DOCUMENT RESUME

ED 397 129 TM 025 278

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TITLE Evaluating the Promise of Single-Track Year-Round Schools.
PUB DATE Apr 96
NOTE 19p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, April 8-12, 1996).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; Curriculum; Disadvantaged Youth; Elementary Education; *Parent Attitudes; Program Implementation; *Remedial Programs; School Districts; Suburban Schools; *Time Factors (Learning); Urban Schools; *Year Round Schools
IDENTIFIERS *Durham City School District

ABSTRACT

Results from the first year of implementation of year-round schools in a school district that educates students from a medium-sized city and the surrounding county are presented to add to the body of knowledge about year-round schools. Two single-track, year-round elementary schools (kindergarten through grade 5) were established in Durham (North Carolina). One school adopted a core knowledge curriculum, while the other chose a more traditional approach. Both were attendance zone schools, rather than magnet schools, but in both cases a majority of parents had to approve the year-round concept and parents were allowed to send their children to other schools. Evaluation data supported the conclusion that the year-round schools had a significant positive effect on the achievement of students. There was also reason to believe that instructional planning at the school level was improved by the need to coordinate assessment and remediation services. Although disadvantaged students did not participate in the enrichment programs and the remediation programs between the sessions to the extent planners had hoped, those students who did receive the inter-session remediation were better prepared to resume their educations after breaks. The schools can be considered an important addition to the learning opportunities in the Durham schools. (Contains eight tables and six references.) (SLD)

EVALUATING THE PROMISE OF SINGLE-TRACK YEAR-ROUND SCHOOLS

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Evaluating the Promise of Single-Track Year-Round Schools[1]

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Overview

Although year-round education has promising educational implications because of its intuitive appeal to counter the "summer loss" phenomenon, especially with low SES populations, there has been limited research to date to determine the degree to which the practice is effective (Grotjohn and Banks, 1993; Six, 1993; Zykowski et al, 1991). A recent search of the Educational Resources Information Center (ERIC) documents indicated that, overall, there is little substantive evidence to support single-track year-round education. Out of 110 studies catalogued since 1988, only four documents concentrate on single-track year-round schools, while 27 documents focus on the multi-track year-round schools designed primarily to make more efficient use of existing space. Another two studies compared the effectiveness of both types of year-round schools. Recently, however, there has been a growing list of small scale evaluations demonstrating the positive effects of year-round schooling (e.g., Kneese, 1995; Knudsen, 1995).

The purpose of this study is to contribute to the body of knowledge about single-track year-round schools using results from the first-year implementation of year-round schools in a medium-sized city and county merged school district.

Background

Two single-track, year-round K-5 elementary schools were established in Durham Public Schools for the 1994-95 school year. Each of the two year round schools developed their own program of studies, developing nine-week curriculum blocks. School B adopted a Core Knowledge curriculum, while School A adapted a more traditional curriculum. Each nine-week block was followed by a three-week Intersession. Enrichment activities were provided at cost by the school district and participating community resources during one week of each intersession. During another week, remediation help was provided to students who were not performing satisfactorily and keeping up with their peers. Criteria for selection to the free remediation sessions was developed separately by each year-round school. Low-cost child care services were provided by the school district during all three weeks of an Intersession.

Each Year Round School (YRS) was set up as an attendance zone school, rather than as a magnet school open to the entire community. An overwhelming majority of parents in each attendance zone had to approve the concept of having a YRS before it was approved by the school district.[2] Parents in the year-round school attendance zones have the option of keeping their child(ren) in the year-round school or having them transported to a nearby partner school operating under a traditional school calendar.

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[1] Paper presented at the Annual Meetings of the American Educational Research Association. New York City. April 1996.

[2] A third elementary level YRS was established for the 1995-96 school year, and a fourth has been approved for the 1996-97 school year.

This method of student assignment allowed for the study of three cohorts of students. First, there were those students from the YRS attendance areas who stayed in their schools when they became year-round schools ("Stayers"). Next there were students from within the year-round school attendance areas who opted out of the year round concept by transferring to a partner school to continue their education under a traditional school year calendar ("Transfers Out"). Finally, there were some students who were in the attendance zone of a partner school who were allowed to transfer to the YRS to fill available vacancies created by students opting out of the YRS; these latter students are denoted as "Transfers In" in this report.

Student Populations

The characteristics of each of the three student populations at/leaving each YRS are provided in Table I.

