A Discussion Paper

“It’s About Time”

What does the research say about time as it relates to student achievement and equity?

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ACKNOWLEDGEMENTS

Special thanks are offered to the educators who were members of the Calendar Restructuring Committee. They gathered to merely "*think outside the box*" and in the end, their ideas broke through the time barrier. Members reflected on these comments from *Prisoners of Time*, the 1994 study from the National Commission on Time and Learning:

> *By relying on time as the metric for school organization and curriculum, we have built a learning enterprise on a foundation of sand, on five premises educators know to be false.*
>
> 1. *The assumption that students arrive at school ready to learn in the same way, on the same schedule, all in rhythm with each other.*
>
> 2. *The notion that academic time can be used for nonacademic purposes with no effect on learning.*
>
> 3. *The pretense that because yesterday's calendar was good enough for us, it should be good enough for our children-despite major changes in the larger society.*
>
> 4. *The myth that schools can be transformed without giving teachers the time they need to retool themselves and reorganize their work.*
>
> 5. *It is reasonable to expect "world-class academic performance" from our students within the time-bound system that is already failing them.*

The committee discussed how to counteract these assumptions by finding ways of providing increased learning opportunities for students by enhancing academic learning time. We are pleased to acknowledge their important contributions and join them in inviting you to participate in the discussion.

Thank you to:

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"It's About Time"

INTRODUCTION

The research related to the complicated relationship between learning and time must be considered before any contemplation of increasing or restructuring the time that students attend school. In an extensive review of the research related to time and learning, Aronoson, Zimmerman, and Carlos (1998) presented these three ways of describing education time:

- **Allocated time** is the total number of days or hours students are required to attend school.
- **Engaged time** is the time when students are participating in learning activities or "*time-on-task*."
- **Academic learning time** is that time when an instructional activity is perfectly aligned with a student's readiness and learning occurs.

The researchers report these findings:

1) There is little or no relationship between allocated time and student achievement.
2) There is some relationship between engaged time and achievement.
3) There is a larger relationship between academic learning time and achievement.

The implication of the research is that "*it is the quality of education time that is the critical determinant of how much students will learn. When combined with good school and classroom management and with effective instruction, time becomes an important variable in student learning. To the extent that students spend more time actively engaged in learning activities, particularly when at an appropriate level of difficulty, their achievement will increase.*"

As in any area of educational reform, excellent teaching is the key to increased academic learning time.

> *At the school level, strategies such as better time management, increasing the proportion of time spent on academic subjects and adopting alternative academic calendars can help to maximize the amount of time available for student learning.*

In addition, alternative schedules can maximize the time available for learning. Year round schedules, for example, have been demonstrated to shorten the long "summer of forgetting," reducing the amount of time needed for review each fall. The periodic vacation breaks in a year-round schedule, known as intersessions, can be used for remediation or acceleration activities, thereby accommodating students' differing needs. Block scheduling has been shown to maximize instructional time, allowing for more in-depth instruction and interdisciplinary instruction. Block scheduling also reduces the time traditionally devoted to passing between shorter class periods and to starting and stopping activities.

Aronson, J., J. Zimmerman & L. Carlos. (1998).
Improving Student Achievement by Extending School: Is It Just a Matter of Time? San Francisco, CA: WestEd.

Alternative instructional scheduling can improve students' achievement, but there is a factor that matters even more. What seems to matter most is providing curriculum and instruction geared to the needs and abilities of students, engaging them so they will return day after day, and continuing to build on what they have learned.

(Aronoson, Zimmerman, and Carlos)

What matters most is not how much time a student spends in school, or the type of schedule in which he or she participates, but whether or not educators use effectively every hour that the student is there.

(Alternative School Calendars: Smart Idea or Senseless Experiment?
Education World, http://www.education-world.com)

It was within this frame of reference that the Calendar Restructuring Committee examined these alternate calendars: the single track balanced calendar, the late start to the secondary school day, and block scheduling and the four-day week. The single-track balanced calendar is presented in greater detail than the other options because it has been assessed more frequently in the educational literature. It is also the change that has the potential to affect the greatest number of stakeholders. It is important to note that these four changes to the school calendar are not mutually exclusive, as it is possible to adopt simultaneously two or more initiatives.

The Single Track Balanced Calendar

WHAT IS THE SINGLE TRACK BALANCED CALENDAR?

The balanced calendar is often described as a type of year-round education calendar. In the research in this discussion paper, the terms *year-round schooling* and *year-round education* refer to a balanced calendar. The number of school days is the same as the number of days in the traditional calendar.

The balanced calendar centers on reorganizing the school year to provide learning that is more continuous by breaking up the long summer vacation into shorter, more frequent vacations throughout the year. It does not eliminate the summer vacation, but reduces it and redistributes it as vacation or intersession time during the school year. These intersessions allow time for remediation and enrichment throughout the school year. Students attending a year-round school go to the same classes and receive the same instruction as students on a traditional calendar. In a ***single-track calendar*** students and all school personnel follow the same instructional and vacation schedule.

The year-round calendar is organized into instructional periods and vacation weeks that are more evenly balanced across 12 months than the traditional school calendar. The most common configuration is the 45/15 model in which students attend school for 45 days (9 weeks) and then have a 15-day (3-week) break (intersession). This schedule is repeated four times in the year. Another common design is the 60/20 model, which divides the year into three learning periods.

Modifications of these calendars have been developed to meet the needs of specific communities. These may be called modified balanced calendars. Many schools have a month-long holiday in July. The chart below compares a possible balanced calendar schedule with a traditional schedule.

