Since the 1985-86 school year, the Division of Research and Testing of Virginia's Department of Education has studied the impact on schools and students of Section 22.1-199 of the Virginia Code, as amended in the 1985 legislative session. This paper uses data from a longitudinal study of 4,500 students who entered or were petitioned to enter kindergarten in the fall of 1986 and 1987, to address the question: What effect do transitional programs implemented pursuant to Section 22.1-199 have on achievement, retention, and other indicators of school success? Cognitive Abilities Test scores of students who spent 1 or 2 years in kindergarten were collected. Of these, the verbal subtest scores, arguably the most susceptible to instruction, were used to show program differences. Analyses revealed a significant negative cognitive effect associated with transitional programs and kindergarten retention. It is concluded that extra-year programs are not beneficial to students. The results discussed, and the results of a large and increasing body of research, suggest that neither transition programs nor retention are viable solutions to the well-documented deleterious changes in early grade curriculum. It is urged that schools be allowed the time and resources needed for redesigning the early grade curricula to effectively meet the needs of Virginia's students before kindergarten transition programs end. (RH)
KINDERGARTEN RETENTION AND ALTERNATIVE KINDERGARTEN PROGRAMS

A RESEARCH PROGRAM BY THE DEPARTMENT OF EDUCATION

A REPORT TO THE VIRGINIA BOARD OF EDUCATION

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The Division of Research and Testing of the Department of Education has been studying the impact on schools and students of Section 22.1-199 of the Virginia Code as amended in the 1985 legislative session since the 1985-86 school year. Data continue to be collected in a longitudinal study on over 4,500 students who entered or were petitioned to enter kindergarten in the fall of 1986 and 1987.

Purpose and Design of the Longitudinal Study

The study was designed to answer six major questions:

1) How have school divisions responded in practice to § 22.1-199? Specifically, what testing and admission policies have emerged?

2) On what grounds are children admitted or denied access to kindergarten? How much does test performance account for practice?

3) What are the perceptions and experiences of teachers as they implement division policies to test children for entry?

4) How well do the tests selected in response to § 22.1-199 predict kindergarten and later school success?

5) What impact does kindergarten entry testing and initial placement have on the routes taken by these children in their school careers?

6) What effect do transitional programs pursuant to § 22.1-199 have on achievement, retention, and other indicators of school success?

This paper, using data from the 1986 group of students, addresses only question #6. Technical reports on the other study questions are completed or in preparation. Summary reports will also be prepared. Collection of information on programs and students is ongoing. Data analyses and preparation of reports continue on information being collected each year on students in the study as they proceed through their school careers.

School success indicators in the study include all census testing mandated by state testing programs. The earliest success criterion available to us is the Cognitive Abilities Test (CogAT) administered in the fall of first grade. Scores have been collected on students who spent one year in regular kindergarten before they entered first grade and were tested with CogAT in 1987 and on students who spent two years before they entered first grade to be tested in 1988. The CogAT tests general skills of "learning how to learn" and reflects instruction. The CogAT was not designed as a measure of innate ability and appears to be as sensitive to certain kinds of instruction as an achievement test. For this reason, the test should detect real differences in cognitive development due to differences among kindergarten programs. Because the Verbal subtest of this instrument may be the most susceptible to instruction, it is used in this report to show program differences. Students who have spent two years prior to first grade are, on the average, about one year older than their counterparts who spent one year in school before first grade.
Because it is most fair to compare students' development at their particular age, this paper uses what are called Standard Age Scores in reporting comparisons among groups of students. All things being equal, we would expect groups of like students of the same age to have the same average Standard Age Score.

Research Findings

There are four common two-year alternatives to the standard one-year progression from kindergarten into first grade. They are 1) delaying entry for one year, 2) enrollment in a school program for a year prior to regular kindergarten, frequently referred to as "junior kindergarten", 3) retention for a second year in kindergarten, and 4) placement for a year in a class between kindergarten and first grade, usually referred to as "transitional first grade".

All of these two-year alternatives are intended to help students who were judged likely to have difficulty in school. The best way to determine the success of these alternative placements is to match students in them as completely as possible with students who are just like them but who were placed in kindergarten and went directly to first grade. In the Department of Education study, students in two-year placements are compared to students who experienced one year of regular kindergarten ("one-year placement") who are the same age and have the same ethnicity, gender, free and reduced lunch status, and kindergarten entry test score. Four sets of matched groups were identified, one for each alternative placement. Students in an alternative placement are compared only to students just like them and are of the same age who were placed in regular kindergarten and were promoted directly to first grade.

Of most interest to the Commonwealth may be the effect of junior kindergarten, which is the most commonly implemented extra-year placement provided in the Commonwealth. The junior kindergarten students had two years of school prior to testing in first grade in the fall of 1988. Their matched-for-comparison regular kindergarten students had one year of school prior to testing in first grade in the fall of 1987. The junior kindergarten students received an average Standard Age Score of 97.7, while the one-year students received an average score of 108.8. The difference is statistically significant.