TABLE I
Characteristics of YRS Populations
Number (Percent) of Students

Characteristic	Stayers Sch. A	Stayers Sch. B	Transfer In Students Sch. A	Transfer In Students Sch. B	Transfer Out Students	YRS With-drawals	InterYRS Students
All Students	381	524	109	96	159	53	8
By Grade Level							
Exceptional Educ.	0 (0.0)	3 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1(12.5)
Kindergarten	61(16.0)	96(18.4)	21(19.3)	24(25.0)	26(16.4)	6(11.3)	1(12.5)
Grade 1	70(18.4)	91(17.4)	22(20.2)	14(14.6)	21(13.2)	10(18.9)	2(25.0)
Grade 2	58(15.2)	83(15.9)	22(20.2)	13(13.5)	24(15.1)	7(13.2)	2(25.0)
Grade 3	70(18.4)	78(14.9)	17(15.6)	17(17.7)	25(15.7)	12(22.6)	1(12.5)
Grade 4	70(18.4)	88(16.8)	17(15.6)	17(17.7)	29(18.2)	10(18.9)	1(12.5)
Grade 5	52(13.6)	84(16.1)	10 (9.2)	11(11.5)	34(21.4)	8(15.1)	0 (0.0)
By Ethnicity							
African-American	164(43.0)	273(52.1)	33(30.3)	56(58.3)	64(40.3)	31(59.6)	6(75.0)
White	202(53.0)	225(42.9)	75(68.8)	40(41.7)	92(57.9)	17(32.7)	2(25.0)
Other	15 (3.9)	26 (5.0)	1 (0.9)	0 (0.0)	3 (1.9)	4 (7.7)	0 (0.0)
By Gender							
Female	199(52.2)	263(50.2)	48(44.0)	45(46.9)	78(49.1)	27(50.9)	2(25.0)
Male	182(47.8)	261(49.8)	61(56.0)	51(53.1)	81(50.9)	26(49.1)	6(75.0)
By Socioeconomic Status3							
Low SES	59(15.5)	174(33.2)	17(15.6)	36(37.5)	0 (0.0)	22(41.5)	2(25.0)
Free Lunch	45(11.8)	139(26.5)	12(11.0)	32(33.3)	0 (0.0)	16(30.2)	1(12.5)
Reduced Lunch	14 (3.7)	35 (6.7)	5 (4.6)	4 (4.2)	0 (0.0)	6(11.3)	1(12.5)
Not Low SES	322(84.5)	350(66.8)	92(84.4)	60(62.5)	159(100.0)	31(58.5)	6(75.0)

The School B population was more minority, slightly more male, and of a lower socioeconomic status than the School A population. It was 25 percent larger in number than the School A student body, and had fewer students transferring in and more students transferring out (113

[3] If a student received free or reduced lunches, s/he was considered to be low SES.

vs. 75). Those students transferring out of YRS tended to be more in the upper elementary grades, with fewer minority students, and from a higher socioeconomic status. Those students transferring into a YRS tended to be more representative of the majority ethnic group at each school and contained a larger percentage of males. White students and students who were not on free or reduced lunch (i.e., were of a higher socioeconomic status) were less likely to withdraw from a YRS school once they were enrolled.

To facilitate ease of presentation, the InterYRS Students (i.e., those students who transferred between year round schools) and the YRS Withdrawals (i.e., students who withdrew from the YRS after the beginning of the YRS schedule) will not be considered in subsequent data analyses except under special circumstances. The remainder of this evaluation report will concentrate on the three primary YRS populations: *Stayers* and *Transfer In* YRS students and *Transfer Out* traditional school year students.

Program Outcomes

Since each YRS developed its own program of study, they also independently developed their own program goals. Some of these expected goals were:

- Immediate remediation for children "at risk," with learning problems, and with special needs
- Provide more time for direct, ongoing instruction due to less time needed for review
- Elimination of need for extensive classroom review following vacation
- Opportunities for creative enrichment activities during intersessions to which some children otherwise might not have access
- Opportunities for the computer lab to be more accessible to students
- Continuity of education with short breaks during the year offering children a chance for vacation, enrichment, and/or review
- Enhance participation in the Reading Recovery program
- Increased performance in academics and behavior
- Expanded learning opportunities (e.g., using college and high school students as tutors during intersessions; continuation of long-term projects such as outdoor education and gardening)
- Reducing the number of and meeting the needs of at-risk students (specifically, reduce the number of students receiving Chapter 1 services in grades subsequent to Grade 1)
- Improving student attendance
- Increasing the number of students receiving enrichment services and decreasing the number receiving remediation services

Although each goal was not adopted by both schools, where data were available these goals are addressed in this and the following section. Others will be addressed when additional data are available.

Immediate Remediation and Less Time for Review. These two goals are treated together, as one should lead to the other. A total of 134 students (53 at School A and 81 at School B) were provided remediation services during the five-day fall intersession, 129 students (47 at School A and 82 at School B) participated in remediation sessions during the four-day winter intersession, and 137 students (54 at School A and 83 at School B) participated in the four-day

spring intersession. Student participation in each remediation intersession, broken out by grade level, ethnicity, gender, and socioeconomic status, is presented in Table II.

TABLE II
Remediation Intersession Attendance by Grade Level, Ethnicity, Gender, and SES
Number (Percent) of Students

Remediation Session: Breakout by...	Total Students	School A 1	School A 2	School A 3	Total Students	School B 1	School B 2	School B 3
Total	494	53	47	54	647	81	82	83
Grade Level								
Exceptional Ed.		(0.0)	(0.0)	(0.0)		(3.8)	(0.0)	(2.4)
Grade 1		(15.1)	(29.8)	(22.2)		(32.9)	(19.5)	(27.7)
Grade 2		(24.5)	(25.5)	(27.8)		(19.0)	(22.0)	(20.5)
Grade 3		(20.8)	(23.4)	(18.5)		(29.1)	(29.3)	(18.1)
Grade 4		(22.6)	(17.0)	(22.2)		(13.9)	(13.4)	(12.0)
Grade 5		(17.0)	(4.3)	(9.3)		(1.3)	(15.9)	(19.3)
Ethnicity								
African American		(52.8)	(48.9)	(48.1)		(71.3)	(63.4)	(71.1)
White		(43.4)	(51.1)	(50.0)		(27.5)	(30.5)	(25.3)
Other		(3.8)	(0.0)	(1.9)		(1.3)	(6.1)	(3.6)
Gender								
Female		(45.3)	(40.4)	(42.6)		(42.0)	(46.3)	(45.8)
Male		(54.7)	(59.6)	(57.4)		(58.0)	(53.7)	(54.2)
SES								
Free Lunch		(22.6)	(19.1)	(22.2)		(44.4)	(41.5)	(48.2)
Reduced Price Lunch		(11.3)	(6.4)	(7.4)		(4.9)	(7.3)	(7.2)
Full Price Lunch		(66.1)	(74.5)	(70.4)		(50.7)	(51.2)	(44.6)

