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Evaluation of a Year-Round Schedule in a Rural School District

Robert B. Pittman and Mary Jean Ronan Herzog
Western Carolina University

One of the hallmarks of rural schools is the sense of community both within and outside the school. When the implementation of a year-round education (YRE) schedule in a rural school system impacts this sense of community, what achievement, attendance, and attitudinal outcomes can be anticipated? These were evaluated using summaries of standardized test scores, designated course grades, attendance information, and attitudinal responses from student, parent, and staff samples. Neither the rural setting nor the disruption of the sense of school community seemed to affect the results: no differences were found in achievement or attendance, and participants had positive reactions to YRE. School systems considering changing from traditional to year-round schedules should base their decision on the way the alternative calendar fits within the community rather than on claims of educational superiority. Such claims have not been substantiated by research findings.

One of the current trends moving across the education landscape is a scheduling alternative known as year-round education (YRE). Three examples illustrate the variability that YRE plans can take:

- The 60-20 plan—students attend school for 60 days and then are on vacation for 20 days
- The quarter system—the school year is divided into 4 quarters with students being assigned to attend school for 3 of these quarters
- The 45-15 plan—students attend school for 9 weeks (45 days) followed by a 3-week vacation. This cycle continues throughout the year with the possibility of a slightly longer break during the summer months.

While the specific form of the schedule may differ, the intent to spread the school year across a larger part of the calendar year remains constant across all approaches to YRE. The YRE format considered in this study was the 45-15 plan.

The rationale for implementing YRE has been buttressed by the following claims. First, it provides better use of facilities, in that they receive heavy use year round. In large metropolitan areas, for example, it has been used to provide relief from overcrowding. Second, it avoids or minimizes the assumed summer achievement loss, in which it is thought that the prolonged summer vacation contributes to students forgetting information. Correspondingly, the YRE schedule eliminates the subsequent several weeks of review required at the beginning of the school year. Third, the older 10-month school calendar stems from a lifestyle that no longer exists or exists only in a minimum of circumstances. Finally, during a 3-week break, students who do not master material during the 9-week instructional period can be provided remedial instruction. In so doing, students are said to be "caught up" at the beginning of the next instructional cycle, rather than falling further behind as they would in the continuous instructional cycle of the regular 10-month school calendar.

The empirical literature regarding the impact of YRE presents a rather consistent set of outcomes (Merino, 1983; National Education Association, 1987; Shields & LaRocque, 1996; Worthen & Zsiray, 1994). Each review concluded that there existed little, if any, difference in the achievement of students under the YRE schedule and a more traditional one. The manner in which this lack of difference was described differed from one review to the other, but the overall conclusions were similar. The attitudes of parents, teachers, and students involved in YRE were described as being positive or supportive of the scheduling initiative. Finally, costs were less for YRE programs when construction savings were counted, and slightly higher when there were no savings attributable to a lowered need for additional school construction.

A recent meta-analysis of 15 studies (Kneese, 1996) investigating the impact of YRE on student achievement found an average effect size of approximately .10 favoring year-round schools. While the author concluded that YRE probably benefited student performance, she cautioned that methodological problems were the rule rather that the exception in the 15 studies. The possibility of a small, posi-

Correspondence concerning this article should be addressed to Robert B. Pittman, Department of Curriculum and Instruction, Western Carolina University, Cullowhee, NC 28723. (pittman@wcuvax1.wcu.edu)

tive outcome also is supported by Roby (1995). Overall, the research evidence suggested that the implementation of YRE would have mixed outcomes. In particular, it would likely result in supportive attitudes among students, parents, and staff; cost savings, if construction expenses were avoided; and very small, if any, achievement differences.

Given the consistency of these findings, one might ask why school boards and superintendents would have any remaining questions regarding the potential outcomes of YRE. Part of the answer may rest upon a research base that Worthen and Zsiray (1994, p. 7) describe as ". . . both limited and fragmentary, thus making it difficult to give unequivocal research-based answers." The remainder of the answer may rest with the type of community in which YRE has been found most often. This latter consideration provides the focus for our study.

Historically, the driving force behind the majority of YRE movements has been to relieve overcrowding in urban schools by having student groups on staggered YRE schedules (e.g., Burnett, 1995). When rural schools consider a YRE schedule, should outcomes similar to those achieved in urban ones be expected? Beyond the obvious demographic factors, such as serving a higher proportion of students from economically impoverished backgrounds (Herzog & Pittman, 1995), rural schools are different from nonrural ones in other ways. In comparing rural and urban schools, Stern (1994) reported that rural schools are smaller, they have less curricular diversity, and there is a lower student to teacher ratio. Lindsay (1982) and Fowler (1992) reported that students in rural schools, in comparison with those from metropolitan schools, possess greater feelings of belonging and of being part of the school community. Why should rural students perceive themselves as being more a part of the school community? Perhaps it is a function of school size (Lindsay, 1982), an extension of the close link between school and community in rural areas (Stern, 1994), or some combination of the two. Regardless of the reason, the greater sense of identity that exists within school and the larger sense of community surrounding the school suggest that rural schools are qualitatively different from urban ones. Since rural schools are different from urban schools, the question arises whether the outcomes of YRE previously observed in urban settings are true also within rural schools.

