



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

(Continued on page 10)

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

(Continued on page 16)

(Continued from page 9)

pumpkin. This is my name on the title page. That means I wrote this book. I'm the author." The teacher then goes through the remaining pages of the book. She says, "One pumpkin," while showing the first page, which has a crayon drawing of a single pumpkin. She says "two pumpkins" while showing the drawing of two pumpkins on page two. The teacher builds up anticipation by saying slowly, "What do you think will be on the last page? Are you ready?" She turns the page to reveal a drawing of a Jack-o-lantern. She reads the word printed in large letters at the bottom of the page, "BOO!" The kids giggle.

She writes the letters "B" and "OO" on the board, with a slight gap between the B and OO, saying, "This is the letter B, it makes the 'buh' sound, and these are two O letters. Together they make the 'ooo' sound. When we put them together they say 'buh-ooo, boo.'" She encourages the children to respond chorally to the prompt, "This is the letter B; it says _____. These are the letters OO; they say _____. Now let's put those sounds together fast while I point to the letters." The children practice blending "buh" and "ooo" into "BOO" as their teacher points to the letters.

The teacher then asks each table to work on a Halloween book using paper and crayons. She circulates among the tables, helping the children divide up the tasks. She suggests that one table make their story about ghosts instead of pumpkins. To another table she suggests making witches the theme. She makes sure that each child at each table writes his or her name on the title page. She helps children with drawing or printing as necessary. She makes sure that each book has the word "BOO" printed on the final page. The children work diligently, and continue on the task through much of the morning, with breaks for snack and playtime. After lunch, the teacher asks each table to read its Halloween story to the class. The children stand in front of the class, and all the children take a turn reading a page of the book their table has written.

Brianna and Jamel are from similar family backgrounds and entered preschool with the same levels of competence and motivation. Their classrooms, however, couldn't be more different. They operate under significantly different assumptions about the pace at which children learn and with significantly different goals for their early educational experiences.

A Matter for Research

Brianna attends a child-centered classroom organized around the principle that children learn best by following their own interests and goals. The teacher's role is to provide engaging materials and to cultivate children's natural development by sharing control with them, focusing on their strengths, forming close relationships, supporting their play ideas, and adopting a problem-solving approach to social conflict.

Jamel attends a content-centered classroom organized around the principle that there are skills and dispositions that

children need to be taught if they are to be prepared for later schooling and life. The teacher's role is to provide a sequence of experiences that will achieve those instructional goals.

Content-centered approaches are more likely than child-centered approaches to involve children sitting at tables engaged in whole-class activities. Content-centered approaches are likely to devote less time to free play. Because there are specific instructional goals, content-centered approaches are more likely to involve the assessment of outcomes. Systems that adopt content-centered approaches are more likely to appeal to research to support their efforts, while child-centered approaches are more likely to appeal to the opinions of practitioners as expressed by the professional organizations to which they belong (as with the standards for developmentally appropriate practice of the National Association for the Education of Young Children).

A pivotal issue for early-education policy is whether there is enough evidence to make a choice among the various child-centered and content-centered approaches, based on the long-

Preschool classrooms in which teachers believe it is developmentally inappropriate to teach early literacy are classrooms in which only children who get this help at home will be ready for school.

term effects on children. Clearly much work remains to be done in this area. In its report *Eager to Learn*, the Early Pedagogy Committee of the National Research Council recommended that "the next generation of research . . . examine more rigorously the characteristics of programs that produce beneficial outcomes for all children." In other words, the research base for choosing either specific curricula or general approaches for early-childhood programs needs strengthening.

Most research on the impact of early-childhood programs has focused on structural measures of quality, such as the teacher's educational level or staff ratios, or on the effects of classroom quality, broadly construed. It is well known, for instance, that preschool classrooms in which teachers have bachelor's or higher degrees produce better outcomes for children than classrooms in which teachers have less education. Classroom quality, as rated by observers on dimensions such as space and furnishings, personal-care routines, and interactions between teachers and children, has also been shown to affect outcomes for children. Such criteria would not discriminate between the child-centered and the content-centered examples above.