Remediation session populations were fairly stable across intersessions. However, there were considerable differences between subpopulations at the two year-round schools and between students attending remediation sessions compared with each school's general population. The School B remediation students were from a lower SES and included a higher proportion of minority students than the School A students, which is characteristic of the differences in the general populations of the two schools. Students attending remediation sessions were more likely to be minority and/or poor. School B served a few Exceptional Education students, but neither school provided remediation services to Kindergarten students.

Teachers and administrators reported that students who received this remedial instruction were not falling as far behind as students had in previous years. Teachers were able to start up with new content and skills following intersessions because students had not had time to forget or unlearn their previous achievements. Both staffs reported that having the remediation immediately before startup of the next nine-week session (i.e., at the end of the intersession) resulted in students being better able to cope and perform than if they had been remediated at the beginning of the three-week intersession. This should mean that at the end of the school

year these teachers will have covered more of the core curriculum material (which has not been verified), or at least these teachers will have more fully covered the same amount of material.

Opportunities for Creative Enrichment Not Otherwise Available. Enrichment classes were available only during the fall and spring intersessions. In the first enrichment intersession, offered at the end of the first 9 weeks, 60 School A students and 57 School B students received up to one week of half-day enrichment classes that they would not otherwise have received. The second enrichment intersession, offered between the second and third nine-week sessions, had 41 School A students and 35 School B students participating. Some students attended two different sessions during each intersession, while a few attended three sessions. Thus, there were 268 "bonus" instructional activities offered through these enrichment activities because of the YRS concept during its first year of operation. Enrichment intersession attendance by various student characteristics is presented in Table III.

TABLE III
Enrichment Intersession Attendance by Various Student Characteristics
Number (Percent) of Students

	School A		School B	
Enrichment Session:	Fall	Spring	Fall	Spring
Breakout by...				
Total	60	41	57	35
Grade Level				
Kindergarten	(13.3)	(14.6)	(17.5)	(27.8)
Grade 1	(23.3)	(31.7)	(10.5)	(8.3)
Grade 2	(11.7)	(14.6)	(19.3)	(13.9)
Grade 3	(20.0)	(19.5)	(17.5)	(16.7)
Grade 4	(25.0)	(14.6)	(21.1)	(13.9)
Grade 5	(6.7)	(4.9)	(14.0)	(19.4)
Ethnicity				
African-American	(8.3)	(7.3)	(14.0)	(14.3)
White	(86.7)	(90.2)	(84.2)	(80.0)
Other	(5.0)	(2.4)	(1.8)	(5.7)
Gender				
Female	(51.7)	(58.5)	(49.1)	(50.9)
Male	(48.3)	(41.5)	(57.1)	(42.9)
Socioeconomic Status				
Free or Reduced Lunch	(0.0)	(2.4)	(8.3)	(5.7)
No Free/Reduced Lunch	(100.0)	(97.6)	(91.7)	(94.3)
Number of Sessions Attended				
One (1)	(81.7)	(65.9)	(50.9)	(42.9)
Two (2)	(18.3)	(34.1)	(49.1)	(51.4)
Three (3)	(0.0)	(0.0)	(0.0)	(5.7)

Enrichment intersession participation declined during the spring offering at both schools, although the percentages of students taking two or more classes increased. Although fewer

students at School B participated, participating students at School B tended to take more sessions. Both year-round schools provided enrichment activities for Kindergarten students as well as students at all grade levels, although fifth grade students at School A tended to participate less often. African-American students were underserved during these enrichment sessions, as were poor children.

Opportunities for the Computer Lab to be More Accessible. The computer labs were more accessible as they were being used during intersessions. This resulted in a minimum of 15 extra days per year of use, not including the additional use as part of the enrichment classes.

Continuity of Education with Short Breaks. According to teachers and parents, students responded positively to the nine-week instructional periods followed by three-week intersessions. Students were better prepared to resume their education after these short breaks, and the remediation periods helped to eliminate the need for review of previously learned content at the beginning of the next nine-week session. School A staff noted that children were more rested after the Christmas holiday break than previously. However, the remediation sessions were moved to the end of each three-week intersession so that students would return to the next nine-week session caught up and ready to move on.

Expanded Learning Opportunities. This focus was a goal of the program at School B. They were continuing long-term projects under a $45,000 grant from the National Garden Foundation for a Grow Lab and an $18,000 science grant from Burroughs Wellcome. In addition, they planned to use high school and college students during intersessions and at other times they might be available when traditional schools are not in session. However, except for the occasional involvement of a teacher sibling, this use of student assistants was not formally implemented.

In addition to the explicitly stated goal results, there are several other program outcomes that can be examined. Some of these are discussed below.