For this study, we examined the impact of a YRE school schedule on selected student outcomes. This was done within a rural context in which the scheduling implementation possessed the potential to directly impact the sense of community both within and outside the school. The possibility of reducing the sense of community existed because students and teachers volunteered to participate in the YRE program. Thus, individuals were voluntarily withdrawing from the existing school community and creating another one. Likewise, community support was not unanimous because, as reported in Worthen and Zsiray (1994), there will always be opposition from the larger community to YRE; the situation was no different in this case. We hypothesized that the outcomes of YRE in a rural setting would be similar to those previously observed in urban settings except for there being a disruption in the sense of school community and a reflection of this disruption in some of the attitudes regarding the implementation of YRE.

Method

Setting

The study took place in a county school system in one of the rural areas of western North Carolina. The county, like others in the region, is within the service area of the Appalachian Regional Commission and is classified as nonmetropolitan by the Bureau of the Census. The Department of Agriculture's Economic Research Service identifies the county as a retirement destination. The predominant residential living environment is small town with a low reported crime rate. Economically, the county depends upon small manufacturing and services for over 50% of personal income, while farming, mining, and forest industries account for approximately 20%. Twenty percent of school-aged children in the county are classified as living in poverty.

For several years prior to implementing the YRE schedule, a number of parents and school personnel had discussed its feasibility. This interest culminated in its implementation in some county schools at the beginning of the 1991-1992 school year. One elementary school had its entire schedule built around a YRE format, while two other elementary schools had some students on a YRE schedule, and the remainder on a traditional 10-month school calendar creating a school-within-a-school situation.

Variables and Analysis

We evaluated the impact of YRE upon students' achievement, attendance, and attitudes; parents' attitudes; and teachers' attitudes. We employed two analytical strategies to assess the impact of YRE on achievement and attendance. The first investigated trends in achievement over a 5- to 8-year period for the entire school system and for grade cohorts. The data were organized and presented in a trend format since the data were available in aggregate form by grade level only and not on individual students. Several advantages supported analyzing the data in the trend format. First, it allowed us to see a "history" in graphical format of performance before, during, and after implementation of YRE across the school system and for grade cohorts. Additionally, looking at the trends across several years provided a basis for determining whether YRE seemed to im-

pact achievement. Since 30%-60% of the students at the various grade levels elected to attend school on the YRE schedule, any moderate-sized influence on achievement or attendance would produce prominent aberrations in the trend lines. Consistent differences in the trend lines that corresponded to the implementation of or following the implementation of YRE would allow us to posit that YRE produced the observed changes A statistical approach based on ARIMA methods was not used because their use is recommended when at least 50 data points are available. The current investigation had 8 data points.

The second analytical strategy entailed analyzing the grades and achievement test scores for a sample of students, some of whom had attended school on the year-round schedule and the others who attended on the traditional schedule. Resource and time constraints necessitated using students from a single grade level only, as opposed to all students within the school system. Fifth-grade students were selected because school officials felt that there was the most interest shown in the program around this grade level. Therefore, with interest maximized, outcomes from participation in YRE could be expected to be most prominent at this grade level. All students who were in the fifth grade in the school system during the 1991-1992 school year (the year of YRE implementation) and who had attended schools in the school system for each of the three previous years were identified. Using only students who were enrolled within the school system for the 3 previous years was done to eliminate possible alternative explanations for any observed differences. This procedure resulted in the identification of 48 students. Twenty-four of these students attended school on the YRE schedule in the fifth grade and 24 did not. The achievement performance for grades 5 and 6 of these two groups was analyzed using multivariate analysis of covariance, with achievement performance in grades 2, 3, and 4 serving as the covariate. The underlying homogeneity of regression assumption was met in all of the multivariate analyses of covariance.

Student achievement. By using two different analytical strategies, consistency in findings across the results from the two methods put us in a better position to decide whether the YRE schedule was or was not having an impact in the identified areas. In developing the analyses of student achievement, two achievement indices—grades (reading and math) and standardized test scores (California Achievement Test)—were employed. A better description of student achievement was obtained by using a measure dependent on teacher judgment (grades), and one independent of such assessments (standardized test scores).

Attendance. Assessment of YRE's impact on attendance used data from the sample of students who were in the fifth grade during the initial year of the YRE schedule. These attendance data were analyzed using the same methods and rationale as presented previously for the analysis of the achievement data. An analysis of the attendance for the entire school system and for entire grade groups was not conducted because the school system did not aggregate attendance data.

Teacher attitudes. Teachers from the three schools that implemented the YRE schedule provided the source for teacher reaction to the schedule. The 27-item instrument completed by the respondents had 17 items that asked teachers to supply their insights regarding the advantages and disadvantages of the program as well as general recommendations. The remaining 10 items were the same as the YRE/traditional comparison items on the parent questionnaire. The survey instrument was distributed at a staff meeting with the anonymous responses being received through the mail. Of the 73 teachers at the three schools, 54 returned completed surveys. Fifteen teachers had taught within the traditional schedule only, 3 had taught within the YRE schedule only, and 36 teachers had taught within both.