Sample Traditional Calendar		Sample Balanced Calendar	
September 3 - December 20		August 6 - October 4	Classes
December 21 - January 5		*October 5 - October 20*	*Break*
January 6 - April 17	Classes	October 21 - December 20	Classes
April 18 - April 27	*Break*	*December 21 - January 12*	*Break*
April 28 - June 27	Classes	January 13 - April 11	Classes
July 1 - September 2	*Break*	*April12 - April 27*	*Break*
		April 28 - June 27	Classes
		July 1 - August 5	*Break*

In a ***dual track design***, some classes are on a single-track balanced calendar while others remain on a traditional calendar, in the same school. This is a "*school within a school*" approach.

A variation is the ***multi-track calendar***, which was designed specifically for schools with a shortage of classroom space. Multi-track divides students and teachers into groups, or tracks of approximately the same size. Each track is assigned its own schedule. Teachers and students assigned to a particular track follow the same schedule and are in school and on vacation at the same time. Multi-track creates a "*school-within-a-school*" concept.

(The National Association for Year-Round Education)

> *"If year-round education were the traditional school calendar and had been so for 100 years or more, and if someone came along to suggest a "new" calendar wherein students were to be educated for only nine [or ten] months each year with another [two or] three months free from organized instruction, would the [North] American public allow, or even consider, such a calendar?"*
>
> (Charles Ballinger, Educational Leadership Journal, February 1988)

WHY DO SCHOOLS CHOOSE THE SINGLE TRACK BALANCED CALENDAR?

While there are many reported advantages to the balanced calendar, the primary reasons that it is chosen are related to enhanced learning opportunities for students.

Examples

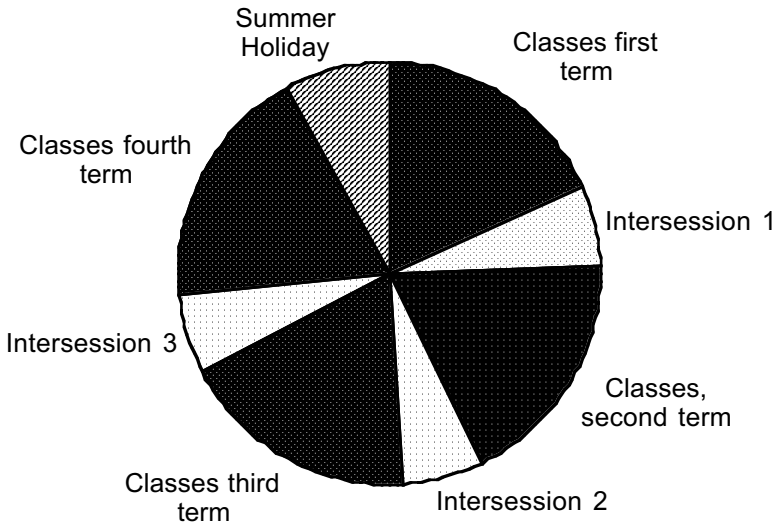
In 1990, at Glendale Elementary in Williams Lake, British Columbia (School District No. 27, Cariboo-Chilcotin), the first single-track year-round school calendar in Canada was implemented (Kemp, 1999). It was developed to counteract a declining enrolment and its schedule was designed to match the needs of the logging community. Because the loggers were unable to work during the spring thaw and fall freeze-up, the school scheduled 3-week holidays at these times. The school is still operating on that schedule.

At Holy Cross School, a K-9 school in Calgary Alberta (The Calgary Catholic School District), the decision was made not to take the question of adopting a balanced calendar to a vote. Instead, parents were given a choice between a traditional and a balanced calendar and the school operates with those dual tracks. Their holidays and intersessions overlap in the summer, at Christmas, and at Easter but the balanced calendar track also has an intersession in the fall.

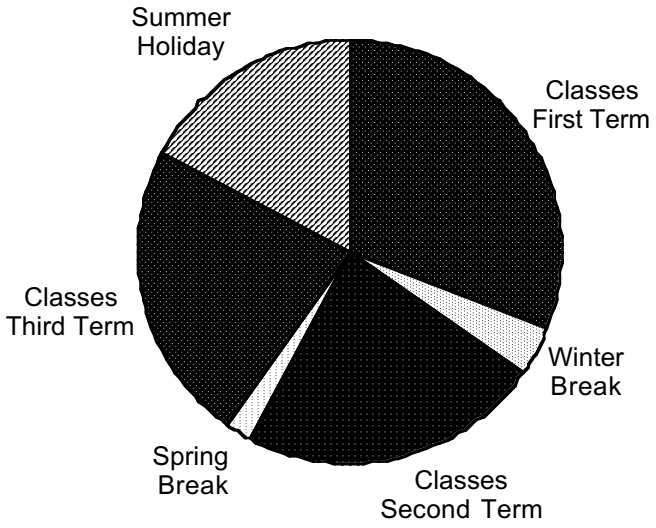
Kanaka Creek Elementary School in Maple Ridge, British Columbia (School District No. 42, Maple Ridge) has a modified 60-20, one-track balanced calendar.

In Mission, British Columbia (School District No. 75, Mission) a balanced calendar is being considered for an elementary school.