Budgetary Enhancements. Both School A and School B were given $2,000 in planning monies In addition, upon selection as a YRS, each school received $12,000 to hire its instructional staff for five extra days of extended employment during the summer to develop nine-week (i.e., quarterly) curriculum content and materials. School A divided their staff into teams. Each team worked for five days during a time period that was mutually agreeable. They developed each nine-week curriculum and put them into notebooks that included checklists to track instructional content taught. At School B, these monies were used to study and incorporate the Core Knowledge materials into their curriculum. They are developing themes as an organizing context into which the specific content can be taught. Each teacher was to develop 1 to 2 themes during the year, but teachers are actually developing 3 to 4 themes each. Thus, these budgetary enhancements seem to be monies well spent.

Program Support and Assistance. The Innovative Programs section has been commended for doing a good job of presenting preliminary program information, making program suggestions, helping with program registrations and students transfers, and filtering telephone calls. It also was indicated that Community Education provided invaluable assistance with the enrichment activities during the intersessions.

Several needs have gone unmet. Both sites needed assistance from Research, Development & Accountability in developing screening instruments to assist in selecting students for remediation. Central Services needs to consider the YRS calendar when making decisions in a

number of different areas (e.g., snow makeup days, payroll, distribution of flyers sent from the Central Office, and staff development days). Lack of adequate staff development was mentioned as an area of support need, as were insufficient budget allotments to purchase resources and materials.

Staff and Parent Support. Staff support has been nearly unanimous since program development and implementation. Indeed, there is now a fear that administrators and/or teachers will be reassigned, disrupting the large gains in staff development, awareness, and cohesiveness that have been made during project development. It appears that personnel want to transfer into, but not out of, these year round schools.

Parent support also has increased. While not yet unanimous, it is now in excess of 90 percent approval. Many parents might have initially selected the YRS concept for perhaps the wrong reason (e.g., it was the neighborhood school; kids wanted to stay with their friends; it was too much of a bother to have their children at a more distant school), but many more parents have now bought into the concept of year round schools, have adapted to the schedule, and have seen positive benefits from the nine-week on/three-week off calendar with intersession remediation/ enhancement opportunities.

Student Support. Initial student support, and to some degree initial parent support, can be measured somewhat by the number of transfers into or out of the year round schools. During this first year of year-round operation, School A had 75 students transfer out, including 6 to School B, and 109 students transfer into the school. School B had 113 students transfer out, including 2 to School A, while 96 students transferred into School B. While School A gained 34 students through this transfer process, School B lost 17 students (including the 8 students who transferred between these two schools).

Continuation Plans. Both schools plan to continue as year round schools indefinitely. The YRS concept may be the innovative program that is least subject to change if building administrator or leadership changes because of its extensive school-wide involvement and calendar changes.

Student Outcomes

There are five primary student outcomes that will be examined in relationship to the implementation of this program: reading and mathematics End-of-Grade (EOG) test scores, number of absences, number of tardies, and number of disciplinary actions. Results presented below represent findings for students after the first full year of program implementation. Subsequent results will include trend data.

Increase Student Academic Performance. Academic performance indicators for year round schools were obtained by examining student test scores in reading and mathematics on the North Carolina End-of-Grade (EOG) tests. In order to follow cohorts of students (i.e., the same group of students from one year to the next), it was necessary to develop rosters of students and use individual student scores. The three student population groups discussed earlier (*Stayers* and *Transfer In* YRS students and *Transfer Out* traditional school year students) are examined in the following analyses. These scores can only be examined for two cohorts of students (i.e., fourth and fifth graders) because of three factors. First, the EOG is only given at the ends of grades 3 through 8. Second, the EOG score from the spring prior to YRS

attendance is used as the baseline score (e.g., grade 3 EOG scores for fourth grade students). Finally, only the 1994-95 fourth and fifth graders have both pretest and posttest scores.

The results for each of these populations are presented below for reading EOG scores for each of the three cohorts of students for the School A and School B YRS programs (Table IV).

TABLE IV
End-of-Grade Reading Test Scores

	School A					School B				
Student Status	N	May 1994 Pretest	May 1995 Posttest	Expected Pre/Post Difference	Actual Pre/Post Difference	N	May 1994 Pretest	May 1995 Posttest	Expected Pre/Post Difference	Actual Pre/Post Difference
Stayers	109	148.6	153.1	+4	+4.5	144	146.4	150.7	+4	+4.3
Transfers In	23	147.3	151.0	+4	+3.7	23	142.0	146.7	+4	+4.7
Transfers Out	25	150.4	154.8	+4	+4.4	26	146.8	150.6	+4	+3.8

F-Tests of Significance	F-value	Sign.	F-value	Sign.
Posttest/Pretest Difference	306.84	.001	545.14	.001
Type of Student Status	0.95	.389	0.07	.931

Differences Between Student Status Types	t-value	Sign.	t-value	Sign.
Stayers vs Transfers In	0.59	.555	0.32	.752
Stayers vs Transfers Out	-1.38	.170	0.06	.955

Although each of the two groups of School A YRS students (*Stayers* and *Transfers In*) did not significantly outperform the *Transfer Out* students on their reading scores, they did show significant pre/post gains and the gains of students within the YRS attendance zone was higher than the state expected gain. In addition, the *Transfer In* students' gain approximated the state expected gain (denoted as Expected Pre/Post Performance). There was no significant effect due to grade level ($F = 0.86$; $df = 1, 154$; $p < .355$) or gender (average gains of 4.28 for boys and 4.48 for girls; $F = 0.07$; $df = 1,154$; $p < .797$). However, there was a significant effect due to ethnicity favoring gains made by whites over African Americans (average gains of 4.73 vs. 3.60; $F = 13.88$; $df = 1,150$; $p < .001$).