Parent attitudes. The parental viewpoint on YRE was obtained from a 12% random sample of parents who had children attending school on the YRE schedule. The sample was stratified by grade level to insure the sample adequately reflected the potentially different perspectives of YRE across the various grade levels. From the available parent pool, 142 were randomly selected and mailed a 20-item questionnaire which solicited reactions to issues surrounding the YRE schedule. Ten of the items used an open-ended, brief response format to assess attitudes about why the parents enrolled their children in the YRE program, the perceived benefits and disadvantages of the program, and recommendations for the program. The other 10 items asked parents to rate the YRE and traditional schedules on areas ranging from student achievement to child care. No identifying information in the form of names, address, classroom, or general demographic characteristics was requested in an effort to promote candidness in the responses. Approximately 10 days after the original mailing, a follow-up letter was sent to potential respondents encouraging their participation. Sixty-three surveys were returned, eight of which had unusable data, leaving a data pool of 55 surveys.

Student attitudes. Students who were attending school on the YRE schedule and who were in either the sixth, seventh, or eighth grades completed a 10-item, anonymous questionnaire regarding their reactions and suggestions for the schedule. All questions on the instrument used an open-ended, brief response format. The questionnaire addressed reasons students enrolled in the program, features that were considered positive and negative, and examples of benefits and disadvantages. The sample comprised entire classes of eighth graders (44), seventh graders (50), and sixth graders (72), students considered capable of providing the desired information through a questionnaire format.

Results and Discussion

Disruption of Community

Given the centrality of "the sense of community" in rural areas, initial efforts focused on determining whether having students and teachers voluntarily change schedules actually disrupted the school community. Following the schedule change, all was not harmonious within the school system; the presence of two different schedules in one school created a divisive atmosphere. Indicative of this were responses to questions that asked students to identify areas of the YRE they did not like or to identify problem areas. Sample responses were:

- "they call us nerds and stuff"
- "the traditional and year-round form two groups"
- "getting beat up because traditionals think year-rounders are nerds"
- "traditional wants to kill you"
- "criticism from traditional kids"
- "some traditional kids hit the year-round students because we beat them in soccer"

Comments on the teacher surveys echoed much the same sentiment. One teacher wrote that there existed a "silent competition between students and teachers under the two programs." Other teachers made general statements about unfair advantages in student placement and use of school supplies in the YRE program. Several parents mentioned the divisiveness that the scheduling implementation seemed to foster. The absence of total community support manifested itself in parents speaking against the scheduling implementation at school board meetings and in letters to the editor of the local newspaper. An analysis of these comments and events leads to the conclusion that the YRE schedule did disrupt the sense of a school community within this rural district.

Influence on Achievement (Grades)

The approach taken to determine the influence of the YRE schedule on grades entailed using the fifth-grade sample described earlier. Grades for these students in the core subject areas of reading and math were extracted from school records; letter grades were converted to a numerical scale using A = 4, B = 3, C = 2, D = 1, F = 0. The overall grade point averages (GPA) in these two combined subject areas for grades 5 and 6 were analyzed using a multivariate analysis of covariance (MANCOVA), covarying overall GPA across grades 2 through 4. A total GPA was used as the covariate rather than individual ones for each grade level to save degrees of freedom. Slight differences in GPA across grades 2, 3, and 4 that were observed between the two groups were not statistically significant ($p > .05$). Table 1 contains the results of the multivariate analysis of covariance of fifth and sixth grade GPAs for the student samples attending school under the two schedules.

The results indicate that at the end of the first year of participating in YRE, the observed student sample had lower grades than the students attending school on the traditional schedule. Not only were YRE students' grades lower than the comparison group, but their grades were lower than what they were in grade 4, $t(23) = 2.93$, $p < .01$. At the end of grade 6, their adjusted GPA was higher than that of students on the traditional schedule, although the unadjusted means were similar ($M = 2.97$ versus $M = 2.93$).

In summarizing this potential scheduling impact on grades, there was a pronounced decline in reading and math grades for the YRE schedule students upon entering that program in grade 5, the first year the program was available. However, there was a marked increase in the grades for this group in the sixth grade. There are several explanations for the decline and increase in the grades for students in the program. One explanation is that it took students a year to adjust to the schedule, but once they did, their grades reflected the improved level of learning. This is supported by the fact there existed no significant difference in GPA between the two groups prior to grade 5. A second explanation is that the fifth-grade teachers in the YRE program regularly assigned lower grades than colleagues. This seems the most likely reason for the observed GPA difference since the analysis of standardized test scores that follows showed no corresponding decrease and then increase that would be reflective of an adjustment or a scheduling influence. Overall, in the absence of a consistent pattern of improvement or decrease in grades that might be linked to attending school on a traditional or YRE plan, we conclude that students' grades are not influenced by type of schedule.