Modified Balanced Calendar



Traditional Calendar



ln Abbotsford, British Columbia (School District No. 34, Abbotsford) a modified calendar was adopted for the 2002 - 2003 school year, but it is not a balanced calendar. The intent in making the change was to maximize savings in the budget without putting student achievement at risk. Instructional time was increased by 15 minutes daily, and the minimum number of instructional days in session were reduced by 9 days from 187 to 178 instructional days. Schools opened on September 3, 2002, and will close on June 27, 2003. These breaks were added to the school year:

November 7 and 8, 2002 (two days prior to Remembrance Day)

January 6 and 7, 2003 (two days following Christmas break)

March 10 through 14, 2003 (five days prior to Spring break)

ADVANTAGES OF A SINGLE-TRACK BALANCED CALENDAR

I. CONTINUOUS LEARNING

Continuous Learning Pattern and Reduction of Summer Learning Loss

1) The balanced calendar allows for learning continuity and can reduce the significant learning loss that occurs during the summer holiday. It can reduce the amount of time teachers spend in September (four to six weeks) reviewing the learning of the previous year (Ballinger, Kirschenbaum, and Poimbeauf 1987. Serifs, 1990; Dlugosh, 1994; Bradford, 1993; Morse, 1992; Levine & Ornstein, 1993; O'Neil & Adamson, 1993).

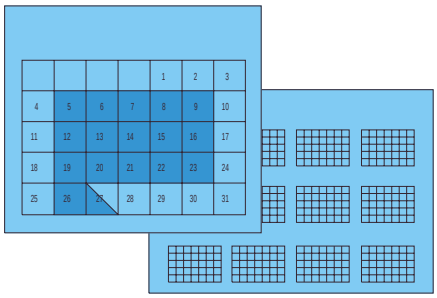
   The research of Cooper et al. (1996) was a seminal study documenting summer learning loss, which is often called "the summer slide."

   They conducted a review of 39 studies that indicated that achievement test scores decline over summer vacation. The results of the 13 most recent studies were combined using meta-analytic procedures. The meta-analysis indicated that the summer loss equaled about one month on a grade-level equivalent scale, or one tenth of a standard deviation relative to spring test scores. The effect of summer break was more detrimental for math than for reading and most detrimental for math computation and spelling. Also, middle-class students appeared to gain on grade-level equivalent reading recognition tests over summer while lower-class students lost on them. There were no moderating effects for student gender or race, but the negative effect of summer did increase with increases in students' grade levels. Suggested explanations for the findings include the differential availability of opportunities to practice different academic material over summer (with reading practice more available than math practice) and differences in the material's susceptibility to memory decay (with fact- and procedure-based knowledge more easily forgotten than conceptual knowledge). The income differences also may be related to differences in opportunities to practice and learn. (Abstract, Cooper et al (1996).

2) Children for whom English is a second language or who are at-risk suffer the greatest summer learning loss. (Ballinger 1995). If students do not have the opportunity to participate in summer activities that reinforce and enrich their learning, they will have significant learning loss (Kneese & Knight, 1995; Gandara & Fish, 1994; Quinlan, George, & Emmett, 1987).

3) It is the shorter but more frequent holidays that minimize the forgetting. These shorter breaks allow the learning momentum to continue, which is particularly beneficial for economically and educationally disadvantaged students (Greenfield 1994).

Enhanced Teacher Planning and Instruction



1) The shorter instructional periods result in a reduction of teacher fatigue and burnout and higher teacher morale (Levine & Ornstein, 1993). A Texas teacher who had taught in a year-round school for 9 years commented, "*It is very refreshing to know that every few months, you will have time to regroup!*" (Cohen, et al., 2000)

2) For the same reason, teachers' absences are reduced (Brekke, 1984, Quinlan, George, & Emmett, 1987; Serifs, 1990; Goldman, 1990. Worthen & Zsiray, 1994, Minnesota, 1999).

3) Many teachers believe that the continuity of instruction leads to a better quality of instruction (Quinlan, George, & Emmett, 1987) and that that the year-round schedule impacts positively on the way in which they plan for instruction (Shields & Oberg, 2000). They are able to plan more regularly for shorter blocks of time.

4) The organization of the instructional time allows teachers to be reflective practitioners because they are able to plan at regular intervals during the academic year when it is needed the most. (Shields & Oberg, 2000). They find it more efficient and productive to plan curriculum for shorter blocks of time and feel that the year-round calendar provides ample time segments for instruction.

5) Shields & Oberg (2000) report that "*Fortunately for those implementing year-round schooling, teachers are overwhelmingly positive about the innovation.*" (Brekke, 1984; LAUSD, 1983; Christie, 1989; Worthen & Zsiray, 1994; Peltier, 1991; Webster & Nyberg, 1992).

Remedial and Enrichment Opportunities of Intersessions

1) Increased learning opportunities are due to accessibility of immediate re-mediation in intersessions in schools with balanced calendarS (Quinlan, George, & Emmett, 1987; Serifs, 1990; Bradford, 1993; Dlugosh, 1994; Curry, Washington & Zyskowski, 1997). These intersession programs extend the school year (Shields & Oberg, 2000).

2) Intersessions may provide opportunities for teacher experimentation with different curriculum and grade levels. (Zykowski et at. 1991)

   - Enrichment activities for all students can be held during the intersession periods (Serifs, 1990; Bradford, 1993; Dlugosh, 1994).

   - "*Intersessions provide an opportunity to help support the struggling student during the school year,*" reports a California teacher. "*With intersessions the year-round calendar helps to avoid either social promotion or retention*" (Cohen, et al., 2000).

Catalyst for Curricular Change

1) Bray and Roellke (1998) suggest that instructional change often accompanies the calendar change as teachers plan how to deliver the curriculum in the restructured time periods.

2) A California teacher stated that "Lesson planning becomes much more strategic with a modified calendar. It is more academically advantageous to carefully plan curriculum units and assessments to coincide with the teaching cycles. Such planning has been an unexpected benefit at my site. Curriculum is stronger" (Cohen, et al., 2000).