Research studies that have directly compared preschool curricula are rare. Recent studies have used correlational methods that compare outcomes for children in child-centered and content-centered classrooms in which teachers have self-selected their instructional approaches and children's parents have self-selected their preschools. Stanford's dean of education Deborah Stipek has conducted the best studies in this genre. Stipek found that children in didactic, content-centered programs generally do better on measures of academic skill than do children in child-centered classrooms, while children in child-centered classrooms worry less about school and have higher expectations for success than children in content-centered classrooms.

Every undergraduate learns that correlation is not causation, and that rule certainly applies here. For instance, are higher levels of performance anxiety in content-centered classrooms due to the focus on academic content or to the personalities of the teachers who defy convention in emphasizing such content? Perhaps children's concerns in content-centered classrooms reflect the influences of their homes more than their classrooms. And it is not altogether clear that children having some concern about their performance in school and having some sense that there are limits to their competence should necessarily be considered negative outcomes. These are questions for further research.

Should Content Rule?

The only comparisons of preschool curricula using random-assignment experiments (the gold standard for causal conclusions) are drawn from studies begun decades ago, mainly during Lyndon Johnson's War on Poverty. One of the best studies, conducted by Louise Miller and Jean Dyer at the University of Louisville, involved random assignment of low-income children in their pre-K year to one of four curriculum conditions (two content-centered models, a Montessori model, and a traditional child-centered model). There was also a comparison condition in which children received no preschool or daycare experience. There were multiple classrooms/teachers in each condition, making it possible to separate the effects of curriculum from the effect of particular teachers and classrooms. Children were followed through the end of 2nd grade. In general, the content-centered preschool classrooms produced strong and immediate effects on cognitive and pre-academic outcomes compared with the child-centered approach, but no meaningful differences lasted through the end of 2nd grade.

This finding of immediate gains and then a fade-out is characteristic of research on early educational interventions (studies of the federal Head Start program, for instance). The fade-out effect for cognitive gains raises the important question of continuity in educational experience. The advantage of hindsight makes it clear that the "inoculation" analogy implicit in the early-intervention programs of 30 years ago is inappropriate. Why, for example, should learning the letters and sounds of the word

"BOO" in a pre-K classroom produce long-term effects on reading scores if a child transitions into a kindergarten classroom that has no academic content and moves from there into an elementary school that does not use systematic instruction in phonics?

There is a clear need for more and better science in this arena—in particular, studies that examine the effects of preschool curricula when joined with kindergarten and elementary-school curricula that build on preschool experiences. Until such research is conducted, statements about the value of content-centered preschools will be merely inferential.

The area of literacy offers the strongest inferential case for content-centered classrooms. Reading skills provide a critical foundation for children's academic success. Children who read well read more and, as a result, acquire more knowledge in other academic areas. By one estimate, a middle-school child who is an avid reader might read nearly 10 million words in a year, compared with 100,000 for the least motivated middle-school reader. Children who lag behind in their reading skills receive less practice in reading than other children. They thereby miss

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opportunities to develop reading comprehension strategies and often encounter reading material that is too advanced for their skills. The upshot is that they develop negative attitudes toward reading itself. Poor readers fall further and further behind their more literate peers in reading as well as in other academic areas.

According to the National Center for Educational Statistics, 38 percent of 4th-graders nationally could not read at the basic level in 1998. In other words, these children could not read a short expository paragraph and extract facts from it. This problem is strongly correlated with family income: 64 percent of African American 4th-graders and 60 percent of Hispanic 4th-graders (two groups that experience disproportionate rates of poverty) scored below the basic level in reading in 1998. In some urban school districts, the percentage of 4th-graders who cannot read at the basic level exceeds 70 percent. Of those children who experience serious problems with reading, 10–15 percent eventually drop out of high school. Only 2 percent complete a four-year college program. Surveys of adolescents and young adults with criminal records show that about half have reading difficulties. Similarly, about half of youths with a history of substance abuse have reading problems. It is no exaggeration to say that early reading failure places a child's life at risk.