Influence on Achievement (Standardized Test Scores)

Beginning in the late 1970s and continuing until the end of the 1992-1993 school year, each school system within the state was required to administer the California Achievement Test (CAT) to all students in grades 3, 6, and 8. School systems, at their option, could voluntarily have students in other grades tested. The data generated through this statewide testing program provided a second source of information for evaluating YRE's impact upon student achievement.

Several different analytical approaches were utilized in order to get the best picture of the potential link between the school schedule and achievement. The first entailed looking at standardized test score performance for all students in the school system by grade level from 1986 through 1993. The YRE schedule program began during the 1991-

Table 1
Comparison of Grade 5 and Grade 6 GPAs Covarying Combined GPA for Grades 2 Through 4

	Schedule				
	Traditional ($N = 23$)		Year Round ($N = 24$)		
Variable	Adjusted M	S	Adjusted M	S	F
Grade 5 GPA	2.79	.91	2.53	1.33	4.24 ($p < .05$)
Grade 6 GPA	2.78	1.04	3.11	1.03	5.33 ($p < .05$)
	Overall Multivariate Test				
	Wilks' Lambda = .81; $F(2,43) = 4.99$; $p < .01$				

1992 year. Since 30%-60% of the students at any grade level chose to attend school on this schedule, it was assumed that if the schedule had an influence on performance, it would be reflected in the trends in standardized test score performance. If changes in these trends were noted to coincide with the implementation of the YRE schedule when none had been observed to occur before this, then we would be in a better position to argue that participation in the YRE schedule influenced achievement. The trends in the average score performance for the different grade levels are presented in Figure 1.

No distinct pattern emerged from the various trend lines. For all third grade students in the first year of the YRE schedule, for instance, the average score was slightly lower than the comparable score from the previous year. The following year, 1992-1993, it was slightly higher than the year before. The opposite pattern was observed for the second grade scores: slightly higher scores during the first year of the YRE schedule program and slightly lower scores the second year. At some grade levels the scores rose a small amount, and at other grade levels and years they declined a little. It should be noted that the scores did not differ greatly from year to year at any grade level. Overall, there does not appear to be any evidence in these data of a dramatic impact on standardized test scores attributable to the schedule.

A potential weakness of the preceding analysis is that different groups comprise the basis for creating a trend line. Therefore, changes in performance from one year to the next may reflect differences in the composition of the group as well as changes due to the implementation of a YRE schedule program. In order to address this potential deficiency, a "cohort" graphical analysis was structured. Student cohorts were identified for years in which the YRE schedule was available. Between 30% and 60% of each grade cohort comprised students attending school on the YRE schedule. For each of these cohorts, the average CAT scores were recorded for all available grade levels. In addition, a corresponding cohort was identified with similar scores available but from school years prior to the implementation of the YRE schedule program. The purpose of the additional non-YRE cohorts was to create a pseudo-control group using students within the same school system. Several different cohorts that had participated in the YRE program were identified and analyses conducted. One of these was selected for presentation (see Figure 2). Figure 2 represents the general trend for the other cohorts. The trend line labelled "YRE 4" was produced using the data for the grade 4 cohort. This group was in the fourth grade when the YRE schedule program was initiated. Therefore, its data for grades 4 and 5 are reflective of any influence the YRE schedule program may have had on achievement. The other trend line in Figure 2 uses the grade cohort that had score data available for grades 3 through 5 collected prior to the implementation of the scheduling program. The two trend lines project the same general pattern: standardized test scores improved from one grade level to the next. However, the improvement of the YRE cohort's scores from grade 3 through grade 5 was not quite as great as that of the comparison cohort. This suggests that participating in the YRE schedule did not produce larger than "to-be-expected" gains in standardized test scores. Other analyses were performed using cohorts who were in the third, fifth, sixth, and seventh grades the initial year of the YRE schedule option. A perusal of these indicated patterns similar to that in Figure 2.

The final analysis of the standardized test data used the scores for the 48 students who were in the fifth grade in