3) Shields (1996) found that teachers were organizing around key ideas and engaging in thematic learning in order to complete units instead of taking the "*cover the curriculum*" approach.

II. ACADEMIC AND SOCIAL OUTCOMES FOR STUDENTS

Positive Effect on Achievement

Many of the early reports linking student achievement and year-round education using a balanced calendar were program evaluations completed for local decision-making, not for generalizability, which is important in educational research. (Kneese, 2000). Therefore, some studies related to year-round education don't differentiated between single-track and multi-tack programs, assess after only one year, fail to define strategies, or have results that are not statistically significant (Shields & Oberg, 2000). There are, however, studies that have "*contributed to the body of research in this field*" (Kneese, 2000) and education researchers make this statement:

"*We have found that there is little or no negative impact on either academic or non-academic outcomes. On the contrary, there is increasing evidence that many students benefit academically when a school changes to a year-round calendar. Moreover, the benefits accrue to at-risk students and those who are not, to those who have the opportunity to attend intersession and to those who do not, to those who are in single-track as well as multi-track schools, and to elementary as well as secondary students*" (Shields & Oberg, 2000, p. 86).

1) In research conducted by Kneese (1994) matching Grade 4, 5, and 6 students a year-round school with students in a school with a traditional calendar, the year-round students scored significantly higher in mathematics and science than the students in the school with the traditional calendar. Significant gains in reading were achieved by the at-risk students in the year-round school.

2) In a 2000 study of six research syntheses and thirty individual studies, Kneese found once again that "*there is an effective maintenance and improvement of overall academic performance of students participating in a year-round program in comparison to those on the traditional calendar*".

3) Kneese (2000) was building on the 1994 work of Winters who in his review of 19 studies of academic achievement in year-round schools found that on 58 measurable categories of academic growth, the students in these schools outperformed students in schools with traditional calendars 83% of the time.

4) Research was conducted (Kneese & Knight, 2001) to assess interpretation, implications, and significance of the 2000 Advanced Placement Index (API) scores for California public schools. Results show that schools on balanced calendars (single track) outperformed gains recorded for traditional calendar schools at all levels. Multitrack year-round schools on three-track and five-track calendars improved their APIs in year 2000 over year 1999. Four-track calendar schools gained over the year, but did not score higher gains than traditional calendar schools.

5) In a doctoral dissertation, Moore (2002) reports that grade three students in a year-round program significantly outperformed a matched population in a school with a traditional calendar. The statement was made that "*on mathematics, social science, and language Stanford 9 tests, poor year-round students performed more like wealthy students, while there is still a significant gap between poor and wealthy traditional-calendar students' scores.*"

Improved Attitudes Toward School And Learning

1) Several year-round schools have reported a decrease in vandalism at the schools and reduction in crimes committed by juveniles in the community (Brekke, 1983; Ballinger, 1987; Hazelton et al., 1992, Shields & Oberg, 2000).

2) A teacher in a school with a balanced calendar commented that, "*Students seem to be more refreshed, more relaxed when they return from each break. Those taking intersession classes return with more self confidence, better self esteem, and a much better attitude toward their schoolwork*" (Cohen, 2000). Other researchers have commented on the increased enthusiasm and motivation of students (Quinlan, George, & Emmet, 1987; Zykowski et al., 1991; Hazelton et al., 1992; O'Neil & Adamson, 1993). Students find it easier to sustain their motivation for shorter periods of time.

3) Students in schools with a balanced calendar would choose it again. As time spent in the program increases so do positive feelings about it (Greenfield 1994).

4) Consistently reported in the literature are declines in the dropout rate and improved school attendance. (Quinlan, George, and Emmet 1987, Baker, 1990, Worthen & Zsiray, 1994; Smotherman, 2003). A decline of 3% was noted in the dropout rate in Jefferson County, Colorado when they converted to a year-round calendar (Peltier 1991). In a 4-year study, Oxnard Unified school District in California noted an improvement in student attendance (Peltier, 1991). The increase in the time spent in school results in increased instructional time and learning opportunities.

5) Students maintain or increase participation in extra curricular activities (White, 1998; Zykowski and associates, 1991; Shields & Oberg, 2000; Speck, 2000)

III. BETTER USE OF EDUCATIONAL RESOURCES

1) Balancing the school calendar has been shown to be a cost effective way to reduce dropouts and to provide remediation and enrichment programs. The costs are reduced because there is a lessened need for summer school and a reduced number of students required to repeat grades or courses (Bradford 1996).

2) Durham Public School System described a more efficient use of computer labs, which were being used 15 days more in each year due to intersessions (Haen 1996).

3) A reduced incidence of juvenile delinquency has been reported as well as less vandalism that can occur during long summer breaks. (Serifs, 1990)

POTENTIAL CHALLENGES TO IMPLEMENTING A SINGLE-TRACK BALANCED CALENDAR

Shields and Oberg (2000), who summarize the current research on year-round schooling as well as report on their own research in 34 districts in United States and Canada report that "*although a number of people raised some of the following issues as possible disadvantages, most indicated that they were perceptions or fears related to pre-implementation concerns that were not, in fact, borne out in practice following implementation of the single-track schedule*" (p.27).

The concerns that they reported were:

- availability of childcare
- the need for and cost of air-conditioning in the summer
- conflicts with the more common district schedule
- facilitating building cleaning and repair
- children wanting to be on same schedule as friends or relatives in other schools
- complexity of scheduling family vacations if children are in different schools on more than one schedule

Other challenges that have been reported are:

1) Teachers might be in a school with a balanced calendar while their own children attend schools with traditional calendars.

