The Role of Program Quality in Producing Early Childhood Program Benefits

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Abstract

It is widely accepted by the field of early childhood education and by the public that high-quality preschool programs for young children from low-income families can have long-term benefits, although studies of early childhood programs in typical communities have often failed to find similar long-term effects. Some argue that variations in the quality or developmental appropriateness of programs can account for differences in effectiveness. This article reviews studies designed to define and measure the effects of quality in early care and education, and it analyzes the programs provided in successful long-term studies to look for common elements that may be critical to the long-term effectiveness of preschool. The conclusions of the analysis are that effective programs were characterized by combinations of most of the following elements: (1) small class sizes with low ratios of children to teachers; (2) teachers who received support to reflect on and improve their teaching practices; (3) a concentrated or long-lasting intervention; (4) ongoing, child-focused communication between home and school; and (5) use of some curriculum content and classroom processes that are similar to what children encounter in traditional schooling. Recommendations for policy, practice, and research are offered to promote the adoption of these effective practices in all types of early childhood programs.

Results from longitudinal research on the efficacy of preschool intervention for children from low-income families have been cited by the press, child advocates, and politicians as support for the creation and expansion of government-funded early childhood intervention programs such as Head Start, prekindergarten, and child care programs for low-income families. (For a review of the longitudinal studies, see the article by Barnett in this journal issue.) Recently, experts have questioned whether these results, which emerged from experiments using high-quality intervention programs, can be generalized to widespread, poorly funded programs.1-3 The critics suggest that the quality and intensity of the preschool
programs in the original studies are not being replicated in today’s typical programs and, thus, that the same effects cannot be assumed. Moreover, the impact on practitioners of the longitudinal research on early childhood programs has been limited by the implicit assumption that one intervention is much the same as the next, so it is not necessary to examine the specific services provided in early childhood programs or the mechanisms through which the programs influenced children’s development. This article reviews available research on classroom practices and the impact of those practices on child outcomes. Curricula and program practices used across the longitudinal studies of center-based programs for three- to five-year-olds are examined to identify commonalities that may explain the effectiveness of those programs and guide future program development efforts.

Determining the effects of curricula or teaching methods on young children is a complex task. Curriculum research is affected by the same design problems that confront all evaluation research: When children are not randomly assigned to classroom types or curriculum groups, or when children from one group more often drop out of the research than those in another of the groups, the results of the study can be easily misinterpreted. In addition, because different curricular approaches have different goals, different outcomes should be expected for each. Comparing the curricula on the same outcome measures may disguise differences in their full effects on children. Another source of difficulty is that children’s development is quite complicated: it is influenced by many environmental factors, and children shape their environments through their own actions. Different aspects of children’s development—cognitive, social, or emotional—may be stimulated by particular teaching methods. The complexity of children’s development and the multiple factors that influence it make simple cause and effect relationships difficult to establish. Indeed, children with certain characteristics and family backgrounds may benefit more from one type of program while others may benefit more from another.

Nevertheless, policymakers and practitioners, eager to ensure that the programs they offer young children will promote development, look to researchers for guidance. Fortunately, several different lines of research on classroom practices yield consistent findings about key program practices that support positive child development.

Three types of studies on classroom practices are reviewed here. These include (1) experimental studies that were explicitly designed to compare different curricula; (2) naturalistic studies of quality variations in large-scale, community programs (child care and preschool), and (3) research comparing programs that differ in their use of what the leading early childhood professional association has identified as “developmentally appropriate practices.” The results of these studies suggest that classroom practices and teacher training make a difference in the effects of early education and child care on children, although the relationship between classroom practices and individual children’s behavior and development deserves more careful study.
Detailed descriptions of the curricula and classroom practices used in the early childhood programs that achieved long-term benefits offer further hints about aspects of practice that are associated with effectiveness. The approaches identified as effective all increased the contact between teachers and children and gave the teachers greater knowledge about the children in their care, permitting the teachers to tailor their teaching styles to meet each child’s individual needs. Many of the children’s activities in preschool resembled the content of early schooling, perhaps making it easier for the children to succeed when they entered that new context.

Unfortunately, the program conditions that set the stage for effectiveness are often absent in typical service programs today, whether early childhood education or child care. This article concludes with recommendations for research, practice, and policy which include steps to increase attention to quality in all early childhood programs.