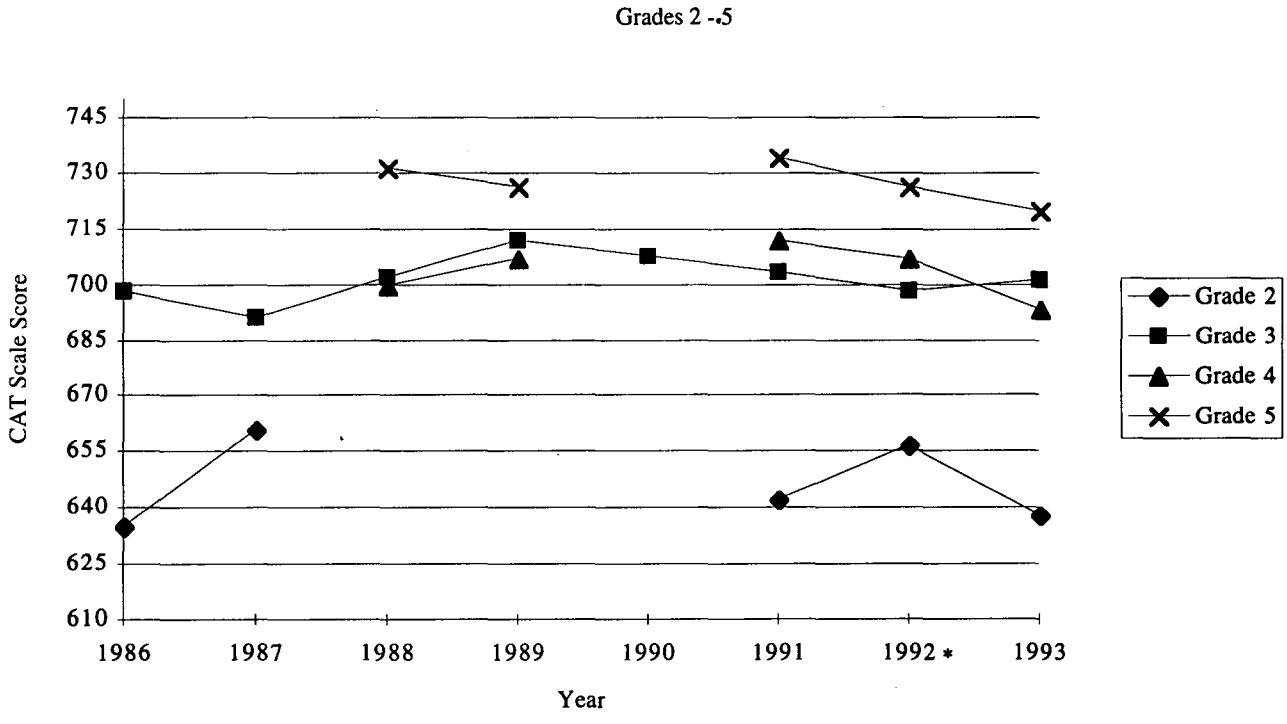

Figure 1. Trend in standardized test score performance by grade level for grades 2 through 5 (the * denotes the year in which the YRE schedule was implemented).

the 1991-1992 school year and who had attended school in the system each of the 3 previous years. Unlike the previous two analyses which used aggregate data from student cohorts and from the entire school system, using the fifth grade sample allowed us to investigate the potential impact of the YRE schedule by analyzing the performance of individual students while controlling for pre-fifth grade test score performance. Since self-selection was the sole criterion for enrollment in the YRE schedule, it seemed reasonable to expect YRE students and students who did not enroll in the program might differ in test score performance prior to the program's inception. Given this possibility, we controlled pre-fifth grade test score performance, although the results from a multivariate analysis of variance indicated no statistically-significant pre-existing differences (Wilks' lambda = .98; $F(2,45) = .27$; $p = .76$).

We used a multivariate analysis of covariance to determine whether observed differences in the fifth and sixth grade standardized test scores were statistically significant after taking into account differences in CAT scores at the third and fourth grade levels.

In order to preserve degrees of freedom, a single pre-fifth grade test score was utilized as the covariate. This score was created by summing the third and fourth grade scores to produce a single index of standardized test score performance prior to grade 5. The results in Table 2 indicate that after taking pre-fifth grade score differences into account, there were no statistically significant differences in test score performance at either the fifth or sixth grades. At the fifth grade, the two adjusted averages were equivalent, and at the sixth grade there was a 7-point difference.

The analysis of the standardized score trends by grade level and student cohorts resulted in conclusions similar to those based upon the inferential statistics. Overall, these suggest that the type schedule does not influence student performance on standardized tests. This, in conjunction with the results from the analysis of grades, indicated that attending school on the YRE schedule neither increases nor decreases a student's achievement.

Influence on Student Attendance

Attendance data from grades 2 through 7 on the 48 student fifth-grade sample, used in previous analyses, provided the basis for assessing the influence of the YRE schedule on the number of school absences. Prior to the fifth grade, all 48 students included in the analysis attended school on the traditional schedule. We assumed that students' positive reactions to the YRE schedule and its better fit with family lifestyles would result in a higher attendance rate. Differences in the number of absences were analyzed using a multivariate analysis of covariance. Absences from