2) Continuing education coursework may be difficult for teachers to pursue in the summer.

3) Off-season vacations may cause difficulties. Some year-round schools have worked with the community to ensure that students will not be left without intercession activities. Offering intercession classes and activities is also a partial solution to this problem.

4) Student summer activities may be altered. Families may have to make changes in their routines.

5) A general resistance and strong emotional reactions to change will be felt by some stakeholders. This change may initially cause divisions in the school community.

6) There may be a concern that secondary athletes and other students would not return during intersessions for practices, games, or other activities. (Secondary schools report that this has not occurred. In fact, students have more time for athletics when school is not in session (Speck, 2000; Hamilton, 2003).

7) There may be a time lag between the beginning of year-round scheduling and the time that community resources, such as day-care or civic or private recreation programs, adapt to new needs (Stenvall, 1999).

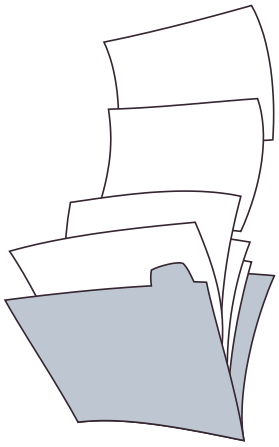
8) Accommodations in routines will be needed in student support services, transportation, central stores, and maintenance.

IMPLEMENTATION IDEAS

Some of these implementation ideas were developed by the Northwest Regional Education Laboratory (1997). They have been updated and augmented.

1) In order to best serve your community and meet district needs, gather research and information on year-round calendars. Visit other year-round schools and ask about advantages and disadvantages.

2) Shields and Oberg (2000) discuss the need for developing a clear rational and vision for implementation of a year-round balanced calendar. "*This includes clarifying the vision for YRS [year-round schooling] and determining the expected benefits of the reform without making any unwarranted guarantees or promises*" p. 157).



3) An assessment of an unsuccessful British Columbia project to investigate year-round schooling attributed its failure at the initiation stage to these four factors: lack of clear goals, the need for an outside expert, difficulties in ensuring appropriate representation from stakeholder groups, and problems with sense of ownership (Shields and LaRocque, 1997).

4) Be sure that all stakeholders (teachers, students, parents, classified staff, and the community) are involved in the decision making process. Good communication during the process will minimize conflict (Serifs, 1990; Schneider & Townley, 1992; Bradford, 1993).

5) When parents are introduced to a balanced calendar "*there are naturally many questions about what the new calendar will mean for their child socially and academically, as well as questions regarding the effects of YRE [year-round education - a balanced calendar] on their families. Parents are encouraged to take the time to become fully informed and responsibly involved in working with educators in communities considering YRE [year-round education - a balanced calendar*]" (Hawkins, 1998).

6) It is essential to gain the support of teachers; if they are not in favor of the decision, there is little probability that it will be successful.

7) When designing the actual schedule, consider the following (White, 1995):
   - The configuration of the calendar; will it be 45-15, 60-15, or something else?
   - The number of holidays during the year
   - The unique needs of the school and community; build a schedule that best suits them

8) Adequate staff development is essential. The new calendar will require instructional changes.

9) There will be curricula concerns such as course sequencing and continuity, and student remediation and enrichment.

10) If possible, make the program voluntary during its initial stages (Serifs, 1990).

11) Assure that the new schedule is in line with Ministry and teacher contract requirements.

12) Continuously monitor the program; be flexible and attentive to the needs of all involved. Do not rush in assessing the program (Serifs, 1990). An evaluation plan which compares pre and post implementation results in several indices (such as testing, attendance, and stakeholder satisfaction) needs to be developed (Stenvall, 1999).

DISCUSSION QUESTIONS FOR THE SINGLE-TRACK BALANCED CALENDAR

These questions may be used to begin a discussion when introducing the single-track balanced calendar to staff members, parents and community members.

1. Do you have any questions about what a Single- Track Balanced Calendar is?
2. Have you noticed a summer learning loss with your children or students?
3. What advantages would be important for your children or students?
4. What advantages would be important for you, personally?
5. What concerns do you have for your children or students?
6. What personal concerns do you have?
7. How important are intersessions?

8. What type of intersession activities would you like to have implemented?
9. What are the most important issues that you want to make sure are considered in making the decision to implement or not implement the balanced calendar?
10. Would this schedule work in your school?
11. Do you need more information? What questions do you still have?

REFERENCES

Baker, K., S. Pelavin, & R. Burnett (1978). *"Comment on Effects of Extended School Year Operations." Education,* 99(2), 221—224.

Ballinger, C.E., Kirschenbaum, N., & Poinbeauf, R. P. (1987). *The various year-round plans. The Year-Round School: Where Learning Never Stops.* Bloomington, IND: Phi Delta Kappa, 16-24.

Ballinger, C. (1987). *"Unleashing the School Calendar."* Thrust for Educational Leadership, 16(1*),* 16—18.

Bray, S. & Roellke, C. (1988). *The evidence on year-round education.* Kappa Delta Pi Record, 15 (4), 84-88.

Brekke, N. R. (1984). *Year-round education: Cost saving and educationally effective.* ERS Spectrum, 2 (3), 25-30.

Bradford, J. (1993). *Making Year-Round Education (YRE) Work in Your District: A Nationally Recognized Single Track High School Model.* Anaheim, CA: Prepared for the National School Boards Association National Convention.