Three Types of Research Concerning Classroom Practices

Research concerning the effectiveness of various curricula or classroom practices can be grouped into three types with distinct but related purposes. One approach designs a theory-driven “horse race” to determine if a curriculum derived from Theory A is more effective than curricula derived from Theories B and C by comparing model programs in which each curriculum is implemented as completely as possible. The second research approach investigates programs in the community to determine which, if any, program characteristics are important predictors of positive child outcomes. The naturally occurring variation in program design, curriculum, and teacher practices is the focus of this research. A third type of research builds on the second approach but explicitly investigates the effects on children of programs that follow professional guidelines for “developmentally appropriate practices.” Each of these research traditions is reviewed briefly below.

Experimental Curriculum Comparison Studies

The horse race model was adopted in three longitudinal curriculum comparison studies launched in the late 1960s. In these studies, researchers randomly assigned low-income children to one of several classrooms, each using a different curriculum. Because the classrooms were all controlled by the researchers, variables other than curriculum which would affect the program—such as child-teacher ratio, class size, teacher training, and child characteristics—were held constant.

Reflecting the dominant interests of the era, the curriculum comparison studies reviewed here contrasted three basic types of curricula. In a didactic or direct instruction curriculum, the teacher presents information to the children in structured, drill-and-practice group lessons which are fast-paced, teach discrete skills in small steps, and involve frequent praise. Open classroom or traditional approaches flow from a belief that children must direct their own learning and will learn when they are ready, as long as the teachers provide stimulating materials and support for the children’s choices. Socialization is often the main goal of this curriculum. Interactive or cognitive-developmental curriculum adherents view learning as an active exchange between the child and her environment, one key element of which is the teacher. In this model, teachers initiate activities designed to foster children’s reasoning and problem-solving abilities, and they interact with children during child-designed activities to add new ideas or enhance learning. The open classroom and interactive curricula are both considered nondidactic because teachers rarely instruct children directly on discrete skills.

The three curriculum comparison studies found few consistent differences in the impacts of the tested curricula on children’s cognitive performance and school achievement. One review that combined data from these and related studies concluded that it
appears that “a variety of curricula are equally effective in preparing children for school, and that any one of the tested curricula is better than no preschool program at all.”\(^\text{10}\) Another reviewer noted that “the search for the ‘perfect’ curriculum is probably futile.”\(^\text{11}\)

One of the curriculum comparison studies followed the children who experienced different curricula into adolescence and measured social adjustment outcomes. That study asserts that the direct instruction model is less effective than nondidactic approaches at reducing delinquency, improving social development, and developing problem-solving skills.\(^\text{12}\) These results have been questioned because one of the curricula being tested was developed by the research organization,\(^\text{13,14}\) although precautions were taken that should have protected against bias. The study’s findings suggest that teaching approaches which emphasize adult control (such as giving commands, asking questions with a single “right” answer, or providing instruction to the whole group rather than to individuals) may not help children develop overall coping skills.\(^\text{15}\) This focus on how children react to didactic preschool environments links the early curriculum research to later studies of the developmental appropriateness of teaching practices, described below.

**Teaching approaches which emphasize adult control may not help children develop overall coping skills.**

Studies of Quality in Large-Scale or Community Programs

The second group of classroom practice studies investigated nonexperimental, community programs to determine if observable program characteristics were related to child outcomes. Some of these studies were motivated by early findings that Head Start had little effect on the children it served;\(^\text{16}\) others reflected concerns about the effects on children of spending large amounts of time in child care.\(^\text{17}\) In both instances, researchers hypothesized that the effects of the program, whether Head Start or child care, depended on specific characteristics of the program and on the actual teaching practices that took place in the classroom. For instance, findings might show that Head Start could be beneficial if the quality of the program was upheld, or that child care would not have adverse effects if children were provided with quality services.

One large-scale study evaluated curriculum implementation and later outcomes in a statewide preschool program operated by the South Carolina public schools.\(^\text{18,19}\) State officials selected one curriculum to be implemented in all the preschool classrooms in the state. Although children were not randomly assigned to attend the preschool program, the study created a comparison group from the waiting list of eligible children from disadvantaged families. Children from 12 classrooms in three locations across the state were pretrained on a screening test, and their scores on school-administered tests were collected at both kindergarten and first grade. Classrooms in which the curriculum was moderately to well implemented had positive effects for children in kindergarten and first grade as measured by later tests of school-related skills.