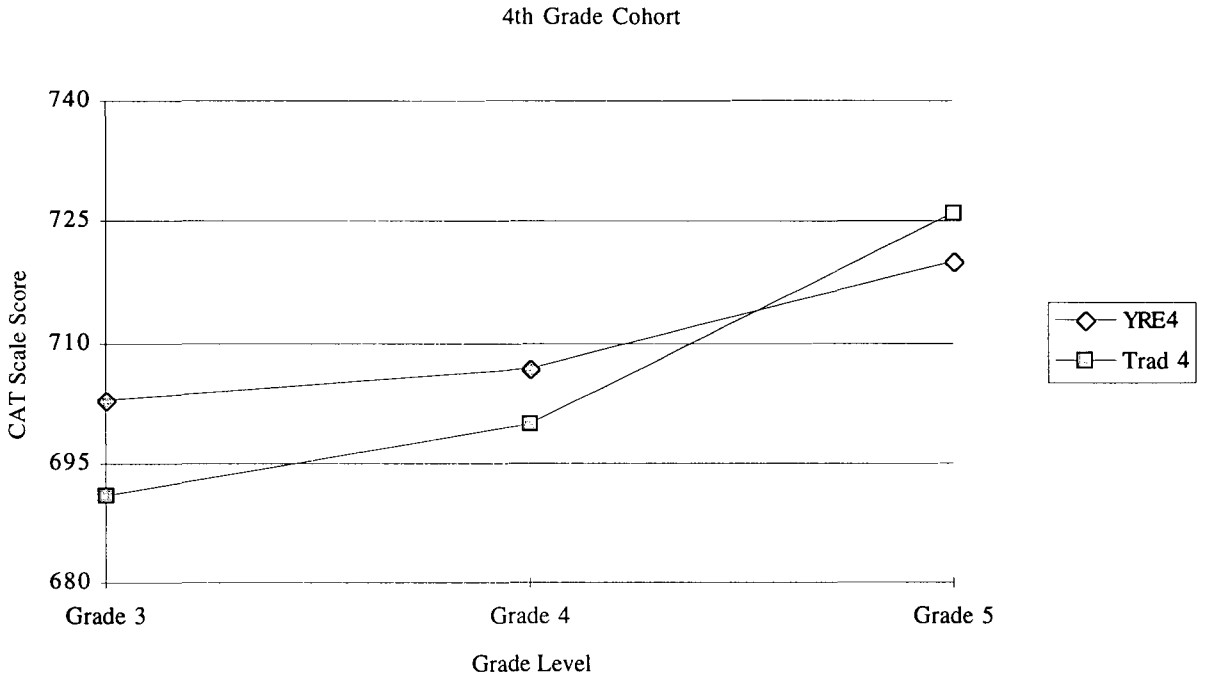

Figure 2. Trend in standardized test score performance for a student cohort which began the YRE schedule at the fourth grade level and for a comparison cohort.

grade 2 through grade 4 were summed into a single pre-fifth grade attendance figure; this served as the covariate. Table 3 contains the results from the analysis.

Neither the overall test nor any of the individual tests produced statistically significant results. The means of the absences indicate that the students in the traditional schedule had a higher absentee level at both the fifth and seventh grades, whereas the YRE students had a higher rate during the sixth grade. This sixth grade figure for the YRE students represented a statistically significant departure from their fifth and seventh grade attendance levels, $t(23) = 3.80$, $p < .01$ and $t(23) = 3.99$, $p < .01$, respectively.

Since absences returned to their pre-sixth grade level in the seventh grade, it seems safe to describe this as an aberration, rather than a sustained outcome. During interviewing, several teachers offered that absences were greater the first year of the YRE program because families had not adjusted their vacation schedules to fit the different school calendar. Given the total picture that emerges from both a statistical and visual inspection of the means, we conclude that the YRE schedule has no differential influence on a student's school attendance.

Influence on Attitudes/Opinions

In assessing the impact of the YRE schedule program upon attitudes and opinions, we surveyed the three populations most directly involved: the students, parents, and teachers. The results are presented by sample membership, and in the case of the teachers, by subsample.

Teachers who taught in both schedules. Among the questions teachers addressed in their survey instrument were two that summarized their responses to the other questions. These two questions asked teachers why they wanted to teach within the YRE schedule and what advantages they saw in the schedule. From their responses in general and to these questions in particular, it appeared that teachers changed from the traditional to the YRE schedule because of positive attitudes regarding the new approach. The main feature that appealed to them was the frequent breaks. Teachers also liked the idea of change and the opportunity for change. Their responses included the following:

- "with 4 blocks of teaching, time used better; breaks come more often, therefore fresher"
- "the way the schedule spreads the breaks out"
- "breaks help students relax and come back ready to learn"
- "stress break for both children and teachers works much better"
- "more spread out vacations"

Teachers were positively predisposed toward the schedule, and once they experienced it, their attitudes became more positive. They did not cite educational, learning, or curriculum advantages in their responses as often as they did

Table 2
Comparison of Grade 5 and Grade 6 Standardized Test Scores Covarying Pre-fifth Grade Test Score Performance

	Schedule				
	Traditional ($N = 24$)		Year Round ($N = 24$)		
Variable	Adjusted M	S	Adjusted M	S	F
Grade 5 GPA	732.60	38.25	731.86	45.94	.02 ($p > .05$)
Grade 6 GPA	745.50	38.97	752.50	44.77	2.07 ($p > .05$)
	Overall Multivariate Test				
	Wilks' Lambda = .94; $F(2,44) = 4.99$; $p > .05$				

scheduling advantages. As an example of the minimal presence of instructional/educational reasons for preferring the schedule, only 10%-15% of the teachers identified student learning and retention (the educational factors cited most often) as a perceived advantage. For the teachers who had taught within both scheduling frames, the YRE approach provided a scheduling alternative rather than an educationally superior alternative.