At School B, each of the two groups of YRS students (*Stayers* and *Transfers In*) also did not significantly outperform the *Transfer Out* students on their reading scores. But they did show significant pre/post gains and the gains for both groups of YRS students (*Stayers* and *Transfers In*) were higher than the state expected gain by 0.3 and 0.7 standard score points, respectively. Additional analyses showed no significant effects due to grade level ($F = 0.39$; $df = 1, 190$; $p < .532$), ethnicity (average gains for whites and African Americans of 4.06 and 4.67, respectively; $F = 0.22$; $df = 1,182$; $p < .642$), or gender (average gains for boys and girls of 4.16 and 4.33, respectively; $F = 0.40$; $df = 1,190$; $p < .527$).

The results for each YRS for mathematics EOG scores for each of the three cohorts of students are presented in Table V.

TABLE V
End-of-Grade Mathematics Test Scores

	School A					School B				
Student Status	N	May 1994 Pretest	May 1995 Posttest	Expected Pre/Post Difference	Actual Pre/Post Difference	N	May 1994 Pretest	May 1995 Posttest	Expected Pre/Post Difference	Actual Pre/Post Difference
Stayers	109	146.5	153.4	+6	+6.9	144	142.5	150.9	+6	+8.4
Transfers In	23	143.0	151.7	+6	+8.7	23	137.0	146.4	+6	+9.4
Transfers Out	25	149.0	156.7	+6	+7.7	26	150.8	150.8	+6	+7.9

F-Tests of Significance	School A F-value	School A Sign.	School B F-value	School B Sign.
Posttest/Pretest Difference	203.64	.001	670.51	.001
Type of Student Status	0.80	.452	0.17	.841

Differences Between Student Status Types	School A t-value	School A Sign.	School B t-value	School B Sign.
Stayers vs Transfers In	-1.17	.246	-0.03	.975
Stayers vs Transfers Out	0.03	.974	0.55	.582

The results for mathematics at School A were more impressive. Although the YRS students did not outperform the students who transferred out of School A, each group performed above the expected state average gain of 6 points by from 0.9 to 2.7 scale score points. Additional analyses showed no significant effects due to grade level ($F = 1.24$; $df = 1, 155$; $p < .267$) or gender (average gains of 7.15 for boys and 7.47 for girls; $F = 0.18$; $df = 1,155$; $p < .668$). Once again, however, there was a significant effect due to ethnicity favoring whites over African Americans (average gains of 8.06 vs. 6.40; $F = 13.95$; $df = 1,151$; $p < .001$).

At School B, the mathematics EOG test results also were impressive. The YRS students outperformed the students who transferred out of School B, and the group of students who transferred into the school outperformed both groups. Each group performed above the expected state average gain of 6 points by from 1.9 to 3.4 scale score points. As in reading, additional analyses showed no significant effects due to grade level ($F = 0.12$; $df = 1, 191$; $p < .729$), ethnicity (average gains for whites and African Americans of 8.56 and 8.71, respectively; $F = 1.70$; $df = 1,183$; $p < .194$), or gender (average gains for boys and girls of 8.73 and 8.28, respectively; $F = 0.31$; $df = 1,191$; $p < .580$). Although not statistically significant, African Americans made larger gains in both reading and mathematics than white students at School B.

Improved Student Attendance. Student attendance can be tracked using the three student populations: *Stayers* and *Transfer In* YRS students, and *Transfer Out* traditional school students. However, one of the partner schools had not submitted their 1994-95 year-end Student Information Management System (SIMS) data to Central Services for archiving at the time of this analysis. Thus, much of the data for *Transfer Out* students were not available for this report. However, the pre/post means on school absences are provided in Table VI for students at the year-round schools, broken out by various student characteristics. The pretest data are from the 1993-94 school year--the year before the beginning of the YRS. The posttest data are for the 1994-95 school year--the first year of operation of Year Round Schools. Only students with both pretest and posttest attendance figures were used in the computations.

TABLE VI
Mean Pre/Post Student YRS Absences by Student Characteristics

Characteristic	School A N	School A 1993-94	School A 1994-95	School B N	School B 1993-94	School B 1994-95
All Students	332	5.6	5.4	380	7.3	7.1
Attendance Status						
Stayers	268	5.4	5.4	339	7.3	7.1
Transfers In	64	6.3	6.1	41	7.1	7.4
Grade Level						
Grade 1	71	6.9	7.1	81	8.3	7.5
Grade 2	61	6.2	5.0	77	7.0	5.7
Grade 3	78	5.0	5.4	73	5.7	6.5
Grade 4	76	5.4	5.0	82	7.7	8.0
Grade 5	51	4.3	5.1	73	8.0	7.3
Ethnicity						
African-American	143	5.0	4.4	187	6.9	6.5
White	183	6.2	6.5	190	7.8	7.8
Other	12	4.2	4.9	15	6.5	6.3
Gender						
Female	163	5.3	6.2	203	7.5	6.9
Male	175	5.9	5.0	189	7.2	7.4
Socioeconomic Status						
Low SES	50	6.3	5.4	114	9.2	8.6
Not Low SES	288	5.5	5.6	278	6.6	6.5