This eleven point difference shows that junior kindergarten students who spent two years before first grade fell behind their matched counterparts who spent one year in kindergarten. Junior kindergarten students, having had an extra year to learn and grow, might be expected to score higher than the regular kindergarten comparison students who had only one year of school prior to the test. Instead, they performed much worse. This may mean that the junior kindergarten students are being effectively left far behind by their peers who progressed normally from kindergarten to first grade.
Even more disturbing is the finding that junior kindergarten may serve to increase the disparity between minority and white children. For example, white male children placed in junior kindergarten scored about six points lower than their one-year-in-kindergarten counterparts. Black male children placed in junior kindergarten scored twice as much lower, with a twelve point margin between them and their one-year counterparts. Not only is it clear in general that students placed in junior kindergarten fare worse than their one-year matched counterparts, junior kindergarten may actually serve to increase differences in cognitive performance between black and white male students.

Students who repeated kindergarten fared about as well as the junior kindergarten group, receiving an average score of 99.6 in comparison to 111.1 for their one-year comparison group. Transitional-first grade students appear to have fared less well, receiving an average score of 90.9 as compared to 109.5 for their one-year comparison group. Students who remained out of school for an extra year scored highest with an average score of 105.3, compared to 111.4 for their one-year program matched group. All of the differences between two-year placements and their one-year comparison groups are statistically significant.

Other issues concerning extra-year alternatives (specifically junior kindergarten, transitional first, and kindergarten repeat) are being identified by this study. First, black students are more likely to be placed in such programs than are white students. While 30.7 percent of all of the students in the study were black, 37.4 percent of the students in extra-year programs were black. Likewise, low socioeconomic status (SES, as measured by free- or reduced-lunch eligibility) students are significantly more likely to be placed in extra-year programs than are other students. Although 38.7 percent of the students in the study were eligible for free or reduced lunches, 52.8 percent of the students enrolled in extra-year programs were eligible. Boys are to some extent more likely to be placed in these extra-year programs than are girls. About 50.4 percent of the total group were boys, yet 59.1 percent of those enrolled in extra-year programs were male. To some extent, age is a factor in transitional program placement; the average birthday for first-year regular kindergarten placement was May 26th, while the average birthday for junior kindergarten placement was July 26th. The average birthday for all three extra-year placements together was July 30th. Initial analyses suggest that placement is predicted most strongly by ethnicity and SES, then by gender, and then (though less strongly than the first three factors) by age. In sum, it is much more likely for a low-income black male to be placed in junior kindergarten or other extra-year placements than for other SES/race/gender categories of students. Although age is a factor in placement, junior kindergarten programs are clearly not reserved for the October-December birthday children addressed by the kindergarten entry age law.
Conclusions

The analyses show a significant negative cognitive effect associated with transitional programs and kindergarten retention. It would appear that one of the primary outcomes of the alternative programs is to make students a year older than their grade peers. This factor alone is of great concern because of the large body of research which has found that relative age is the one of the strongest predictors for dropping out of school. That is, older students in a grade, regardless of the reason for their age difference, are less likely to complete school than their younger peers. Other research clearly demonstrates that retention in and of itself markedly increases drop-out risk. This research finds little difference between simple retention and alternative programs such as junior kindergarten and transitional first. It may be that the most notable effect of the alternative programs is to markedly increase the drop-out risk of already high-risk students, most notably the low-income black males most likely to be placed in such programs.

In a recent Policy Brief (January 1990) published by the Center for Policy Research in Education, it was estimated that the overall expenditure for retention in the United States is almost ten billion dollars per year. Using the same methods for that figure the cost of two-year programs prior to first grade is estimated here for Virginia. The average expenditure per pupil for the 1987-88 school year in the Commonwealth was $4,069. Of the 1986-87 group in the study, 22.6 percent of the students spent an extra year in school prior to first grade (not including students who remained home an extra year). There are approximately 80,000 new students enrolled each year in the Commonwealth. This means that Virginia is spending in excess of $73.5 million each year for the extra year of schooling prior to first grade. Perhaps this money being spent on transitional programming might better be used in such endeavors as redesigning curriculum, reducing class size of regular kindergartens and first grades, and increasing implementation of quality preschool programs. All of these strategies have been demonstrated by research to have positive effects on high-risk students.

This paper only addresses one indicator of cognitive growth in concluding that extra-year programs are not beneficial to students. There are many other factors to be considered, and future measures of school success, including promotions, achievement scores, and Literacy program passing rates will confirm or negate these first conclusions. Nevertheless, these results and the results of a large and increasing body of research suggest that neither transition programs nor retention are viable solutions to the well documented deleterious changes in early grade curriculum. At the same time, an immediate cessation of these programs cannot be recommended. Schools must be allowed time and the resources to redesign the early grade curricula to effectively meet the needs of Virginia's students.