Teachers who taught in traditional schedule only. The teachers who had taught in only a traditional schedule were also questioned about their perceptions regarding the YRE program, its relative advantages/disadvantages, and why they elected not to teach within it. Their responses indicated that they were not interested in teaching in the YRE program primarily because it would be more disruptive to their personal schedules. Likewise, they saw scheduling flexibility as the major advantage of the YRE approach. The negative statements they voiced focused on perceived advantages over the traditional program in terms of student placement—the YRE schedule had more high-achieving students and fewer low-income students.

In some respects, the comments regarding the advantages of the YRE program from the teachers who had taught only within the traditional schedule were similar to those from teachers who had taught within both schedules. The YRE program provided a scheduling alternative that fit the personal lives of some teachers better than the traditional, 10-month school calendar. The two teacher groups differed somewhat in their perception of the educational benefits of the program, as evidenced by the fact that none of the "traditional only" teachers listed any perceived educational advantages of YRE. One could make the argument that teachers who had taught in both programs should have had a better perspective, and therefore their views reflect more accurately the real advantages/disadvantages of the YRE schedule program. An alternative explanation is that these teachers were enthusiastic about the program and enjoyed teaching in it. Therefore, this excitement was projected in the ratings regardless of the area, such as the rating of the courses/subjects taught. Forty percent of the teachers who had taught in both schedules rated the YRE schedule as being superior in the courses/subjects taught. However, the curriculum for both schedules was identical. The only unequivocal conclusion one can draw is that the teachers who taught in the YRE schedule program were positive about their experience because the schedule was more personally appealing.

Parents with children enrolled in YRE schedule. As previously noted, there was a 44% return rate to the parent questionnaire after a single follow-up. In an effort to determine whether the response sample was different in their attitudes from those who did not respond, two analyses were conducted to determine if links existed between response pattern and the order of return. This analysis was based on the assumption that those who returned their surveys later in the process were more like those who did not respond. If no differences existed between those who responded earlier in the process and those who responded later, then it was assumed that the response sample was representative of parents as a whole. Correlation coefficients were computed between response position and 10 items on the questionnaire that asked parents to rate various school related factors (e.g., teacher morale under the YRE program and under the traditional schedule). This was augmented by dividing the response group into thirds and analyzing the response pattern of the "early" and "late" thirds on these 10 items. None of the correlations or the chi-square statistics was statistically significant.

Table 3
Comparison of Absences for Grades 5, 6, and 7 Covarying Pre-fifth Attendance

	Schedule				
	Traditional ($N = 24$)		Year Round ($N = 24$)		
Variable	Adjusted M	S	Adjusted M	S	F
Grade 5 Absences	7.95	9.03	7.30	5.07	.14 ($p > .05$)
Grade 6 Absences	9.74	9.30	10.71	5.52	.34 ($p > .05$)
Grade 6 Absences	8.39	9.77	6.91	5.71	.49 ($p > .05$)
	Overall Multivariate Test				
	Wilks' Lambda = .96; $F(3,43) = .66$; $p > .05$				

Parents whose children were enrolled in the YRE schedule were very supportive of it; they wanted it retained and expanded. The most often cited reason for preferring it to the traditional school schedule was that it was a better fit with their lifestyle, primarily vacation schedules and child care. Among the comments which reflected these were the following:

- "short, frequent breaks rather than long summer vacation"
- "family vacation throughout the year"
- "fits with work schedule"
- "summer vacations not possible due to small business or work"
- "don't want a preteen sitting at home alone"
- "helped single parent family"

Thus, parents seemed to be making the scheduling choice for its adaptability to their lifestyles, rather than some perceived learning advantages which they saw resulting from their child/children attending school under the YRE format.

Students enrolled in YRE schedule. One hundred sixty-six students responded to the 10-item questionnaire. The questions on the instrument asked for students' opinions about why they enrolled in the YRE program and the relative advantages and disadvantages. It was apparent from the students' responses that the schedule had been discussed a great deal. When asked to supply their views, the major issues were identified by at least some students at each grade level. Students' views about the advantages, benefits, and disadvantages of the YRE program revolved around a single issue: vacations. Typical responses included the following:

- "3-week breaks"
- "the spread out breaks"
- "you get out of school in the middle of the year"
- "I like the way vacation is spread out . . ."
- "not getting a full summer"
- "going to school in July"
- "not having more time in the summer"

One can debate the educational advantages and disadvantages of the YRE schedule, but for students the program was a choice between a long summer vacation or several shorter ones spread throughout the year. Not only did the students prefer the frequent breaks, but they wanted longer summer breaks as well. The only other factor mentioned with any regularity was missing some friends who attended school on the traditional schedule. YRE was not an educational choice for students, but a choice based on vacations. Clearly, students were motivated not by better schooling but by less schooling. Students echoed parent and teacher attitudes that YRE was a schedule of choice because of its personal appeal.