What does this have to do with preschool? In short, getting children ready to read is important. The National Center for Educational Statistics recently reported on its Early Childhood Longitudinal Study. Data from 22,000 children involved in this study of the kindergarten class of 1998–99 show that, after controlling for family income, children who attended more academically oriented preschools had significantly higher scores in reading, math, and general knowledge when tested in the fall of their kindergarten year than children in preschool settings without academic content. There is also a strong link between the pre-reading skills with which children enter school and their later academic performance. Connie Juel, a professor of education at Harvard University, found that 88 percent of children who were poor readers at the end of 1st grade remained

so by the end of 4th grade. The relationship between the skills with which children enter school and their later academic performance is strikingly stable. For instance, University of Michigan psychologist Harold Stevenson found a correlation of 0.52 between the ability to name the letters of the alphabet on entering kindergarten and performance on a standardized test of reading comprehension in grade 10.

Two recent longitudinal studies, one by me and my colleagues at the State University of New York at Stony Brook, the other by Florida State University psychologist Christopher Lonigan, have identified important preschool predictors of elementary-school reading success. The two studies assessed an array of cognitive, linguistic, and pre-reading skills in children during the preschool period and followed those children

into elementary school. Both studies used sophisticated mathematical modeling techniques to identify the independent influence of various preschool abilities on reading outcomes. In both investigations, specific pre-reading skills such as knowledge of print (knowing letter names), phonological awareness (being able to rhyme), and writing (being able to print one's name) were strong predictors of reading success well into elementary school. For instance, my colleagues and I found that 58 percent of the differences in reading ability at the end of 1st grade in the sample of roughly 600 low-income children could be predicted from their knowledge of print and their phonological awareness at the end of kindergarten. Likewise, 50 percent of the differences among these children in their print and phonological skills at the end of kindergarten could be predicted from these same abilities measured at the end of their pre-K year in Head Start. In other words, children who began to learn about print, sounds, and writing in preschool were more likely to be ready to read at the end of kindergarten and more likely to be reading successfully in elementary school. These effects were much stronger than the influence of children's vocabulary and general cognitive abilities in the preschool period.

Carlton University psychologist Monique Senechal and others have contributed another piece of the puzzle: Experiences that develop vocabulary and conceptual skills in preschoolers are different from the experiences that develop print skills. Vocabulary and oral comprehension abilities derive from rich oral interactions with adults that might occur spontaneously in conversations and during shared picture-book reading. By contrast, knowledge of letters, letter sounds, and writing is derived from explicit teaching. Preschoolers who know the letters of the alphabet live in homes in which materials such as magnetized alphabet letters and alphabet name books are present and used by parents to teach their children. A study by educational psychologist Jana Mason at the University of Illinois found that nearly 50 percent of preschoolers from families receiving public assistance in Illinois had no alphabet materials in the home. Nearly 100 percent of preschoolers from professional families played with alphabet materials at home.

If preschoolers are not exposed to print and given some tutelage in its principles at home, why should we expect them to have a personal interest in print or to have a goal of understanding it? If children enter preschool without an interest in print, how is a child-centered program in which the teacher follows their personal interest and supports their play ideas supposed to develop that interest? If children do not develop pre-reading skills at home or in their preschool, how are they supposed to succeed in school, given that pre-reading skills are such strong predictors of reading success?

Children need help getting ready to read. A child does not learn the name of the letter "A" or what sound it makes or how to print it simply by being around adults who know these

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things, by being in an environment in which picture books are read to children, or by being in an environment in which adults read for pleasure. Children learn these things because adults take the time and effort to teach them. Preschool classrooms in which teachers believe it is developmentally inappropriate to display alphabet letters or to use systematic activities to teach emergent literacy are classrooms in which only children who get this help at home will be ready for school.

Acknowledging the value of pre-academic content in preschools is not to limit the goals of preschool education. Learning how to interact well with peers and learning general approaches toward learning such as task persistence are important to later school success, over and above the effects of specific pre-academic skills. There's no reason why these goals can't be joined. A child, arguably, can acquire the ability to share and persist while learning about letter sounds just as well as while working with Play-Doh.