Using observations of the behavior of the teachers, the study’s authors identified 22 teacher behaviors that were linked to positive child outcomes in kindergarten and first grade. These included taking advantage of “teachable moments” during all parts of the day and designing teacher-initiated activities around children’s ideas, individual choices, and abilities. In addition, teachers in the more effective classrooms observed the children’s activities, watched for appropriate times to enhance learning, made specific comments or suggestions about children’s work, asked thought-provoking questions, referred children’s questions to other children, and modeled appropriate communication techniques. Effective teachers were more likely than others to encourage children to think of positive ways to deal with their emotions and to develop their own solutions to disagreements.

Other researchers have examined classroom practices in community child care programs, responding to concerns about the well-being of the growing number of children who are placed in child care centers for long periods of time. Noteworthy for its design and comprehensiveness is the
National Day Care Study conducted by Abt Associates in the late 1970s. That study’s most influential finding was that smaller groups of children and lower ratios of children to staff (for example, five preschoolers to one adult rather than seven to one) both resulted in better social and cognitive outcomes for children. Group size and ratios of children to staff appeared to affect children’s development by permitting more positive interactions to occur between teachers and children, among children, and between children and materials. Other child care researchers have since corroborated the importance of these factors.

Another variable that contributes to the quality of early childhood settings is the training of staff. Many studies have found that staff members with more formal schooling or specialized training are more attentive and nurturing in their behavior toward children. The newest research has probed the working conditions confronting staff in early childhood programs, finding that programs which offer higher salaries, better benefits, and supportive management also have better qualified staff who remain longer in their jobs. Children in those programs benefit from having stable relationships with teachers who are skilled and sensitive.

Researchers have also developed global ratings of program quality which can be related to children’s behavior and later development. The global ratings combine structural variables such as group size, physical environment, and staff training with process variables such as teacher-child interaction. For the most part, studies using these global ratings of quality have found that young children who attend higher quality child care centers score better on measures of social, language, and cognitive development. Only a few of these studies followed children over time to assess their behavior in other settings or measured their development after a year or more had passed.

Research on Developmentally Appropriate Practices

Efforts by researchers to describe and measure quality in early childhood programs have been paralleled by attempts by professionals to identify and acknowledge programs that are “developmentally appropriate.” After an extensive process of study, expert consultation, and discussion, the National Association for the Education of Young Children (NAEYC)—the leading professional association of early childhood educators—published guidelines for developmentally appropriate practice for those working with children from birth to age eight. These guidelines formed the criteria for a nationwide accreditation system for programs that serve young children in classroom settings, and their availability stimulated another series of studies of how classroom practices affect children. Rating scales based on the NAEYC accreditation criteria measure the extent to which classrooms conform to standards of developmentally appropriate practice (DAP) and allow researchers to determine how appropriate and inappropriate practice affects children.

Research conducted across many settings and with different groups of children indicates that developmentally appropriate programs in kindergarten, preschool, and child care settings do promote better child development outcomes. For example, in one study, African-American children from low-income families who attended kindergartens that were developmentally appropriate experienced less stress and did better on achievement tests than did their counterparts in programs that did not meet the DAP guidelines. A study of community child care programs found more positive interactions among the children in classrooms rated as more appropriate. Two studies compared children who experienced DAP with those in didactic preschool programs. One showed that middle-income children in DAP programs performed better on measures of academic skills and creativity, and had less anxiety. The other study found that children from developmentally appropriate Head Start or prekindergarten classrooms were more likely to achieve academically and socially...
in elementary school than children from didactic classrooms.\textsuperscript{35}

Overall, this review of the three strands of literature on classroom practices suggests that (1) early education and child care using a variety of curricula can be beneficial for children from low-income families; (2) didactic programs may yield fewer benefits than other programs, especially in social domains; (3) such program features as group size and the ratio of children to staff influence whether programs have positive effects on children; and (4) teachers with specialized training and fewer children in their care, who are attentive to individual children, and who use strategies considered developmentally appropriate are more competent at enhancing children’s learning and growth. These findings point out key aspects of quality for policymakers and practitioners to consider. Building on that framework, a more detailed examination of the implementation of programs that proved to be effective offers insights into the mechanisms by which early childhood programs may contribute to development.