Summary of attitudes/opinions. The survey responses of parents, students, and teachers who were involved in the YRE schedule made it clear that they supported it. Individuals who participated in the YRE schedule did so with positive attitudes initially. They were positively predisposed toward the schedule, and once they experienced it, their attitudes remained positive. The main feature that appealed to all was the frequent breaks. They also liked the idea of change and the opportunity for change. However, they did not cite educational, learning, or curriculum advantages nearly as often as they did personal scheduling advantages.

The major perceived benefits were that YRE fit the desires and lifestyles of the individuals who chose to participate, as opposed to improved educational outcomes.

Conclusion

YRE programs offer a scheduling alternative that has the potential to (a) create better use of facilities, in that they receive heavy use year round; (b) improve student achievement through eliminating or reducing the assumed summer achievement loss; (c) provide a better fit with lifestyles of the late 20th century; and (d) provide a remediation period for students who do not master material during regular instruction. The implementation of the YRE schedule in the rural school district studied provided an opportunity to assess conditions *b* and *c* identified above, as well as determining how these outcomes might be impacted by disrupting the sense of community both inside and outside the school. Better use of facilities was not evaluated in this study since facility use in the school system was spread over a larger part of the calendar year rather than facilities receiving greater use. Likewise, the provision of remedial services was not a special part of the YRE implementation studied.

The attitudinal reaction of parents, teachers, and students participating in the YRE schedule suggested that it did provide a better match with the lifestyles of a sizeable group within the community. Since 30% to 60% of the students at the grade levels involved in the YRE program elected to enroll in the YRE schedule, it might be assumed that at least one third or more of the families in this rural school setting preferred an alternative to the traditional school calendar. Our hypothesis about positive attitudinal reactions to the schedule was supported.

Given the overwhelmingly positive response among participants, attendance and achievement outcomes attributable to YRE were anticipated. Our rationale was based on the logic that if attitudes about school were positive, then there would be an increased level of motivation to attend school, hence absences would be reduced. Likewise, with a school schedule which better fit family lifestyles, a reduction in the number of absences could be expected. In like manner, an improvement in achievement was expected. This expectation was based on the assumed summer achievement loss being reduced; if absences went down, then school time and, hence, achievement would increase. These expected attendance and achievement outcomes were not realized. No major changes in attendance patterns were observed, suggesting that either the YRE schedule has minimal impact on attendance or that in this rural district, the disruption of the community negated any effects on attendance. The former explanation seems more likely given that White (1987) reported only a .3% change in elementary school attendance due to implementation of the YRE schedule. In the present study, since attendance for both groups of students was at a high level before implementation of the YRE schedule and given that no attendance changes were observed, changes in achievement due to improved attendance would have been minimal.

While the lack of an improvement in attendance may partially explain why no achievement differences were noted in the current study, it does not completely explain their absence. The summer achievement loss alone should have made some difference in the scores. Expecting the YRE schedule to improve achievement scores based on reducing the summer achievement loss may have been expecting too much. Cooper, Nye, Charlton, Lindsay, and Greathouse (1996) concluded that there is approximately a .10 standard deviation drop in test scores in some subject areas due to a lengthy summer vacation. Their literature review encompassed studies of elementary, middle school, and high school aged students. On the other hand, Wintre (1986), based on data for elementary aged students, concluded that the gain in standardized test scores is between .48 and 1.50 standard deviations. Given such a discrepancy in reported research results regarding the summer achievement loss, we conclude that, at most, the summer achievement loss is small (.10 *SD*). Converting the mean differences in Table 2 to effect sizes, there was an observed .02 effect size favoring the traditional schedule students at grade 5 and a .18 effect size favoring the YRE schedule students at grade 6. Combining these two produces an overall effect size of .16, which is very similar with that expected from the summer achievement loss reported in Cooper et al. (1996). One difficulty with using the effect size of .16 as the indicator of test score performance under the YRE schedule is the inconsistency of the results across the 2 years. If the YRE schedule impacted the summer achievement loss in a beneficial manner, then one would expect it to be present for both years, but particularly the first year. This initial difference would be sustained in the following years under the schedule. Given the small observed difference and the inconsistency from the first to the second year, it seems safe to conclude that the YRE schedule does not impact achievement.

In considering the overall evaluation results, it is evident that those achieved in this rural setting were equivalent to those reported previously in the research/evaluation literature. Thus, the impact of YRE on achievement, attendance, and attitudes appears to be independent of the community setting (rural versus urban) and sense of community. While students' and teachers' comments reflected that the sense of community had been disturbed by the implementation of the schedule, the reduction of the notion of "oneness" did not produce any differential outcomes associated with scheduling. The uniform results observed under the two schedules suggest that the implementation of YRE schedules will have minimal impact on student attendance

and achievement, and this is likely to be true regardless of the community setting. In the absence of demonstrable educational outcome advantages, what can be stated with certainty is that YRE provides an alternative schedule that better fits the lifestyles of some families. School systems should consider it on these grounds rather than any putative advantages regarding achievement or attendance.

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