Nor does this mean that four-year-olds should be taught using the same methods and materials that are used with seven-year-olds. Bringing elementary-school pedagogy and materials to pre-K will likely fail and could actually harm young children. The challenge for content-centered preschool education is to develop fun and educational classroom activities, including computer-based activities where appropriate, that teach while engaging and developing children's interests. Preschoolers are demonstrably eager to learn about many topics, including reading, math, and science, so a little ingenuity, time, and money should be all it takes.

Any effort to provide more academic content in preschools must be accompanied by an effort to establish solid links between appropriate content-centered preschool curricula and pedagogy and content in kindergarten and elementary school. Preschools need to get children ready for school, not just in a generic sense, but ready for something specific that will be provided at the next educational step and then built on thereafter. We would expect any run-of-the-mill piano teacher to start students with the basics and move them through a sequence of lessons that are hierarchically organized and cumulative in their effects (learning to read music is remarkably like learning to read text). Shouldn't we expect as much of the connections between the lessons of preschool and those of school?

—Grover J. Whitehurst is chairman of the department of psychology and a professor of pediatrics at the State University of New York at Stony Brook.



David Elkind Responds:

Grover Whitehurst's distinction between "child-centered" and "content-centered" classrooms is overdrawn. Any effective early-childhood educator is both directive and nondirective and offers content that is both pre-academic and not pre-academic.

The real concern is whether a classroom is offering developmentally appropriate activities. Consider Whitehurst's example of a teacher in a content-oriented classroom directing the children to write a Halloween story that incorporates a phonics lesson about the "B" sound. In what sense can four-year-olds be expected to "write" their stories? It is a skill far beyond the ability of most preschoolers, who are just beginning to print their names. It is a developmentally inappropriate activity. A more reasonable activity, often used in developmentally appropriate classrooms, would be to ask the children to dictate their story to the teacher, who then writes it down and reads it back to them. This gives children a clear example of how words can be translated into print and how printed words can be translated into sound—a very basic pre-academic skill.

Likewise, consider the content introduced to teach the children the letter "B." This lesson, though apparently simple, was just too abstract for young children. At this stage, children can indeed learn that "B" is for boat or box—that is, they are

able to learn the sound in connection with a familiar name for a familiar object. That is how it would be taught in the so-called child-centered classroom. By contrast, the "B" in "boo," the example Whitehurst uses, is too abstract because it is not associated with a concrete representation. You cannot see or touch "boo." It is the failure of the so-called content approach to take seriously children's developing abilities and modes of learning that is the issue, not directedness or content.

Whitehurst leaves the impression that the child-centered classroom is focused solely on what he describes as children "fol-

This is not to say that we shouldn't challenge children, but intelligent challenge recognizes where children are and encourages them to go further.

lowing their own personal interests and goals." But consider his example of a child-centered classroom. He writes, "Their teacher circulates, engaging the children in conversations about their work and sometimes taking on the role of the play partner. When center time comes to a close, the children gather around the teacher for a review of what they've done." Certainly Whitehurst would agree that children's use of language to converse and to describe their activities is an important pre-linguistic, pre-academic activity. Likewise, by engaging in their self-initiated activities, children are reinforcing what Erik Erikson called their sense of industry. It is the sense of industry that is a basic motivation for academic achievement.

The issues of directedness and content in teaching are very complex at all levels of education, and certainly at the early-childhood level. As I have tried to demonstrate, early-childhood classrooms are not easily divided along the lines of direction versus non-direction, nor along the lines of content that is pre-academic versus content that is not. What really distinguishes them is whether or not the direction and the pre-academic content are developmentally appropriate.

This is not to say that we shouldn't challenge children, but there is intelligent challenge and there is unintelligent challenge. Intelligent challenge recognizes where children are and encourages them to go further. Unintelligent challenge often focuses on the skills to be attained without sufficient attention to the children being taught.

