The Case for Early Education

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For many reasons, preschool education is a particularly appealing intervention. The preschool aspect is attractive because most people see it as a beginning, a time of promise, a period when good traits can be encouraged and solid intellectual and social foundations formed. Then, too, the education aspect is attractive because education is the traditional means by which people have improved their prospects for productive and satisfying lives.

Improving Poor Children's Start in School and in Life

Many poor children are handicapped when they enter school because they have not had the chance to develop the skills, habits, and attitudes expected of children in kindergarten and first grade. This lack of development is manifested in low scores on tests of intellectual or scholastic ability. And while poor children may be developmentally advanced in other respects, their lack of preparedness for school also can lead to their unnecessary (*i.e.*, preventable) placement in special education classes, to being held back a grade, to repeated scholastic failure, and to dropping out of high school.

Given the chance to attend high-quality preschool programs, poor children can learn the skills, habits, and attitudes expected of them in kindergarten and first grade. Thus, they get a better start toward success in school and in life.

This idea of giving poor children a "head start" took hold with educators and social scientists in the 1960s. As many pilot preschool child development programs were mounted, a limited number of scientific evaluations of these programs were made. As might be expected, most studies assessed the short-term effects of such programs; only a handful have been able to examine their effectiveness 10 years or more after the programs' end.

The most carefully drawn studies of preschool child development programs suggest a pattern of cause and effect that stretches from early childhood into the adult years. The weight of the evidence of all the studies suggests:

- Poor children who attend a high-quality early childhood development program are better prepared for school, intellectually and socially.
- This better start probably helps them achieve greater success in school. Far fewer poor children who have attended good preschool programs need special education classes, have to repeat a grade, or experience major behavior problems.
- Their greater success in school tends to lead to greater success in adolescence and adulthood. Their rates of delinquency, teen-age pregnancy, and welfare usage are lower; and their rates of high school completion and subsequent employment are higher. Thus both their economic and social performances are greatly improved.

High/Scope Perry Preschool Study

Compelling evidence on the value of early childhood education comes from a long-term study of the High/Scope Perry Preschool Project in Ypsilanti, Michigan, conducted by the nonprofit High/Scope Educational Research Foundation (Schweinhart, Barnes, & Weikart, 1993). The purpose of the study was to explore whether participation in a high-quality early childhood education program would have long-term effects.

The High/Scope Perry Preschool Project is a longitudinal study begun in 1962 of 123 disadvantaged African-American youths from a single school district. At ages three and four, these youths were randomly divided into two groups — an experimental program group that received a high-quality preschool education and a control no-program group that received no preschool training.

The two groups were studied on an annual basis from ages 3 to 11; again at ages 14, 15, and 19; and at age 28. Funding was awarded in 1999 for the study to be undertaken at age 40.

Among the hundreds of variables considered were the children's abilities, attitudes, and scholastic accomplishments, and, as adults, their involvement in delinquent and criminal behavior, their use of welfare assistance, and their employment patterns.

The study's results indicate that good preschool programs can lead to consistent improvement in poor children's achievement throughout their school years, a reduced delinquency and arrest rate, a reduced teen-age pregnancy rate through age 19, and a decreased rate of dependency on welfare. Among statistically significant results through age 28 were:

- SOCIAL RESPONSIBILITY: By age 27, only one-fifth as many program group members as no-program group members were arrested five or more times (7% vs. 35%), and only one-third as many were ever arrested for drug dealing (7% vs. 25%).
- EARNINGS AND ECONOMIC STATUS: At age 27, four times as many program group members as no-program group members earned $2,000 or more per month (29% vs. 7%). Almost three times as many owned their own homes (36% vs. 13%); and more than twice as many owned two cars (30% vs. 13%). Three-fourths as many received welfare assistance or other social services at some time as adults (59% vs. 80%).
- COMMITMENT TO MARRIAGE: Five times as many program females as no-program females were married at the age-27 (40% vs. 8%). Program females had only about two-thirds as many out-of-wedlock births as did no-program females (57% of births vs. 83% of births).

A study of disadvantaged African-American youth indicates a good preschool program can lead to consistent improvement in poor children's achievement throughout their school years, a reduced delinquency and arrest rate, a reduced teen-age pregnancy rate, and a decreased rate of dependency on welfare — at a savings to taxpayers.

