

Evaluation Brief

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Year-Round Schools and Achievement in North Carolina

Although different people use the term “year-round education” in different ways, it is most accurately summed up by the National Association for Year-Round Education (2000):

Year-round education (YRE) reorganizes the school year to provide more continuous learning by dividing the long summer vacation into shorter, more frequent breaks. Students in a year-round program attend the same classes and receive the same amount of instruction as students on a nine-month calendar (usually 180 days)...The year-round calendar is organized into instructional blocks and vacation periods that are evenly distributed across 12 months.

There are two basic models of year-round education – school wide (SW) and school-within-a-school (SWS). In the SW model, all students attend on a year-round (12-month) calendar. In the SWS model, some students attend on a year-round calendar, while others attend on the traditional nine-month calendar. Teachers in the SWS model are also usually divided into two groups – those who teach in the traditional program, and those who teach in the year-round program. The SWS model basically creates one traditional August-May program and one year-round program, each with its own teachers and students, but operating on the same campus with the same administrative staff. Although there are many types of calendar arrangements in year-round schools, the most common is a 45/15 schedule, where students attend for 45 days (9 weeks) and then go on break for 15 days (3 weeks). These shorter breaks are typically referred to as *intersessions*.

Some SW year-round schools also operate as “multi-track” year-round schools. In these schools, different groups (i.e., tracks) of students begin the school year at different times, with the intersession schedules for each track being spaced out in such a way that at least one track of students is always on break. Multi-track year-round schools are often implemented to ease overcrowding because the school building can then accommodate more students than if they all attended at the same time.

Facts about Year-Round Schools in North Carolina:

- Year-round schools have been operating in North Carolina since 1990.
- There were 133 year-round schools in 45 districts in North Carolina in 1998-99.
- Most year-round schools are at the elementary (81%) or middle (13%) school level.
- Most are single-track (87%), and most are on an approximate 45/15 schedule (94%).
- Most offer some form of instructional activities during intersessions (94%).
- 68% of year-round schools operate a SW model and 32% operate a SWS model.
- Compared to traditional calendar schools, students in SW year-round schools are *more* likely to be Black (38% vs. 27%); however, in schools operating a SWS model, the students in the year-round track are *less* likely to be Black (30% vs. 36%)¹.

¹ These data are based on students in grades 3 through 8.

Research on Year-Round Schools

Interest in year-round schools can essentially be attributed to three perceived advantages of a year-round calendar: increased student achievement, greater parent/teacher/student satisfaction, and cost savings. The first two are often mentioned in conjunction with all year-round schools, while cost savings are typically associated only with multi-track year-round schools, as they can help postpone the need to build new schools in areas experiencing significant population growth (Inger, 1994).

Several reviews of year-round education research have been conducted (Kneese, 1996; Merino, 1983; Worthen & Zsiray, 1990), with the general consensus being that the outcomes of year-round education are equal to or better than those achieved under the traditional school calendar. The basic conclusions from these reviews are:

- Achievement in year-round schools is equal to or greater than in traditional schools.
- Teachers and students in year-round schools have more positive perceptions of their school.
- Although there will always be some parents who do not like year-round calendars, most parents will be satisfied with a year-round program if it is well-implemented.
- Single-track year-round programs will cost as much or more than traditional school programs, while multi-track year-round programs can result in significant cost savings.

Although researchers have not adequately offered reasons why achievement may be slightly higher in year-round schools, one possibility is that year-round schools can use intersessions to provide remediation and enrichment activities. Another possible explanation is that splitting up the long summer vacation into smaller pieces helps to alleviate some of the “forgetting” has been shown to occur with the traditional school calendar (Cooper, Nye, Charlton, Lindsay & Greathouse, 1996).

Existing research on year-round schools, however, has suffered from a variety of limitations that make it difficult to draw solid conclusions. For example, year-round schools (especially SWS programs) are often schools of choice, raising the possibility that observed differences in outcomes between year-round and traditional schools may be due to characteristics of the families and students who choose year-round schools. In addition, some studies have used the term “year-round” to refer to schools that have more than 180 instructional days per year (e.g., Gandara & Fish, 1994), raising the question of whether some year-round achievement advantages might actually be due to an increase in total instructional time.

Achievement Analyses

To study further the issue of academic achievement in year-round schools, the Evaluation Section of the Department of Public Instruction studied a matched sample of year-round and traditional public schools in North Carolina using data from the 1996-97 and 1997-98 school years.

Study Design. Based on survey data and several archival data sources, 65 schools were identified that operated a school-wide year-round calendar in grades 3 through 8 during 1997-98². Each of these 65 schools was then matched with a traditional calendar school that satisfied each of the following criteria:

- was located in the same LEA.
- served approximately the same grade levels.
- had a parent population with similar levels of education.
- had a similar percentage of students eligible for free/reduced price lunch.
- had a similar number of students tested.
- had a similar percentage of students tested who were White.

² Only schools operating a SW year-round calendar were included in this study. Schools operating a SWS model during the 1997-98 school year were not included due to two major factors: 1) SW year-round calendars are the most common form of year-round education in North Carolina, and 2) The differences between SW and SWS models are too numerous to consider combining them into one group. For example, SWS programs are often designed so that the year-round “track” is optional, while SW year-round schools are less likely to have optional enrollment (i.e., students are more likely to be assigned to the school).