Tests of Statistical Significance

School A:

All Students:	$t = 0.19$, $df = 331$, $p < .949$
Attendance Status:	$F = 0.04$, $df = 1,329$, $p < .837$
Grade Level:	$F = 0.66$, $df = 1,331$, $p < .621$
Ethnicity:	$F = 1.89$, $df = 1,334$, $p < .152$
Gender:	$F = 4.70$, $df = 1,335$, $p < .031$
SES:	$F = 0.43$, $df = 1.335$, $p < .511$

School B:

All Students:	$t = 0.61$, $df = 379$, $p < .541$
Attendance Status:	$F = 0.33$, $df = 1,377$, $p < .563$
Grade Level:	$F = 1.54$, $df = 1,380$, $p < .190$
Ethnicity:	$F = 1.25$, $df = 1,388$, $p < .287$
Gender:	$F = 1.78$, $df = 1,389$, $p < .183$
SES:	$F = 1.90$, $df = 1,389$, $p < .169$

The number of days absent during the first year of YRS operation ranged from none to 98 days at School A and 35 days at School B. The previous year's range for these same students was from none to 25 days at School A and 38 days at School B.

Nine of the various groups shown in Table VI demonstrated more than a half day decline in student absences during participation in the YRS (i.e., Grade 2 School A students; Grade 1, 2, and 5 School B students; African American students at School A; School A males; School B females; and low SES students at both schools). However, none of these differences was statistically significant and there also were four increases of more than a half day in absences (i.e., Grade 5 School A students; Grade 3 School B students; Other minority School A students; female School A students). The only statistically significant difference occurred at School A with a decrease in average days absent by boys of 0.88 and an increase in average days absent by girls of 0.83 days.

Improved Behavioral Indicators. In addition to student attendance, data were available on two other student behaviors: number of tardies and number of suspensions. The information on tardiness is provided in Table VII, while the information on student suspensions is provided in Table VIII.

The number of tardies during the first year of YRS operation ranged from none to 75 times at School A and 92 times at School B. The previous year's range for these same students was from none to 117 times at School A and 54 times at School B.

As shown in Table VII, the number of tardies at School A went down by an average of one or more times in five of the comparison groups, while increasing by this same amount in four of the comparisons. At School B, the number of tardies increased by 2.8 times or more in every one of the 15 comparisons except for fifth grade students. Over all students, the number of tardies decreased slightly at School A, but increased significantly by 3.8 tardies at School B. There were only two additional changes in number of times tardy that were statistically significant. The first was for Attendance Status at School A, where students who transferred into the school greatly increased in the number of tardies while students within the school's attendance zone slightly decreased in the number of tardies. The other was for Grade Level at School B, where there were considerable differences among the grade levels.

As shown in Table VIII, the actual number of instances of student suspensions was relatively small (less than one instance for every 22 students), especially considering that some suspensions were for nonviolent actions such as insolence and language. However, the number of reported suspensions increased for almost every subpopulation examined. Overall, these increases in the number of suspensions were significant at both year-round schools. In addition, there were significant changes in suspensions at School A for Grade Level and Gender and at School B for Gender and Socioeconomic Status (SES). One student at School B accounted for 12 suspensions, while no student at School A had more than 2 suspensions.

Reduce the Number of Chapter 1 Students. It is too soon to evaluate this goal.[4] However, there were 64 Chapter 1 students at School B at the beginning of the YRS project. These students, and their outcomes, will be disaggregated and followed as subsequent data become.

Decrease the Number of Students Needing Remediation. This is a long-term goal and cannot be immediately evaluated. However, there are some leading indicators that can be used in advance of obtaining these actual data. They include attendance and behavioral indicators as well as achievement results, especially when the latter are disaggregated by quartile. These data will become available following the end of this first year of year-round school operation.

[4] Only School B provides Chapter 1 services.

TABLE VII
Mean Pre/Post Number of Student YRS Tardies by Student Characteristics

Characteristic	School A N	School A 1993-94	School A 1994-95	School B N	School B 1993-94	School B 1994-95
All Students	332	6.3	6.0	380	4.9	8.7
Attendance Status						
Stayers	268	5.9	4.8	339	4.7	8.6
Transfers In	64	8.4	11.1	41	6.4	9.7
Grade Level						
Grade 1	71	10.0	7.7	81	5.4	9.4
Grade 2	61	8.7	8.9	77	5.5	11.7
Grade 3	78	6.1	5.0	73	5.2	8.0
Grade 4	76	4.6	5.5	82	4.5	9.9
Grade 5	51	3.4	4.6	73	4.2	4.3
Ethnicity						
African-American	143	8.0	6.0	187	6.5	10.1
White	183	6.0	6.8	190	3.6	7.5
Other	12	2.8	4.7	15	2.9	6.0
Gender						
Female	163	7.7	6.2	203	5.2	9.3
Male	175	5.8	6.6	189	4.8	8.1
Socioeconomic Status						
Low SES	50	8.9	8.5	114	6.2	9.8
Not Low SES	288	6.3	6.1	278	4.4	8.2

Tests of Statistical Significance

School A:

All Students:	t = 0.56, df = 331, p < .576
Attendance Status:	F = 18.74, df = 1,329, p < .001
Grade Level:	F = 0.77, df = 1,331, p < .547
Ethnicity:	F = 1.94, df = 1,334, p < .146
Gender:	F = 2.20, df = 1,335, p < .139
SES:	F = 0.61, df = 1.335, p < .435

School B:

All Students:	t = -6.51, df = 377, p < .001
Attendance Status:	F = 0.14, df = 1,375, p < .713
Grade Level:	F = 3.47, df = 1,378, p < .008
Ethnicity:	F = 0.07, df = 1,386, p < .934
Gender:	F = 0.46, df = 1,387, p < .497
SES:	F = 0.04, df = 1,387, p < .837

TABLE VIII
Mean Pre/Post Student YRS Suspensions by Student Characteristics

Characteristic	School A N	School A 1993-94	School A 1994-95	School B N	School B 1993-94	School B 1994-95
All Students	332	0.012	0.045	380	0.005	0.042
Attendance Status						
Stayers	268	0.011	0.037	339	0.006	0.114
Transfers In	64	0.016	0.078	41	0.000	0.146
Grade Level						
Grade 1	71	0.028	0.056	81	0.013	0.089
Grade 2	61	0.016	0.016	77	0.000	0.052
Grade 3	78	0.000	0.038	73	0.000	0.127
Grade 4	76	0.013	0.000	82	0.012	0.061
Grade 5	51	0.000	0.137	73	0.000	0.306
Ethnicity						
African-American	143	0.007	0.056	187	0.011	0.204
White	183	0.016	0.038	190	0.000	0.043
Other	12	0.000	0.000	15	0.000	0.067
Gender						
Female	163	0.006	0.006	203	0.005	0.040
Male	175	0.017	0.080	189	0.005	0.209
Socioeconomic Status						
Low SES	50	0.040	0.040	114	0.018	0.312
Not Low SES	288	0.007	0.045	278	0.000	0.044

Tests of Statistical Significance

School A:

All Students:	$t = -2.31$, $df = 331$, $p < .022$
Attendance Status:	$F = 1.35$, $df = 1,329$, $p < .246$
Grade Level:	$F = 2.86$, $df = 1,331$, $p < .024$
Ethnicity:	$F = 0.44$, $df = 1,334$, $p < .645$
Gender:	$F = 7.13$, $df = 1,335$, $p < .007$
SES:	$F = 0.10$, $df = 1.335$, $p < .231$

School B:

All Students:	$t = -2.79$, $df = 374$, $p < .005$
Attendance Status:	$F = 0.16$, $df = 1,372$, $p < .694$
Grade Level:	$F = 1.64$, $df = 1,375$, $p < .164$
Ethnicity:	$F = 1.37$, $df = 1,383$, $p < .255$
Gender:	$F = 4.65$, $df = 1,384$, $p < .032$
SES:	$F = 6.55$, $df = 1,384$, $p < .011$

Discussion

In all, more than 1100 students were involved in year-round education at the two schools. Only 159 students (about 14 percent) requested a transfer out of the year-round school serving their attendance zone. These numbers indicate support for the concept of year-round schooling, at least in these two attendance zones. This support among parents continues to grow, due at least in part to extraordinary efforts during the planning year to ensure that parents had an opportunity to learn about the year round concept and that parents were given the opportunity to opt out. Both of these factors undoubtedly increased the "buy-in" and thus the support of families that would be attending the year round school. It is difficult to imagine how receptive parents would have been without the efforts made by the staff of both schools to educate parents. The relatively large number of students transferring into the year round schools is further evidence that the schedule offered by these schools is attractive to a significant portion of the families served by Durham Public Schools.

The intersessions are one of the most distinguishing characteristics of year-round schools, after the school calendar itself. The twin promises of the intersession--to provide early remediation and to provide enrichment opportunities--remain to be tested, since the data presented in this report are insufficient at this point represent a trend. Data in Tables II, IV, and V should be taken together in order to gauge the effect of the intersessions. It is interesting that the largest percentage of remediation students at School A was made up of students in Grades 1 and 2, while at School B, students in grades 1 and 3 were more likely to attend. This seems to support that remediation efforts were aimed at early intervention of learning difficulty. Moreover, the cohort analyses present evidence that students in these year-round schools performed, for the most part, above expectation, especially in mathematics. How much of this improvement might be due to the careful instructional planning undertaken by the staff at each school is not clear, but the effect--whether from better planning, early intervention, or better instruction--is impressive. It is also interesting to note that the largest percentage of students receiving the remedial services were NOT economically disadvantaged students. In all cases except the third period at School B, "full price lunch" students represented between 50 and 75 percent of the students in the remediation program. However, in any case, it should be noted that economically disadvantaged students represent a significantly lower portion of students in these two schools.

It is, however, unfortunate that so few poor children attended the enrichment sessions. If the achievement gap is to be overcome in our schools, it may very well be through opportunities such as this one that the improvement will occur. It is true that the enrichment sessions required fee payment and these fees may have been out of reach of some parents. If that is true, then there must be found more ways to subsidize such costs. Costs also may have contributed to the drop in the number of students involved in enrichment classes during the second offering. If parents are reluctant to send children to these enrichment sessions, then ways to educate them to the benefits must be found. The point is that the remediation sessions alone are unlikely to result in large achievement gains. Rather, it may very well be the combination of the remediation and the enrichment that will provide the synergistic benefit of year-round school to children.