Christie, S. (1989). *"A Report on Opinion Surveys of Parents, Students, and Staff of Four-Track Year-Round Schools in Cajon Valley, 1987- 1988."* Cajon Valley, CA: Cajon Valley Union School District. ED 303888.

Cohen, F., Cordi, T., Kitchen, B., & Ryan, M. (2000). *From Teacher to Teacher: A Look at Year-Round Education.* San Diego, CA: National Association for Year-Round Education

Cooper, H., Nye, B., Charlton, K., Lindsay, J. & Greathouse, S. (1996). *The effects of summer vacation on achievement test scores: A narrative and meta-analytic review.* Review of Educational Research, 66, (3), pp.227-268.

Curry, J. W. Washington, & G. Zyskowski (1997) *"Year-Round Schools. Evaluation, 1996—1997."* Austin TX: Austin Independent School District.

Dlugosh, L. (1994). *Quality Schools and the Myth of the Nine-Month School Year.* Oklahoma City, OK: Paper presented at the annual University of Oklahoma National Conference on Creating the Quality School.

Gandara, P. and J. Fish. 1994. *"Year-round schooling as an avenue to major structural reform."* Educational Evaluation and Policy Analysis. 16:1, pp. 67-85.

Glines, D. (1987). *Year round education: A philosophy.* Thrust for Educational Leadership, 16(7), 14-17.

Goldman, J. (1990). *Life's a non-stop carousel for year-round principals.* The School Administrator, 47(4), 25-28.

Greenfield, T. A., (1994). *"Year-Round Education: A Case for Change."* Kuhn, T. S., The Educational Forum, 58(2), 252—262.

Haen, J. F. (1996). *Evaluating the promise of single-track year-round schools.* ERS Spectrum, 14 (4), 27-35.

Hazelton, J.E., C. Blakely and J. Denton. 1992. *"The effectiveness of alternative year schooling,"* cited in Kneese, C.C. 1996. *"Review of Research on Student Learning in Year-Round Education."* Journal of Research and Development in Education. 29:2, pp. 60-72.

Hazelton, J. E. & Others. (1992). *Cost effectiveness of alternative year schooling: Final report.* Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement (ERIC Document Reproduction Service No. Ed 354 629).

Kemp, B. (1999). *The ABCs of Year-Round Education*. San Diego, CA: National Association for Year-Round Education.

Kneese, C. C. (1996). *"Review of Research on Student Learning in Year-Round Education."* Journal of Research and Development in Education, 29(2), 61—72.

Kneese, C.C. & Knight, S. (1995). *Evaluating the achievement of at-risk students in year-round education.* Planning and Changing, 26 (1&2), 1-19.

Kneese, C. C. (1994). *Investigating the effects of single-track year-round education on achievement of at-risk students.* Houston: University of Houston.

Kneese, Carolyn. *Year-Round Learning: A Research Synthesis Relating to Student Achievement.*

Levine, D. & Ornstein, A. (1993). *School effectiveness and national reform.* Journal of Teacher Education, 44(5), 335-345.

Los Angeles Unified School District (1983). *"Integration Evaluation Reports: Executive Summaries and Evaluation Designs, 1982—83."* Publication No. 437. Los Angeles, CA: Research and Evaluation Branch, LAUSD. ED 246144.

Minnesota Department of Children, Families & Learning. (1999). *Report of The Alternative Calendar Working Group.*

Moore, K. (2002). *A voluntary year-round calendar: What are the academic effects?* Charlottesville, VA: University Of Virginia. Unpublished Doctoral Dissertation.

Moore, S. (1992). *Personnel: Policies for year-round schools.* Thrust for Educational Leadership, 21(6), 32-34.

Morse, S. (1992). *The value of remembering.* Thrust for Educational Leadership, 21(6), 35-37.

National Association for Year-Round Education. (1995) *Year-round education: Status and possibilities*. San Diego, CA:. National Association for Year-Round Education.

Northwest Regional Education Laboratory. (February 1997). *"Scheduling Alternatives: Options for student success. Year-Round Education" By Request.* Available at: http://www.nwrel.org/request/feb97/article4.html

O'Neil, I. & Adamson, D. (1993). *When less is more.* The American School Board Journal, 180(4), 39-41.

Peltier, G. L. (1991). *Year-round education: The controversy and research evidence.* NASSP Bulletin, 75, 120-129.

Quinlan, C., G. & Emmett, T. (1987). *Year-round education: Year-round opportunities – A study of year-round education in California*. Los Angeles, CA: California State Department of Education.

San Diego County Office of Education. (1986). *Year-Round Education Resource Guidebook: Planning for Effective Facility Utilization and Learning Enhancement.* San Diego, CA: Author.

Schnieder, J. & Townley, A. (1992). *Making a smooth transition.* Thrust for Educational Leadership, 21(6), 26-27, 30-31.

Shields, C. & Oberg, S. (2000). *Year-Round Schooling: Promised and Pitfalls.* Lanham, Maryland: Scarecrow Press.

Shields, C & La Roque, L. (1997). *Reflections on Consultative Decision-Making: Challenging Concepts of Best Practice in a Provincial Change Initiative*. The Canadian Administrator, 36(7), 1-9.

Shields, C. 1996. Year-round education: Is it worth the hassle? Paper presented at the University of British Columbia Robson Square Lecture Series. Vancouver, British Columbia, January 1996.

Serifs, D. (1990). *Year Round Education: A Closer Look.* New York, NY: Author. (ERIC Document Reproduction Service No. ED 329008).

Smotherman, R. (2003). *Implementation Tips*. Bardstown, KY: Paper presented at the National Association for Year-Round Education Conference.