Curricula and Classroom Practices in the Programs Studied Longitudinally

Expecting that program practices like those identified in the literature reviewed above may have contributed to the positive effects that experimental early childhood interventions had on children, the author searched the longitudinal studies of the effectiveness of preschool programs for low-income children for common elements. This review focuses on seven programs with longitudinal study results at least through elementary school which provided center-based experiences for low-income children three to five years of age and included in their reports written descriptions of their curriculum and classroom practices (see Table 1). The three curriculum demonstration studies discussed earlier are included among the seven, as are several of the most influential early childhood experiments analyzed in the articles by Barnett and Yoshikawa in this journal issue. Five aspects of program quality and effective practice shared by these programs are examined here: ratio of children to staff; support for teachers to reflect on their work; program intensity and duration; a parent component; and traditional curriculum content. A theoretical interpretation is offered showing how these features work together to give classroom teachers knowledge about individual children that they can use to promote child development and to help children with the transition from preschool to school.

Child-Teacher Ratio and Class Size

As stated earlier, the general research on early childhood program practices has shown a relationship among the number of children assigned to a teacher, the degree to which children experience individual positive interactions, and child development outcomes. The longitudinal research supports the view that small class sizes and low child-to-teacher ratios contribute to positive, long-term benefits for children from low-income families. Most of the experimental programs—even those implemented in the late 1960s—did not exceed seven children per teacher. By contrast, as Table 2 shows, only about one-third of current Head Start, prekindergarten, and child care programs have ratios which are that good.\textsuperscript{36} Only one state requires child care centers to maintain a ratio of 7 or 8 children to one teacher; other states allow as few as 10 or as many as 20 children per staff person. One reason a low child-to-staff ratio has a positive impact on learning (at least in this culture) may be that it allows the teacher to spend more time with individual children and to know more about their learning readiness and interests. Low ratios and small groups may also create a more comfortable environment for children who do not thrive in group situations and prefer quiet, focused activities.

Reflective Teaching Practices

The early childhood programs described in the longitudinal studies share a second important commonality: the teachers or caregivers they employed engaged in regular
### Developmentally Appropriate and Inappropriate Practices

#### Items from One Research Checklist

<table>
<thead>
<tr>
<th>View of Growth and Development</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate</strong></td>
<td><strong>Inappropriate</strong></td>
</tr>
<tr>
<td>Work is individualized</td>
<td>Work is evaluated against a group norm</td>
</tr>
<tr>
<td>Children move at their own pace</td>
<td>Everyone is expected to acquire the same narrowly defined skills</td>
</tr>
<tr>
<td></td>
<td>Everyone does the same thing at the same time</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization of the Curriculum</th>
<th></th>
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<tbody>
<tr>
<td><strong>Appropriate</strong></td>
<td><strong>Inappropriate</strong></td>
</tr>
<tr>
<td>Activities center on topics in such areas as science and social studies</td>
<td>Teacher-directed reading groups</td>
</tr>
<tr>
<td>Topic activities include story writing and story telling, drawing, discussing, listening to stories, informational books, and taking part in cooperative activities</td>
<td>Lecturing to the whole group</td>
</tr>
<tr>
<td>Skills are taught as they are needed to complete a task</td>
<td>Paper-and-pencil exercises, workbooks, and worksheets</td>
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<table>
<thead>
<tr>
<th>Teacher Preparation and Organization of Instruction</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate</strong></td>
<td><strong>Inappropriate</strong></td>
</tr>
<tr>
<td>Learning centers provide opportunities for writing, reading, math and language games, dramatic play</td>
<td>There is little time for enrichment activities</td>
</tr>
<tr>
<td>Children are encouraged to critique their own work</td>
<td>Interest centers are available for children who finish their seatwork early</td>
</tr>
<tr>
<td>Errors are viewed as normal and something from which children can learn</td>
<td>Centers are set up so that children must complete a prescribed sequence of teacher-directed activities within an allotted period of time</td>
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<tr>
<th>Prosocial Behavior, Perseverance, and Industry</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate</strong></td>
<td><strong>Inappropriate</strong></td>
</tr>
<tr>
<td>Stimulating, motivating activities that promote student involvement</td>
<td>Children are lectured about the importance of appropriate social behavior</td>
</tr>
<tr>
<td>Individual choices are encouraged</td>
<td>Children who become bored and restless with seatwork and whisper, talk, or wander around are punished</td>
</tr>
<tr>
<td>Enough time is allowed to complete work</td>
<td>Children who dawdle and do not finish work in the allotted time are punished</td>
</tr>
<tr>
<td>Time with friends or teachers is provided</td>
<td>There is no time for private conversation</td>
</tr>
</tbody>
</table>