A disappointment was that remediation sessions were not offered to Kindergarten students. Durham Public Schools has demonstrated a consistent gap between African American students and white students that is well established by the end of the third grade (when the first EOG tests are administered) and persists with relatively the same separation throughout the

elementary and secondary education experience. By getting remediation services to students earlier, such as during Kindergarten when some very basic facts and concepts are being taught, perhaps this gap can be overcome, or narrowed at the very least.

A budgetary enhancement not mentioned previously is associated with the remediation session. Both year-round schools received funds (from North Carolina's Basic Education Program Summer School fund) to support the cost of teachers for the remediation sessions. Throughout Durham Public Schools in 1995, BEP summer school funds were focused on meeting the needs of students performing at the Achievement Level I and/or II (i.e., below that expected of students who are performing on grade level) on the reading and mathematics EOG tests. These schools were allotted funds greater than the per pupil allocation that they would have received if their students had participated in the BEP summer school. The cost of remediation poses a considerable problem if year-round schools are expanded to include more schools in the district. If remediation opportunities are provided to students who would not otherwise be assigned to summer school, then the summer school fund will be depleted faster than it otherwise would be. Put another way, we are now using summer school funds to remediate students in YRS who would not be assigned to summer school under normal conditions. The budget impact of this decision will be felt in the future as the number of YRS schools expands.

As Tables IV and V make clear, the investment in early remediation paid off. It is interesting to observe that the average reading and mathematics scores for the *Transfer In* group at both schools were lower than the average scores for *Stayers* and *Transfer Out* students. While these students' average scores did not rise to the level of students in the latter two groups, the *Transfer In* students' did gain more (except for reading at School A) than students in the other groups. Thus, the performance gap between these students and the others was narrowed significantly, a desirable effect.

One of the interesting outcomes of the YRS project, especially since it was unanticipated, is the discovery that the remediation session is most profitable if it is offered during the week immediately preceding the next nine-weeks of instruction, rather than being offered immediately following the previous nine weeks. In the original YRS calendars, the remediation sessions were planned to follow each regular instructional term. However, it may be that students and teachers are tired after the nine weeks, and need some time to rest and to relax. By using the remediation period to "prime the pump" (i.e., catching students up who are behind and reinforcing the habits of school attendance and appropriate school behaviors), the remediation period may be useful as a way to prepare students to profit from instruction when it is initially offered. This experience should be taken seriously when planning future YRS calendars.

The School B population was more disadvantaged than the School A population, and this can be used as an excuse for its somewhat poor showing relative to School A. However, many of the problems encountered--particularly the number of absences and tardies--are things that the school administration must deal with directly. Students at School B had an average of almost 2 more absences and almost 3 more tardies per student than did School A. On average, this meant that a School B student was missing all or part of one or more classes or a full day of classes almost once every two weeks. This greatly decreased the amount of time available for classroom instruction.

Both School B and School A should develop programs to reduce the number of tardy arrivals by students. African American students at School B were tardy an average of once every 18 school days (or better than once a month), while white students were tardy once every 24 days

(or about once a month). Both schools experienced sharp increases in number of tardies after instituting the Year Round School concept. This tardiness was relatively independent of student gender, socioeconomic status, grade level, and whether the student was from inside or outside the attendance zone.

Finally, when a major new educational initiative is undertaken, there is sometimes a "startup lapse" where it takes time for the reform to become established before student gains occur. Fortunately, that was not the case at School A and School B. Now the challenge is to maintain and extend achieved gains, and get improvements in additional areas. Subsequent evaluations of YRS in Durham Public Schools will examine such trend data.

Summary

The Year Round School concept was tried out in two elementary schools, School A and School B in Durham Public Schools, using attendance zone student populations with student transfers between partner schools. The School B population had more students, a larger percentage of minority students, and more students who were educationally disadvantaged (as exemplified by membership in the federal Chapter 1 program) and economically disadvantaged (as exemplified by receipt of free or reduced price lunches).

Data in this report support the conclusion that the Year Round Schools at School A and School B, in their first year of operation, have had a significant positive effect on the achievement of students at these two schools. Students at School A outperformed the expected state gains in reading (4.4 points versus the expected 4 scale score points) and in mathematics (7.2 points versus the expected 6 points). Students at School B also made impressive gains in reading (4.3 points versus the expected 4 points) and mathematics (8.6 points versus the expected 6 points).

Moreover, there is reason to believe that instructional planning, at the school level, was improved by the need to coordinate assessment and remediation services. The lack of participation of poor students in the enrichment program and the decline in enrichment class participation from the first to the third intersession are disappointing, and represent improvement goals for the future. However, teachers and administrators reported that students who received remediation services during the intersessions were not falling as far behind as students did in previous years and were better prepared to resume their education after the intersession breaks. Parent support for the program, quite strong at the start, continues to grow even stronger. Overall, the faculty, students, and parents of these schools are to be commended for having demonstrated that YRS schools can provide an important learning opportunity and schooling option in Durham Public Schools.

On the down side, although student absences declined at both schools, they did increase for several subpopulations. In addition, the number of times students are tardy each year, already at unreasonably high levels, increased significantly at School B. Also, the number of student suspensions were up at both schools.

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