The matching procedure was conducted so that schools were as similar as possible with respect to those six characteristics, thereby lessening the possibility that any observed differences in achievement between the two types of schools could be explained by those factors. For 15 of the 65 year-round schools, a matching traditional calendar school could not be found from the same LEA. In those cases, a match was found either from a neighboring LEA or another LEA that was similar in size and urbanization.

Data Preparation. Since end-of-grade (EOG) tests are given only in grades 3 through 8, and because the study was designed to look at achievement gains from 1996-97 (Year 1) to 1997-98 (Year 2), the study used all of the available data from students who took EOG tests in grades 4 through 8 during Year 2. The final sample included almost 28,000 students who took EOG tests in either reading or mathematics in Year 2 at a given grade level and who also took the EOG test in that same subject area in Year 1 at the previous grade level. Therefore, students who did not have available data in a given subject area for both years were excluded from the analysis for that subject area. Students who were retained during Year 2 were excluded from all analyses. Because the scale on which EOG scores are based is not the same across grade levels, scale scores were standardized to a mean of 50 and a standard deviation of 10 prior to conducting any analyses.

Other Variables. Using additional demographic data, a variety of student-level and school-level factors which are commonly associated with academic achievement were created to be used in the achievement analyses. Although the actual focus of the analyses was to examine differences between year-round and traditional calendar conditions, these other factors were included to provide a more precise test of that difference and also to help rule out potential competing explanations, should any differences be found. The same six factors were used for both the reading and mathematics analyses. In addition to gender, ethnicity, and parental education level, these also included the average test score in the student's school during Year 2, the ethnic composition of the school³, and the student's prior achievement (based on her/his EOG test score in the same subject area from Year 1). Therefore, any differences that might emerge between the two calendar conditions in the analysis could be said to be "over and above" any effects that might be attributed to these other factors or the matching criteria listed earlier.

Results

After controlling for possible effects due to district, grade level, gender, ethnicity, parental education level, prior achievement and average school-level achievement, there were no significant achievement differences between year-round and traditional calendar students in either reading ($F = 0.91$, $p < .48$) or math ($F = 0.89$, $p < .85$). Neither group appeared to perform any better than the other between the 1996-97 and 1997-98 school years (Figure 1).

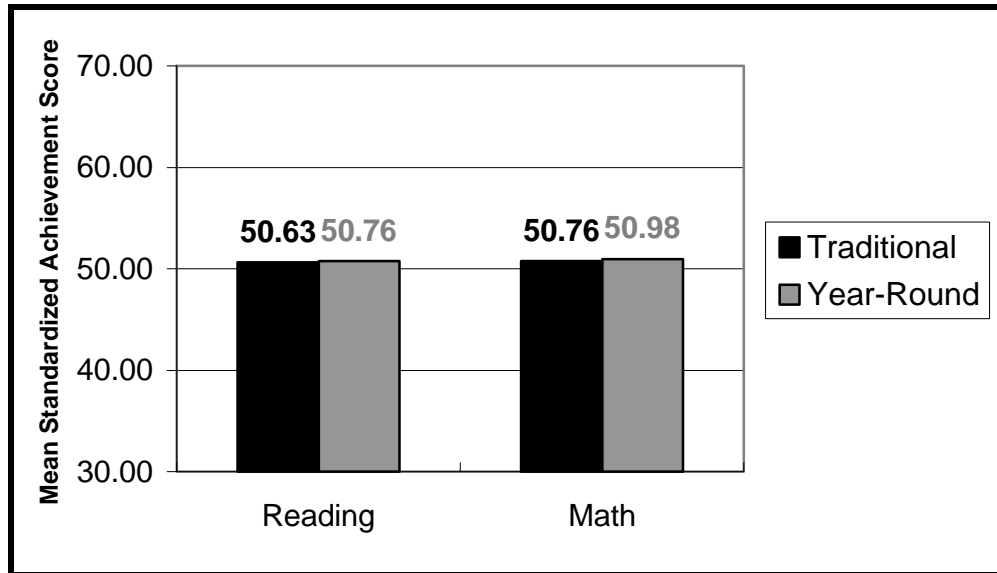
Previous research on year-round education suggests that students in year-round schools will perform as well as or better than their traditional calendar counterparts. The results reported here do not imply any clear advantage or disadvantage to year-round education with respect to student achievement in reading and math. Although increased achievement is often touted as a benefit of year-round education, the results of the current investigation would suggest that the utility of year-round education should probably be judged instead on cost savings, stakeholder preferences, and other factors. If year-round education can result in more positive outcomes in non-academic areas while being at least neutral in terms of student achievement, then it may be a desirable option in many circumstances.

Cautions Regarding Interpretation of These Results. Because these analyses included only K-8 school-wide year-round schools, the results cannot be generalized to year-round schools operating a SWS model or to any grade levels other than 3 through 8. The current analyses also did not allow for the

³ This variable was included due to a small (4%) difference in the ethnic composition of the two groups even after the attempt to match schools based on ethnicity.

examination of differences between single-track and multi-track year-round schools, as both types were included together in the year-round school sample. In addition, because this study was not a true randomized experiment (i.e., children were not randomly assigned to schools and schools were not randomly chosen to operate on a year-round calendar), the obtained results offer only a tentative comparison of achievement in year-round versus traditional schools.

Figure 1: Reading And Math Achievement – Year-Round vs. Traditional Students



References

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