reflection on their teaching practices with support from researchers and curriculum specialists. Teaching at its best has been described as research: good teachers generate questions, gather data, test hypotheses, and draw conclusions that guide their interactions with students. In the longitudinal studies, teachers were systematically encouraged to adopt a reflective, research attitude toward their work. Teachers and other staff members met often to discuss the program, plan for individual children, and participate in formal training sessions. For instance, the Abecedarian program described the support the intervention teachers received in this way: “Teachers are given inservice training and consultative help in assessing children’s needs; setting objectives; planning and implementing activities that will stimulate particular kinds of communication; and evaluating their own interactions with children. . . . Consultants helped them to select objectives to work on in the classroom each week, and guided them in devising activities that would help children reach the objectives set.” By contrast, caregivers who work in community child care programs and even many preschool teachers in public programs lack time for planning, reflection, and assessment, and few receive regular supervision by trained professionals.

Intensity and Duration
Although one would expect the most effective programs to be those with the most intense, long-lasting interventions, comparisons among the longitudinal research studies do not allow firm conclusions regarding the benefits of program intensity and duration. (See the article by Barnett in this journal issue.) As Table 1 shows, some effective programs offered only a half-day program during the school year, while others involved the children in a full-day, year-round program. The programs also varied in the number of years of treatment they offered, ranging from eight months to more than five years. In some instances, activities for children and families continued in a different form after the children entered public school, to increase the continuity between early and later experiences and to sustain developmental benefits.

These variations in duration and intensity across programs are not associated with

<table>
<thead>
<tr>
<th>Researcher/Related Endnote Number</th>
<th>Ratio</th>
<th>Group Size</th>
<th>Duration</th>
<th>Intensity</th>
<th>Activities for Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garber45 Infants 1:1 Preschool n/a</td>
<td>1:1</td>
<td>2</td>
<td>6 years</td>
<td>Full day</td>
<td>Job training</td>
</tr>
<tr>
<td>Gray, Ramsey, and Klaus46</td>
<td>1:5</td>
<td>10</td>
<td>10 weeks</td>
<td>Part day</td>
<td>Home visiting</td>
</tr>
<tr>
<td>Karnes, Zerback, and Teska47</td>
<td>1:5</td>
<td>15</td>
<td>8 months</td>
<td>Part day</td>
<td>Minimal: one curriculum Held parent conferences</td>
</tr>
<tr>
<td>Lally and Honig48</td>
<td>Infants 1:4 Preschool n/a</td>
<td>1:4</td>
<td>8</td>
<td>5 years</td>
<td>Full day</td>
</tr>
<tr>
<td>Miller and Dyer49</td>
<td>1:7</td>
<td>15</td>
<td>1 year</td>
<td>Full day</td>
<td>Minimal: one curriculum Made home visits</td>
</tr>
<tr>
<td>Ramey and Campbell41</td>
<td>Infants 1:3 Preschool 1:7</td>
<td>1:7</td>
<td>14</td>
<td>5 years</td>
<td>Group meetings</td>
</tr>
<tr>
<td>Weikart50</td>
<td>1:5</td>
<td>20 to 25</td>
<td>2 years</td>
<td>Part day</td>
<td>Weekly home visits</td>
</tr>
<tr>
<td>Weikart, et al.8</td>
<td>1:8</td>
<td>15 to 16</td>
<td>2 years</td>
<td>Part day</td>
<td>Biweekly home visits</td>
</tr>
</tbody>
</table>

*a* See the related endnotes at the end of this article for a complete citation of the reports and/or studies in which the outcomes of these programs are described.

*b* The letters n/a indicate that this information was not available in the sources referenced.
striking differences in program effects, however. It may be that even relatively limited experience of the high-quality preschool programs offered in these studies was sufficient to set the intervention children on a path toward change. Intensity may encompass more than time, also including the concentration that comes from low ratios, home visiting, and coherent curricula. By contrast, although many children today spend their early years in full-day child care, few stay in only one program for the entire time; and, as they move from classroom to classroom and program to program, they can be exposed to a dizzying mix of different curricular approaches.

Relationships with Parents

Many believe that helping parents improve their skills as caregivers is an effective method of improving children’s life chances (see, for example, the article by Yoshikawa in this journal issue); however, according to the article by St. Pierre, Layzer, and Barnes, also in this journal issue, experience has shown that programs for parents alone do not influence children’s development as strongly as do programs that involve children directly. Most of the longitudinal studies reviewed here combined center-based experiences for children with efforts to involve parents by offering weekly or biweekly home visits by the child’s teacher, parent group meetings, and parent involvement in the classroom. In most programs, the staff strove to establish a collaborative relationship with the parents to share knowledge about the child from the home and the classroom perspective.