Speck, M. (1996). *A handbook for implementing year-round education in the high school.* San Diego, CA: National Association for Year-Round Education

Stenvall, Marilyn. *A Checklist for Success: A Guide to Implementing Year-Round Schools.* 1997. San Diego, CA: National Association for Year-Round Education

Webster, W. E., & K. L. Nyberg (1992). *"Converting a High School to YRE."* Thrust for Educational Leadership, 21(6), 22—25.

White, W. (1995). *Initiating and Administering A Year-Round Program in Your Secondary School.* Los Angeles, CA: Paper presented at the annual meeting of the National Council on Year Round Education.

White, W. (1988). *"Year-Round High School: Benefits to Students, Parents, and Teachers."* NASSP Bulletin, January, 103—106.

Winters, Walter. *A Review of Recent Studies Relating to the Achievement of Students Enrolled in Year-Round Education Programs.* 2nd edition, 1995. San Diego, CA: National Association for Year-Round Education

Worthen, B.R. and S.W. Zsiray, Jr. 1994. *What twenty years of educational studies reveal about year-round education*. Chapel Hill, NC: North Carolina Educational Policy Research Center. ERIC Document Reproduction Service No. ED 373 413.

Zykowski, J.L., Mitchell, D.E., Hough, D. & Gavin, S.E. (1991). *A review of year-round education research.* Washington, D.C.: U.S. Department of Education, Office of Research and Improvement. (ERIC Document Reproduction Service No. ED 330 040).

The Late Start To The Secondary School Day

WHAT IS THE LATE START TO THE SECONDARY SCHOOL DAY?

Some secondary schools are beginning the school day later and ending it later. The number of hours of instruction remains constant. This change is designed to accommodate for medical evidence regarding adolescent sleep patterns.

WHY DO SECONDARY SCHOOLS CHOOSE A LATE START TO THE SCHOOL DAY?

Medical researchers have found that adolescents (beginning at 11 years old) need more sleep than preadolescents and adults (Carskadon, 1982; Maas, 1995). This need for sleep is accompanied by a change in adolescents sleep patterns (circadian rhythms - rhythmic patterns at the cellular level) that causes them to go to sleep late and wake up late (Dahl & Carskadon, 1995). The early start favoured by most secondary schools results in adolescents being deprived of sleep. Black (2000) commented *"Given the 'huge reservoir' of knowledge that now exists about adolescent sleep as a result of extensive research in this field, it is clear that teens need more sleep than they are now getting."*

In a review of the literature, the Center for Applied Research and Educational Improvement (2001) reported these consequences of sleep deprivation:

> *It has been shown that sleep deprivation is associated with memory deficits (Dinges & Kribbs, 1991; Nilsson, Backman & Karlsson, 1989), impaired performance and alertness (Carskadon & Roth, 1991; Dinges & Kribbs, 1991), as well as time-on task decrements and optimum response shifts (Dinges & Kribbs, 1991). The specific loss of REM sleep has also resulted in memory loss (Smith, 1995; Li, Wu, Shao & Liu, 1991). Dujardin, Guerrien & Leconte (1990) found that REM sleep affects information processing, while Maas (1995) listed the consequences of REM sleep loss as including: unintended sleep, increased irritability, anxiety and depression, decreased socialization and humor…*
>
> *In a study conducted by Wolfson, Tzischinsky, Brown, Darley, Acebo & Carskadon, (1995), it was found that conduct/aggressive behaviors were highly associated with shorter sleep and later sleep start time. These results signal important relationships between sleep quantity and behavioral difficulties in adolescents.*

After examining this medical evidence some secondary schools have changed their start times to reflect their students need for more sleep.

ADVANTAGES OF A LATE SECONDARY START TIME

In 1997, several Minneapolis/St. Paul high schools changed their start time from 7:15 am to 8:40 am and their end time from 1:45 pm to 3:20 pm. In a major longitudinal study conducted over a 4-year period (1997 - 2001), the Center for Applied Research and Educational Improvement, University of Minnesota (2001) found these results in the schools:

1) Attendance rates improved. *The [Minnesota] study reveals that attendance rates improved significantly when the high schools initiated the later start time, this suggests that changing start times is one way to recapture those students who might otherwise not complete high school* (Wahlstrom, 2002, p. 18).

2) More students stayed in the same school for at least 2 years.

3) Students reported getting 1 hour more sleep each night.

4) There was a slight improvement in grades but it was not statistically significant. The researcher reported that grades tend to be subjective are not a reliable measure of the success of the later start. Many schools present anecdotal information regarding increased student achievement.

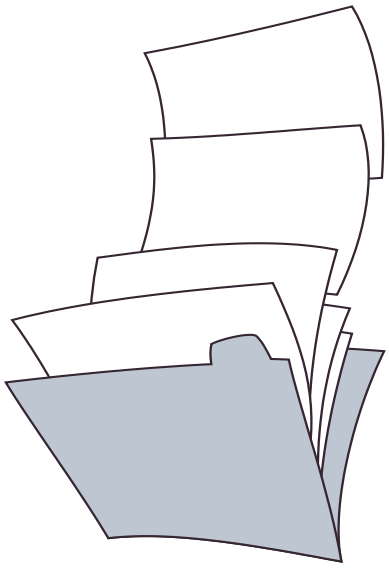
5) Administrators reported an alertness in students, teachers less rushed in the mornings, and calmer hallways.

