

Language Growth in Low-income Children in Economically Integrated Versus Segregated Preschool Programs

A. Objective and Purpose

Early childhood education is often cited as part of the solution to the achievement gap between low- and middle-income children (e.g., Barnett, 2001). As such it is important to understand how early care and education programs can best meet the needs of low-income pre-school-age children. A significant body of literature exists on the characteristics of these programs that yield better child outcomes (e.g., Peisner-Feinberg & Burchinal, 1997). This research demonstrates that teachers' education and teacher-child ratios are key factors (Burchinal, Roberts, Riggins, Zeisel, Neebe & Bryant, 2000). These studies, however, have been conducted in the current context of early care and education in this country which is almost entirely segregated along income lines. For the most part, state and federally funded early childhood education programs serve only low-income children while children from mid- and upper-income families attend other programs where the family is responsible for the tuition (Children's Defense Fund, 2000). Attempts to create economically integrated preschool programs have been limited to small, isolated community-based projects. One such initiative provided the opportunity to compare the progress low-income children make in economically integrated versus segregated preschool programs.

Language development in preschool is one of the key predictors of later school success (Hart & Risley, 1995) and differences in young children's language skills are one of the most robust findings related to family income (Ramey and Ramey, 1999). Children from low-income families enter kindergarten already behind their mid- and upper-income peers in language skills (Dickinson & Snow, 1987). Growth in receptive language was, therefore, selected as the child outcome to be examined in this study. The specific research question addressed was: Do low-income preschool children make better progress in their receptive language when they are in classrooms with mid/upper-income peers (heterogeneous) than when they are in classrooms with low-income peers (homogeneous)?

B. Perspectives or Theoretical Framework

In 1987 and again in 2000, the National Association of Early Childhood Specialists in State Departments of Education wrote:

Heterogeneous class groupings are more likely than are homogenous ones to encourage growth among children who come with home languages other than English or who are developing more slowly.
(National Association of Early Childhood Specialists in State Departments of Education, 2000, p. 9)

This statement was made as part of an argument against practices such as ability grouping and retention in kindergarten. Early childhood educators have long supported mixed-age grouping because of the educational benefits when mixed-ability

children learn from each other (Katz, Evangelou, and Hartman, 1990). Special educators have worked hard to require that children with special needs be included in regular education classrooms based on a belief that these children benefit from “opportunities to observe and learn from more competent peers.” (Bailey, Buysse, & Wesley, 1998, p. 29) Although studies examining this belief have yielded mixed results (Buysse & Bailey, 1993), there is still widespread support for heterogeneous grouping of children as educationally beneficial and also the “right thing to do.” (Bailey et al., 1998, p. 29). The study described here examines the impact of heterogeneous grouping of preschool children on the basis of family income.

C. Methods

Seven early care and education programs serving three- and four-year-old children were selected to participate in this study. Two of the programs served only low-income children (homogeneous) and the other five programs were part of a local effort to integrate low-income children into private preschool programs (heterogeneous). An attempt was made to insure that all programs were of high quality. They were all accredited by the National Association for the Education of Young Children and held in high esteem by local early childhood educators. A state-funded school readiness initiative supported the tuition for the low-income children to attend the private programs. The same initiative supported the two homogeneous programs and thus the economic criteria were the same for both groups of low-income children. The low-income children were placed in the private programs such that they never comprised more than 20% of a class. Most typically there were 2 low-income children in classes of 16-20 students. The class sizes in the publicly funded programs were similar, but all children in these programs met the income eligibility requirements.

Parental permission was sought for all children including the children from mid- and upper-income families (referred to as “peers”) in the heterogeneous classrooms. The study was conducted over a 3-year period with 3 separate cohorts of children. In the first year at least 3 peers were randomly selected from each of the heterogeneous classrooms, in subsequent years an attempt was made to assess all peers for whom permission was obtained.

The receptive language skills of preschool children in both the homogeneous and heterogeneous programs were assessed using the Peabody Picture Vocabulary Test (PPVT-R). An assessment was done in the fall and again approximately 6 months later in the spring.

In all, data was collected on 31 low-income children and 89 peers in heterogeneous classrooms and 50 low-income children in homogenous classrooms. The mean age of the children was 50 months but the range was from 32 to 72. The mean interval between the fall and the spring PPVT was 6.3 months but the range was from 4.2 to 8.8. Variations due to age and intervals were accounted for by using standard scores and dividing them by the interval. Thus a monthly standard score change value was computed for each child.

E. Results and Conclusions

The results indicate no significant differences between the low-income children in the homogenous and heterogeneous classrooms when they enter the programs in the fall ($p < .735$). Table 1 below shows the mean standard scores for these two groups and the peers in the heterogeneous classrooms. The expected differences between the peers and low-income groups were found just as reported in the literature ($p < .000$). The peers were about 20 points ahead of the low-income children in the fall.

Table 1. Fall Comparison of PPVT Scores

	N	Mean Standard Score
Low income children in homogenous classrooms	50	90.9
Low Income children heterogeneous classrooms	31	93.6
Mid/upper-income peers in heterogeneous classrooms	89	113.7

Six months later, the gains made by the low-income children in heterogeneous classrooms were significantly greater than those made by low-income children in homogeneous classrooms ($p < .000$). Table 2 shows the mean monthly gains in standards scores for the three groups. The gains made by the low-income children in heterogeneous classrooms were also significantly greater than those made by the mid-/upper-income peers in the same classrooms ($p < .001$), but the gains made by low-income children in homogenous classrooms were not significantly different than the mid-/upper-income children ($p < .603$).

Table 1. Comparison of Gains in PPVT Scores

	N	Mean monthly standard score gain
Low income children in homogenous classrooms	50	.21
Low Income children heterogeneous classrooms	31	1.58
Mid/upper-income peers in heterogeneous classrooms	89	.46

F. Educational Significance

Although this is only a preliminary study, the results indicate that low-income preschool children make better progress in their receptive language skills when they are integrated into classrooms with mid- and upper-income children rather than when they are in classrooms with other low-income children. One possible explanation is that the mid/upper income peers in the heterogeneous classrooms provide language

models for the low-income children. If confirmed in future studies, these results have policy implications for school readiness initiatives aimed at preparing low-income pre-school-age children for kindergarten. Programs that are economically integrated may be more effective at closing the achievement gap between low- and mid/upper income children. In this study, the rate of growth for children in programs for low-income children was no different than that of middle and upper income children in the mixed programs. However, the low-income children started behind the mid- and upper-income peers. So for these children the preschool experience insured the gap was not made wider, but it was not closing it, as was the case for the low-income children who were integrated into classrooms with mid- and upper-income peers.

The results of this study are based on a small number of children over a three-year period. The conclusions are provocative, but can only be considered preliminary until the research is conducted on a larger scale. There are also two important ways in which a larger study could improve on these findings. First, it would be important to have some other assurances that the quality of the programs was equivalent. Second, a larger study will allow an examination of the impact of the two types of programs on children who are learning English as a second language. There were not sufficient numbers of subjects in this study to examine that factor. These issues should be investigated further because of their very direct impact on educational programs for low-income pre-school-age children.

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