Few current early childhood programs are able to offer the kind of parent involvement program which existed in the experimental studies. Although Head Start is known for its attention to parents, in most programs, home visits are made only a few times per year (not weekly), and the visits are not conducted by the child’s classroom staff.42,43 As Table 3 shows, a study of 1,812 centers serving three- to five-year-olds found that fewer than one-fourth of child care centers make home visits or invite parents to volunteer in the classroom.36 In all these ways, typical practice fails to reproduce the intensity and coherence of the experimental programs, so it would not be surprising if today’s large-scale, community programs had fewer positive effects on children.

Classroom Processes and Curriculum Content

Although the curriculum goals and approaches adopted in the experimental
programs differed along the lines discussed in the earlier section on curriculum comparison studies, there were also important commonalities in both process and curriculum content across the programs. Many of the programs consciously exposed children to classroom processes that differed from the children’s interactions at home but were similar to those they would experience in formal schooling: whole class, small group, and individual interactions with teachers.

Preschool teachers tend to use a discourse pattern that is typical of schooling in which the teacher asks a question, the child responds, and the teacher gives feedback to the response. For example, the teacher asks, “Which of these do you think will float in the water?” The child replies, “The cork.” The teachers says, “Let’s see if you’re right.” The preschool children may also have learned school-like strategies for remembering such as rehearsal or categorizing things to be remembered. All of these experiences were apt to give the children advantages when they began school which could be the beginning of abiding differences in the way school was experienced. (See the article by Entwisle in this journal issue.)

Even though the programs applied new theories of development to help children develop thinking skills, the content relied on by most teachers was drawn from traditional kindergarten and nursery school. Consistent across every program was a strong focus on language. The teachers provided a model of standard English, and the programs encouraged children to talk and be understood, to understand the speech of others, and to use language to express ideas and symbolic concepts. The classroom materials, activities, and discussions involved typical knowledge such as shapes, colors, sizes, number, animals, transportation, seasons, holidays, and so on. This focus on typical, everyday topics may have offered continuity that eased the child’s move from home to preschool, even as the classroom experience prepared the child for the transition from preschool to school.

### Table 3

**Parent Involvement Options Offered by Community Early Childhood Programs Serving Children Ages Three and Four**

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Classroom Volunteer</th>
<th>Offering Workshops</th>
<th>Making Home Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Start</td>
<td>88%</td>
<td>91%</td>
<td>98%</td>
</tr>
<tr>
<td>School-sponsored</td>
<td>45%</td>
<td>64%</td>
<td>45%</td>
</tr>
<tr>
<td>Nonprofit child care</td>
<td>27%</td>
<td>40%</td>
<td>18%</td>
</tr>
<tr>
<td>For-profit child care</td>
<td>12%</td>
<td>23%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Note: The data in this table are based on self-reported responses from a nationally representative sample of 1,812 center-based early childhood programs serving preschool-age children which were surveyed in 1990.

factors like teachers’ responsiveness to children’s needs and abilities, and continuity in children’s experiences between home, preschool, and public school. To understand why these factors matter, it is useful to consider several theories about how the social and cultural environments children experience help them learn and prepare them to adapt to the new contexts they will face. To illustrate, the next section offers examples of how developmental theory can be used to explain the power of individualized teaching and how social psychologists might interpret the importance of consistency between home, preschool, and school settings.

**Individualized Support for Learning**

A Russian theorist, Lev Vygotsky, suggests an important mechanism by which the adults and peers who surround the child influence development. He argues that beyond the child’s current level of function is a “zone of proximal development”—a set of challenges that the child cannot meet alone but can meet with the support and assistance of others. The best teachers seek to identify those challenges—the child’s zone of proximal development—to individualize their efforts with each child. They then structure activities not to match the child’s current functional level, but to provide support for the child to work just above his current ability and thus advance his development. To help the child make that leap, the teacher needs individual knowledge of the child’s current functioning and must understand the step that lies immediately ahead for that child.