As Whitehurst acknowledges, research in this area is far from definitive. Nonetheless, the wisdom of the giants of early-childhood education, the data from other cultures, and the experience of thousands of early-childhood educators expressed in the guidelines of the NAEYC are strong if not conclusive evidence for the value of a developmentally appropriate approach to early-childhood education.

Grover J. Whitehurst Responds:

Near the beginning of his essay, David Elkind states a position on which he and I agree. He writes, “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.” However, near the end he poses a rhetorical question: “Why, when we know what is good for young children, do we persist in miseducating them, in putting them at risk for no purpose?” But if there is no solid research on which approach to early education is best for children, how can Elkind conclude that we know what is best and that we are “miseducating” children if we stray from the traditional model? The answer to this seemingly obvious contradiction, I think, is Elkind’s belief that we know what good education is because the “giants of early-childhood development” have told us. That none of these “giants” did any research on the effects of different preschool curricula seems to be irrelevant to Elkind, as is his own admission that there is no solid research on the topic. His appeal is clearly to philosophical, historical, and theoretical authority, so ignoring empirical evidence, or the lack thereof, does not register with him as a contradiction.

Yet another example of Elkind’s not letting empirical evidence get in the way of his argument: “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.’” The evidence shows that the average child attending Head Start exits that program in the summer before kindergarten being able to name only one—yes, one—letter of the alphabet. Head Start kids must not be watching enough television.

Another example: “To read phonemically, a child must be able to recognize that a letter can be pronounced differently depending on the context. . . . In Piaget’s terminology, ‘concrete’ operations are required for this highest level of reading.” In this case, Elkind takes the theoretical assertions of Jean Piaget as his basis for concluding that preschoolers can’t “read phonemically.” However, precocious reading early in the preschool period by otherwise normally developing children is well documented, as is a developmental disorder called hyperlexia, in which children with low levels of cognitive and linguistic skills can decode written text with high accuracy. Neither precocious readers nor hyperlexics would have any trouble pronouncing the letter “p” in “pin” (which is aspirated and released) differently from the letter “p” in “spin” (which is neither aspirated or released); likewise, the letter “k” in “keep” versus the “k” in “stack,” and so on. Nor do such children have any difficulty appreciating the obverse, that two different letters can make the same sound—for example, the “c” in “cat” and the “K” in “Kathleen.” Furthermore, the one large-scale study on the

relationship between concrete operational thought and reading, reported by University of Northern Iowa professor of education Rheta DeVries more than a quarter of a century ago, found that measures of reading in children in the early school years were almost entirely unrelated to measures of concrete operational reasoning on Piagetian tasks. Again, Elkind takes the philosophy of “the giants of early-childhood development” as definitive, while ignoring a substantial body of observation and research that runs counter to his assertions.

When Elkind does appeal to research, he does so anecdotally and without attention to obvious contradictions. For instance, he notes, “In German-speaking parts of Switzerland, where reading is not taught until age six or seven, there are few reading problems.” This is significant to Elkind because it is around the age of six or seven that children are supposed to be capable of Piagetian concrete operations. But in the United States, where reading also isn’t taught until age six or seven, 38 percent of 4th-graders nationally and up to 70 percent of 4th-graders in urban schools can’t read at the basic level. What, then, are we to learn from the Swiss example?

Most fields of scholarship that bear on the human condition showed substantial progress during the 20th century. Take medicine. Citations to the work of Louis Pasteur in a 21st-century publication on bacteriology would be unlikely and would occur only to establish the historical context of a modern program of research. The reason that Pasteur’s work isn’t of current scholarly import is that medicine is an evidence-based field. One generation of research lays the basis for the next, and the process

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proceeds in a cumulative, though not linear, fashion until the product of work of 100 or 50 or perhaps only 2 years ago has only historical significance. Early education, by contrast, remains mired in philosophy, in broad theories of the nature of child development, and in practices that spring from appeals to authority and official pronouncements of professional guilds, rather than to research. Until the field of early education becomes evidence based, it will be doomed to cycles of fad and fancy. We need a science of early-childhood education, and we need it now.