The High/Scope Perry Preschool Project has become a standard reference for those who argue in favor of early education. Its acceptance is widespread. The American Psychological Association (Price, Cowen, Lorion, & Ramos-McKay, 1988) selected it as one of 12 diverse validated methods for reducing social problems of adolescence. This endorsement occurred after a committee of scientists carefully reviewed research from 900 intervention programs. The Committee on Economic Development (1985), after reviewing the High/Scope Perry Preschool Project economic study, labeled early education a major investment opportunity for the business community.

COST-BENEFIT ANALYSIS

The High/Scope Perry Preschool study includes the most complete cost-benefit analysis of early childhood education yet undertaken. A first, rudimentary effort made in 1971 looked at scholastic placement from a cost-savings viewpoint. A second, major effort was carried out under the direction of an economist using data collected from the schools through 1973. The most recent report presents a new economic analysis based on data collected through 1993 from schools, police and courts, and social services (Barnett, 1996).

The cost-benefit analysis, covering 25 years of follow-up data, indicates that this type of program can be a good investment for taxpayers. The major cost (in constant 1992

dollars, discounted at three percent annually) is the initial investment of about $12,356 per participant per program year. This cost includes items of school operation that are usually overlooked, such as building depreciation, clothing, volunteers, and so on. The major benefits to taxpayers were savings per participant of $6,287 for special education programs, $12,796 for crime, $2,918 for administration of welfare assistance, and $57,585 in crime victim costs. Participants were expected to pay $8,847 more in taxes because of increased lifetime earnings (predicted from their improved educational attainment).

The total benefits to taxpayers amount to about $88,433 per participant, which is more than seven times the initial cost of the two-year program, or $7.16 per $1 invested in program services.

The return is large enough that even a two-year program only half as effective as the full program would still yield a positive return on investment. The savings from special education alone are equivalent to the cost of a one-year program.

The High/Scope Perry data indicate the great importance of high-quality educational experiences during the transition from infancy to elementary school years, at ages three, four, five, and six. It is likely this finding can be generalized to any youngster, poor or middle class. Although the educational, social, and economic results for middle-class children might not be as dramatic as those for disadvantaged children (because middle-class children tend to have more advantages to begin with), the preschool years are clearly crucial for all children.

THE CURRICULUM

The High/Scope Perry Preschool Project developed the High/Scope Curriculum (Hohmann & Weikart, 1995). In its first year, the curriculum was centered loosely around traditional nursery school activities.

After the first year, the theories of psychologist Jean Piaget became influential and the curriculum was reorganized accordingly. The fundamental premise of the High/Scope Curriculum is that children are active learners and construct their own knowledge from activities they plan and carry out with the support of adults. This concept of active, self-generated learning affects all aspects of the curriculum from teacher training through classroom practice to parent involvement.

Such an approach implies a consistent daily routine, because the children have to be able to follow up on their plans and ideas. The adherence to routine gives children control of their time, which helps them develop a sense of responsibility and independence. The daily routine includes a "plan-do-review" sequence and incorporates cleanup as well as small- and large-group activities. The cycle permits children to make choices about their activities and engages the teacher in the whole process.

Planning gives children consistent opportunities to express their ideas and intentions to adults and to see themselves as individuals who can make decisions and act on them. The children experience the power of independence and the joy of working with attentive adults and peers.

Since the children are responsible for executing their plans, adults do not lead work-time activities. The adult's role during work time is to observe how children gather information, interact with peers, and solve problems. Adults then join the children in play activities to encourage them and to help them set up problem-solving situations.

The final phase of the plan-do-review cycle gives children an opportunity to represent their experiences in a variety of developmentally appropriate ways. They can draw pictures or make models of what they did, review their plan, or describe the activities they undertook. This opportunity for reflection gives the child a sense of personal control and success; it encourages the use of memory, which develops a broad awareness of context.

The curriculum is organized around "key experiences" that underlie the development of thought — based in part on Piaget's theory of cognitive development and also drawn from child development research.

The key experiences — 10 main categories subdivided into creative representation, language and literacy, initiative and social relations, movement, music, classification,

seriation, number, space, and time — create a frame of reference that helps teachers assess the children's progress so that they can work with the children at each stage of their development and structure their own (adult) interactions with the children. They are not a framework of instructions delivered by a teacher to a child.

Although the High/Scope Curriculum is based on a particular theoretical perspective, it is an open framework approach. This means that people can use it in many disparate situations with many different kinds of children. It is now widely used throughout the United States and in many other countries. Training institutes are located in the United Kingdom, Mexico, Netherlands, and Singapore. Others are developing in Ireland, Turkey, Chile, Taiwan, and South Africa.