For example, a five-year-old is pushing a small shopping cart through the house area in his preschool. His teacher notices that he is putting fruit in the small basket and all other groceries in the larger section of the cart. She has watched him sort objects over the past few weeks and thinks that he may now be able to classify along two dimensions at the same time, with some help from her. She goes to the cash register to pretend to be the cashier and

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**The best teachers provide support for the child to work just above his current ability and thus advance his development.**
Many of the curriculum practices used in the programs found to have lasting benefits for children can be seen as strategies that increased the ability of teachers to recognize and take advantage of each child’s readiness to learn. Teachers are more likely to gain the specialized knowledge they need to tailor their teaching when they work with relatively few children for a long period of time and when they have a chance to reflect on their teaching practices. Such teachers are more able to understand the children’s individual learning readiness and interests, and they can create activities and interactions within each child’s zone of proximal development. The value of close relations between teachers and parents can also be seen as a means of improving the teacher’s ability to understand the child and promote his or her learning. The teacher who has extensive contact with the child’s family can better understand the child as an individual and have an appreciation for the contexts within which the child must function, the parents’ aims and hopes for the child, and the values of the child’s culture. When parents and teachers are teamed in such a collaboration, the adults do the work to build consistency in the world of the child, rather than leaving it up to the child to integrate disparate contexts.

**Scripts to Cope with New Contexts**

Routine activities can provide another kind of zone of proximal development and can help explain why consistency and continuity help children learn as they move from one context to another—from home to preschool or from preschool to kindergarten. Routine or repetitive activities, such as going to a restaurant or singing songs at circle time in preschool, provide scripts for children which help them make sense of other events and help them know how to behave. Having scripts makes it easier for children to learn because they are familiar with the structure and content of the event and can focus on mastering new information. When children lack scripted knowledge, their attention is drawn to the details of the new activity, and they may be unable to focus on learning tasks.

The lack of scripted knowledge challenges many children as they move from the home environment into school settings. The scripts of school are different from those in most homes and are likely to differ even more in some minority cultures, placing a double burden of learning on those children when they enter preschools and schools. When children encounter similarities between settings in what happens and how it happens, it is easier for them to develop new scripts that help them make later transitions as well. Early childhood programs can serve as a bridge for children between home and school, especially if the preschool curriculum emphasizes the traditional curriculum content and the varied interaction styles (large group, small group, one-on-one learning) that the child will encounter in school.

**Conclusion and Recommendations**

This analysis of the longitudinal studies of experimental preschools and newer studies of the effects of quality in early education and care suggests that the benefits of early childhood programs are influenced by the interrelated factors of program structure (class size, the ratio of children to teachers, and service intensity); processes that help teachers respond to individual children (reflective teaching practice and close relationships with parents); and curricula that serve as a bridge between home and school.

The prevalence of these quality factors in experimental preschools contrasts with their absence in many of today’s typical community programs for low-income children. If preschool intervention is to live up to the promise of the longitudinal results, then Head Start, Chapter 1, child care, and other programs should approximate the standards of quality suggested by the research reviewed here and endorsed by professional groups. The following recommendations spell out steps that can be taken by policymakers, practi-
tioners, and researchers to ensure that early childhood programs are good enough to benefit the children who attend them. The recommendations pertain particularly to center-based programs for children from low-income families, but they may be equally important for all children across early education and care settings.

**Policy**

State and federal policymakers affect early childhood programs in two primary ways: by establishing regulatory standards that define the type of care which is legal or expected and by providing funding for programs and for quality-improvement activities. Both types of policy action have an immense impact on the nature of early childhood programs because they define the legal and resource context in which programs must exist.

1. **Review regulatory requirements and program guidelines.** State regulatory requirements that child care centers must meet to operate legally should be reviewed, focusing especially on group size and child-staff ratios and on teacher qualifications because these factors create the program conditions that permit positive interactions to take place between teachers and children. Similar reviews should be conducted by the state and federal agencies that set guidelines for Head Start and for preschool programs operated by the public schools. Despite pressures to increase the availability of care, the temptation to increase permitted class sizes and ratios of children per staff member should be resisted. (See Box 2.)

2. **Provide funds sufficient to pay for quality services.** Many early childhood programs that serve low-income children derive their funds from public sources, and their efforts to improve quality are directly linked to the level of that funding. Increasing the funding provided per child enables programs to improve quality; for example, by paying more to attract qualified teachers. Funding cuts are likely to decrease quality. Some state policymakers use funding formulas to encourage programs to become accredited by professional groups by paying higher rates per child for child care provided in accredited programs.

3. **Support initiatives to improve program quality.** In addition, public funds can be designated to pay for quality improvement costs by making free training available, for example, or by offering grants to help programs meet licensing or professional accreditation standards. The Child Care and Development Block Grant passed by the Congress in 1990 allowed 25% of the funds to be used to support efforts to increase the quality and availability of child care.

