the learning process and continue to debate what is the most effective curriculum for young children. What unites them, and sets them apart from those who would make early-childhood education a one-size-smaller 1st or 2nd grade, is their commitment to building early-childhood practice on their observations of young children. Put a bit differently, the giants of early childhood and their followers agree that early education must start with the child, not with the subject matter to be taught.

The guiding principle of early-childhood education is, then, the matching of curriculum and instruction to the child's developing abilities, needs, and interests. This principle is broadly accepted and advocated by most early-childhood educators. The National Association for the Education of Young Children (NAEYC) has issued a policy statement entitled "Developmentally Appropriate Practice in Early-Childhood Programs." The NAEYC now evaluates and certifies early-childhood programs that meet its criteria for developmental appropriateness.

Complex Understandings

Those who believe in academic training for very young children make a fundamental error: They fail to recognize that there are different levels of understanding in math and reading. Learning to identify numbers and letters is far different from learning to perform mathematical operations and to read with understanding. This is easy to support. "Sesame Street" has run for more than 30 years. Children today know their numbers and letters earlier than ever before. Many know them by age two. Yet children today are not learning math or reading any earlier or better than did children before there was "Sesame Street." Learning the names of numbers and letters is only the first step in the attainment of true numerical understanding and reading comprehension.

Take the concept of numbers. The three levels of numerical understanding—nominal, ordinal, and interval—correspond to different forms of scaling. Nominal numbering is the use of a number as a name, such as the numbers basketball players wear on their uniforms. By the age of two or three,

children can use numbers in the nominal sense. By the age of four or five, children can begin to use ordinal numbers; they can order things according to quantitative differences. For instance, they can arrange a series of size-graded blocks or sticks from the smallest to the largest. Once the arrangement is complete, however, they are not able to insert a new, intermediate-sized element into the perceptual array.

It is only at age six or seven, when they have attained what Piaget calls "concrete operations," that children can construct

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the concept of a "unit," the basis for understanding the idea of interval numbers. To attain the unit concept, children must come to understand that every number is both like every other number, in the sense that it is a number, and at the same time different in its order of enumeration. Once children attain the unit concept, their notion of number is abstract and divorced from particular things, unlike nominal and ordinal numbers. Mathematical operations like addition, subtraction, and multiplication can be performed only on numbers that represent units that can be manipulated without reference to particular things.

The interval concept of numbers is an intellectual construction. It builds on children's practice in classifying things (attending to their sameness) and in seriating them (attending to their difference). At a certain point, and with the aid of concrete operations, children are able to bring these two concepts, of sameness and difference, together into the higher-order concept of a unit, which brings together the ideas of sameness and difference. It is only when children understand that something can be the same and different that they have a true understanding of quantity. Learning the names of numbers and rote counting are less important in this attainment than is practice in classifying and seriating many different materials.

A similar hierarchy of understanding is involved in learning to read. In fact, in some respects reading is a more complex process than arithmetic, in that it involves auditory and visual discrimination as well as cognitive construction. Nonetheless, the principle is the same.

The earliest level of reading is the recognition of words by sight. At ages two or three, a child may learn "stop" and "go" in part by the perceptual configuration and in part by the colors associated with these words. Sight words are like nominal



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numbers; they reflect a very early level of reading achievement. A second level of reading is phonetic; this concept corresponds roughly to ordinal numbers. Children at four or five can learn the sounds for single letters and are able to read words like “hat,” “cat,” “sat,” and so on.

The same child who can read phonetically, however, may not be able to read phonemically. To read phonemically, a child must be able to recognize that a letter can be pronounced differently depending on the context. A child who can read “hat,” “cat,” and “sat” may have trouble with “ate,” “gate,” and “late.” Likewise, a child who knows “pin” may have trouble with “spin” because it involves a blend of consonants that may throw kids off. In Piaget’s terminology, “concrete” operations are required for

this highest level of reading.

Those calling for academic instruction of the young don’t seem to appreciate that math and reading are complex skills acquired in stages related to age. Children will acquire these skills more easily and more soundly if their lessons accord with the developmental sequence that parallels their cognitive development.

A Developing Knowledge Base

From the outset, let’s acknowledge that hard data on the comparative benefits of one or another type of early-childhood educational program are hard to come by. The difficulty stems from the fact that education is a chaotic process. Each time children and their teacher come together they are different, thanks to the intervening experiences each has had. In other words, every classroom meeting is a nonreplicable experiment. Our research tools, however, are borrowed from the physical sciences, where regularity, rather than chaos, reigns. In physics and chemistry it is possible to control most, if not all, of the variables in play. This is almost impossible in education.