FACTORS THAT CONTRIBUTE TO SUCCESSFUL PRESCHOOL PROGRAMS

Successful preschool programs are the result of numerous variables. Some are known; others are still being discovered. High/Scope has studied the effects of three different preschool curriculum models on the subsequent lives of 68 children through the age of 23 in the High/Scope Curriculum Comparison study (Schweinhart & Weikart, 1997). At the ages of three and four, 68 preschoolers in Ypsilanti, Michigan, were randomly assigned to one of three curriculum groups.

The three curricular approaches differ mainly in the degree of initiative required of teacher and child — whether the primary role of each is to initiate or respond.

The first approach, inspired by the psychological theories of B.F. Skinner and other behaviorists, may be called the *programmed learning* or *direct instruction approach*. In this approach, the teacher initiates clearly defined, structured activities and the child responds and receives positive reinforcement.

The second, *an open framework approach*, is based largely on the cognitive development theories of Jean Piaget and is represented by the High/Scope Curriculum as described above. Its activities, generated by children and supported by adults, involve specific "key experiences" that promote intellectual and social development.

The third, *a child-centered approach*, consists of elements of traditional nursery school programs. Based on Freudian psychoanalytic theory, this type of curriculum allows the child to express needs and interests, while the teacher responds and encourages free play. This approach is typical of traditional play group preschools.

Although the educational, social, and economic results for middle-class children might not be as dramatic as those for disadvantaged children, the preschool years are clearly crucial for all children.

Although elementary school level reports from the study found no significant differences in results from any of the three different approaches, the adolescent and young adult findings have raised serious questions about direct instruction or behaviorist programs, at least for disadvantaged children at the preschool age. These results also refocus attention on the importance of the surrounding environmental events that permit general social and behavioral learning rather than simply on the content knowledge itself.

High/Scope's latest report (Schweinhart & Weikart, 1997) shows that at age 23, the High/Scope and Nursery School groups had 10 significant advantages over the Direct Instruction group, the High/Scope group alone had another six advantages, and the Nursery School group alone had two additional advantages. However, the High/Scope and Nursery School groups, after controlling for gender makeup, did not differ significantly from each other on any outcome variable.

By age 23, the High/Scope and Nursery School groups both had two significant advantages over the Direct Instruction group:

- Only 6% of either group needed treatment for emotional impairment or disturbance during their schooling, as compared to 47% of the Direct Instruction group.

- 43% of the High/Scope group and 44% of the Nursery School group had done volunteer work, as compared to 11% of the Direct Instruction group.

The High/Scope group had six additional, significant advantages over the Direct Instruction group:

- Only 10% had ever been arrested for a felony, as compared to 39% of the Direct Instruction group.
- None had ever been arrested for a property crime, as compared to 38% of the Direct Instruction group.
- 23% reported at age 15 that they had engaged in 10 or more acts of misconduct, as compared to 56% of the Direct Instruction group.
- 36% said that various kinds of people gave them a hard time, as compared to 69% of the Direct Instruction group.
- 31% of the group had married and were living with their spouses, as compared to none of the Direct Instruction group.
- 70% planned to graduate from college, as compared to 36% of the Direct Instruction group.

The Nursery School group had two additional signifi cant advantages over the Direct Instruction group:

- Only 9% had been arrested for a felony at ages 22 — 23, as compared to 34% of the Direct Instruction group.
- None of them had ever been suspended from work, as compared to 27% of the Direct Instruction group.

These findings, based on one study with a small sample, are by no means definitive no matter how well designed the study; but two earlier studies have raised some of the same questions (Karnes, Schwedel, & Williams, 1983; Miller & Bizzell, 1983), as well as two recent studies in Washington, D.C. (Marcon, 1992, 1994), and Portugal (Nabuco & Sylva, as cited by K. Sylva in Schweinhart & Weikart, 1997). Each of these studies, with widely different samples and from different geographic areas, also has found similar problems in the performance of children who were placed in teacher-directed instruction settings. The Washington, D.C., study is of special importance both because it used classroom observation to classify the mode of instruction in establishing the study groups and because of its sample size.

SUMMARY

Since the early 1960s, well-designed research projects have explored the issues in early childhood growth and development that lead to high-quality care and educational programs for all children. The essential ingredients of high-quality educational programs are known. The challenge is to apply these principles in programs throughout the country to improve the lives of children and families.

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