**Professional Practice**

Although policy changes in both regulations and funding levels are needed to achieve widespread improvements in early childhood programs, the responsibility for creating change will remain with practitioners—program administrators, center directors, and teachers. Professionals have the task of translating research findings and professional knowledge into practical approaches in several key areas.

1. **Create new staffing patterns.** Design cost-efficient staffing patterns that yield favorable ratios of children to staff and allow stable relationships to develop between individual children and teachers.

2. **Find new ways to give teachers on-site supervision and support.** Develop training and models of supportive supervision and mentoring for new and experienced teachers to inform their work with individual children in actual classrooms.56,57

3. **Implement comprehensive curricula.** Create and faithfully implement coherent curricula that attend to all facets of children’s development and meet the needs of children with different backgrounds and different needs.

4. **Work toward coherence and continuity.** Design expansion and collaboration efforts
Box 2

Recommendations of the Advisory Committee on Head Start Quality and Expansion Concerning Staffing and Career Development

In June of 1993, Donna Shalala, Secretary for Health and Human Services, convened a 47-member Advisory Committee to review the Head Start program and make recommendations for improvements and expansion. The Advisory Committee concluded that “the quality of services must be a first priority. We should strive for excellence in all Head Start programs by focusing on staffing and career development, improving the management of local programs, reengineering federal oversight to assure accountability, providing better facilities, and strengthening the role of research.”

To assure quality and achieve and sustain excellence in Head Start, the Advisory Committee recommended launching a Head Start staff support and improvement initiative that would weave together six action steps:

1. Provide national leadership in developing and implementing staffing plans in every Head Start program. These should address staff qualifications, wage scales, career advancement, and successful interactions with children and parents.

2. Develop a new initiative to encourage “qualified mentor teachers” to support classroom staff. Create a master teacher position for teachers with B.A. degrees to provide decentralized supervision to classroom staff, and provide a career development opportunity for teachers.

3. Establish competency-based training for staff who work directly with families. Develop a curriculum and credential recognizing competencies with families, similar to CDA.

4. Ensure sufficient staffing levels to serve children and families effectively. Set goals for case loads and staff-family ratios for social services, parent involvement, and health staff.

5. Continue to increase the compensation of Head Start staff. Provide training, design benefit pools and retirement plans, and document the impact of salary enhancements on quality.

6. Strengthen the availability of training and career development opportunities at the local level. Convene key players in higher education to strengthen their work with Head Start; link Head Start to emerging career development systems for early childhood staff, create a leadership fellows program to build leadership in Head Start and early childhood programs.


to ensure that children experience both coherence and continuity in early childhood programs, whether services can be provided by a single agency or must be coordinated across several programs.

5. Help teachers work with parents. Provide time and appropriate training to enable teaching staff to work collaboratively with parents.

Research
Research can serve policy and practice in the field of early childhood programs in two major ways: by pointing out areas in which new approaches are needed and guiding the development of those approaches, and by assessing the impacts of innovations once they are put into practice. Several directions that research might take are described below.

1. Identify ways curriculum and teaching should be individualized. Mount finely tuned studies to document how children’s developmental ability, temperament, learning style, personality, and familial characteristics affect their responses to different curricula and teaching practices.

2. Examine continuities and discontinuities across contexts. Conduct studies of the interplay between the individual child’s characteristics, the immediate contexts of
the home and classroom, the larger contexts of the formal school environment, and the surrounding cultures of home and society.

3. Assess the impact on teachers of classroom-based training. Examine the changes in teaching practices that result when teachers receive support and guidance from supervisors or peers who have been trained in observation and consultation.

4. Document the costs and impacts of changing regulatory requirements. Pioneering studies have measured the effects that raising regulatory standards for child care has on the quality of care provided and have assessed the impact that raising requirements has on program costs. These studies should be replicated and extended to give policymakers reliable information about the fiscal and programmatic impacts of their actions.

As this article has shown, much is known about how to provide beneficial programs for children from low-income families, but this knowledge is only gradually influencing the decisions made by policymakers. Excitement over the promise of early childhood programs persuaded many state leaders to create statewide preschool programs to prepare young children from low-income backgrounds to succeed in school. Federal funding for child care services is at an all-time high. Concern over indications that Head Start programs vary widely in quality led federal authorities to protect one-fourth of the funding intended to expand the program for investments in quality improvement. Building on those positive trends, the combined efforts of policymakers, practitioners, and researchers are needed to support continued progress that will extend the benefits of high-quality early childhood programs to all the children who need them.