For example, classrooms that follow different educational philosophies will vary in many other ways as well. The teachers may vary in skill and experience as well as in personality. In addition, it is almost impossible to match two groups of children. A reliable match would require comparable families, a condition that is difficult, if not impossible, to satisfy. Moreover, the instruments used for assessment, whether observations or tests, are less reliable and less valid at the early level than they are at later ages. This does not mean that meaningful research cannot or has not been done. It just means that we may have to be more innovative in designing studies of educational methods than we have been in the past. The physical-science paradigm, which presupposes regularity and replicability, is simply not appropriate to the study of classrooms.

Longitudinal studies can overcome some of these difficulties, thereby providing meaningful evidence comparing one method with another. Long-term observation and measurement reduce the chance that random factors, such as a teacher’s bad week, are corrupting the data. In an analysis of ten independently conducted, and variously sponsored, longitudinal studies of the effects of early-childhood education for poor and at-risk children, High Scope Educational Research Foundation scholar Lawrence J. Schweinhart and his colleagues found that children who attended preschool performed significantly better intellectually, at least during the program and shortly thereafter. In some but not all of the studies, significantly fewer of the children who attended preschool were classified as disabled and placed in special-education classes. Likewise, in some but not all of the studies, children who attended preschool had higher rates of high-school completion.

These investigations of early-intervention programs provide clear evidence that early-childhood education, in most cases of

the developmentally appropriate kind, had lasting effects on the lives of participating children. It is not clear, however, whether the results would be the same if advantaged children were the subjects. Consider an analogy. If you take children who are significantly below the norm and feed them a full-calorie, nutritious diet, they will make remarkable progress until they reach the norm. But if you put well-nourished children on a similar regimen, there will be few if any effects. If you start at a low level, you have more room for improvement than if you start at the norm.

Studies of children in different types of preschools are merely suggestive. One study by Leslie Recorla, Marion C. Hyson, and Kathy Hirsh-Pasek compared children who had attended an academic preschool with those who had attended a developmentally appropriate program. Although there were no academic differences between the two groups, the children attending the academic program were more anxious and had lower self-esteem. These results diminished after the children began to attend public school.

An older study was carried out by Carleton Washburn, the famed Evanston, Illinois, educator. He introduced children to formal instruction in reading at different grade levels from kindergarten to 2nd grade. The children who were introduced to reading at these three levels were then retested in junior high school. The assessors didn't know the grade at which each child had learned to read. Washburn found little difference in reading achievement among the groups. The children who had been introduced to formal instruction in reading later than the others, however, were more motivated and spontaneous readers than those who had begun early. Similar findings were reported in the Plowden Report in England, which compared children from the informal schools of rural areas with children who attended the more formal schools of urban centers.

Studies of early readers, those who are able to read phonemically on entering kindergarten, have found similar results. In both the United States and Canada, only about 3 to 5 percent of children read early. In such studies, most children had IQs of 120 or higher and were at Piaget's stage of concrete operations. In addition, almost all of them had a parent or relative who took special interest in them. These adults did not engage in formal instruction; they read to their children, took them to the library, and talked about books with them. In order to learn to read early in life, children need the requisite mental abilities, but they also benefit from the motivation that develops from rich exposure to language and books and the special attention of a warm and caring adult.

Evidence attesting to the importance of developmentally appropriate education in the early years comes from cross-cultural studies. Jerome Bruner reports that in French-speaking parts of Switzerland, where reading instruction is begun at the preschool level, a large percentage of children have read-

The movement toward academic training of the young is about parents anxious to give their children an edge in an increasingly competitive economy.

ing problems. In German-speaking parts of Switzerland, where reading is not taught until age six or seven, there are few reading problems. In Denmark, where reading is taught late, there is almost no illiteracy. Likewise in Russia, where the literacy rate is quite high, reading is not taught until the age of six or seven.

Current Practice

Why, when we know what is good for young children, do we persist in miseducating them, in putting them at risk for no purpose? The short answer is that the movement toward academic training of the young is not about education. It is about parents anxious to give their children an edge in what they regard as an increasingly competitive and global economy. It is about the simplistic notion that giving disadvantaged young children academic training will provide them with the skills and motivation to continue their education and break the cycle of poverty. It is about politicians who push accountability, standards, and testing in order to win votes as much as or more than to improve the schools.

The deployment of unsupported, potentially harmful pedagogies is particularly pernicious at the early-childhood level. It is during the early years, ages four to seven, when children's basic attitudes toward themselves as students and toward learning and school are established. Children who come through this period feeling good about themselves, who enjoy learning and who like school, will have a lasting appetite for the acquisition of skills and knowledge. Children whose academic self-esteem is all but destroyed during these formative years, who develop an antipathy toward learning, and a dislike of school, will never fully realize their latent abilities and talents.

If we want all of our children to be the best that they can be, we must recognize that education is about them, not us. If we do what is best for children, we will give them and their parents the developmentally appropriate, high-quality, affordable, and accessible early-childhood education they both need and deserve.

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