6) Parents reported calmer mornings

POTENTIAL CHALLENGES TO IMPLEMENTING A LATE SECONDARY SCHOOL START TIME

- Rescheduling of buses
- Rescheduling of food services
- Change in family routines
- Childcare concerns
- Safety concerns regarding traveling to and from school in darkness

  "Many who advocate for older students to begin their school days earlier than younger students (e.g., grade school) base their preference on the belief that older, more self-sufficient children walking to school or waiting for school buses in morning darkness is safer than similar commutes by younger students, for example" *National Sleep Foundation, 2000, p. 16*



- Concerns about athletic schedules, including late practices and the need to leave school early to get to games on time

- Some people in the school community will not welcome a change that is perceived to "*alter the community's rhythm.*" "*The tension between acting on facts and the politics that ensue in a discussion about changing school start times is a key characteristic of this type of school reform effort*" (Wahlstrom, 2002, p. 19).

- Conflicts with extracurricular activities

IMPLEMENTATION IDEAS

- Involve all stakeholders. Be sure that students, staff (both teaching and non- teaching) and parents all receive full information and participate in the decision-making process.

- Share all research and data with all stakeholders. "*Asking stakeholders in advance whether or not to make the change, without first impartially sharing and discussing the complete array of findings, will almost certainly lead to their disapproval of the idea*" (Wahlstrom, 2002, p. 19).

- Design the schedule to accommodate the needs of staff and students. Make sure all changes stay within contract requirements.

- Continuously monitor the change and assess its effectiveness.

DISCUSSION QUESTIONS FOR THE LATE START TO THE SECONDARY SCHOOL DAY

These questions may be used to begin a discussion when introducing the late start to the secondary school day to staff members, parents and community members.

1. Do you have any questions about what a late start to the secondary school day is?

2. Have you noticed your adolescent children or students have difficulty getting up and learning in the morning?

3. What advantages would be important for your children or students?

4. What advantages would be important for you, personally?

5. What concerns do you have for your children or students?

6. What personal concerns do you have?

7. What are the most important issues that you want to make sure are considered in making the decision to implement or not implement a late start to the secondary school day?

8. Would this schedule work in your school?

9. Do you need more information?

10. What questions do you still have?

REFERENCES

Black., S. (2000). *A wake-up call on high-school starting times"*. American School Board Journal, 187 (March 2000), 42-44, 54.

Carskadon, M.A. (1982). *The second decade.* In C. Guilleminault (Ed.), Sleeping and waking disorders.

Carskadon, M.A., & Roth, T. (1991). *Sleep restriction.* In T.H. Monk (Ed.), Sleep. sleepiness and performance: Human performance and cognition. New York: John Wiley & Sons.

Center for Applied Research and Educational Improvement (CAREI), College of Education and Human Development, University of Minnesota. (2001).School *Start Time Study* Final Report Summary, University of Minnesota.

Dahl, R.E., & Carskadon, M.A. (1995). *Sleep and its disorders in adolescence.* In R. Ferber & M.H. Kryger (Eds.), *Principles and practice of sleep medicine in the child*. (pp. 19-27): W.B. Saunders.

Dinges, D.F., & Kribbs, N.B. (1991). *Performing while sleepy: Effects of experimentally-induced sleepiness.* In T.H. Monk (Ed.), Sleep. sleepiness and performance: Human performance and cognition (pp. 97-128). New York: John Wiley & Sons.

Indications and techniques (pp. 99-125). Menlo Park, CA: Addison-Wesley. Dujardin, K., Guerrien, A., & Leconte, P. (1990). *Sleep, brain activation and cognition.* Physiology and Behavior 47(6), 1271-1278.

Li, D., Wu, Z., Shao, D., & Liu, S. (1991). *The relationship of sleep to learning and memory.* International Journal of Mental Health 20(1), 41-47.

Maas, J. (1995, November). *Asleep in the fast lane: Everything you should know about sleep but are too tired to ask*. Paper presented at The Master's Forum.

National Sleep Foundation, 2000, *Adolescent Sleep Needs and Patterns.* Washington, DC National Sleep Foundation.

Nilsson, L.G., Backman, L., & Karlsson, T. (1989). *Priming and cued recall in elderly, alcohol intoxicated and sleep deprived subjects: A case of functionally similar memory deficits.* Psychological Medicine 19(2), 423-433.

Smith, C. (1995). *Sleep states and memory processes.* Special Issue: The function of sleep. Behavioral Brain Research 69(1-2), 137-145.

Wahlstrom, K. (Dec. 2002). Changing Times: Findings From the First Longitudinal Study of Later High School Start Times. NASSP Bulletin, Vol. 86 No. 633, 3 - 21.

Wolfson, A.R., Tzischinsky, O., Brown, C., Darley, C., Acebo, C., & Carskadon, M.A. (1995). *Sleep, behavior, and stress at the transition to senior high school.* Sleep Research. 24.

Block Scheduling

WHAT IS BLOCK SCHEDULING?

The traditional secondary school daily schedule has six or seven blocks of 40 to 55 minutes.

Example of a Traditional 8 Period Day

Time	Bell
08:17	Bell to Homeroom
08:22	Bell to First Period
09:12	Bell to Second Period
10:01	Bell to Third Period
10:51	Bell to Fourth Period
11:23	Bell to Lunch
11:53	Bell to Fifth Period
12:32	Bell to Sixth Period
01:18	Bell to Seventh Period
02:05	Bell to Eighth Period
02:55	Student Dismissal Bell

Block scheduling is the organization of the classes in the school day into "*larger blocks of time (more than sixty minutes) to allow flexibility for a diversity of instructional activities* (Cawelti , 1994)." The actual length and configuration can be designed to meet the needs of the school population. Some variations are:

- Four ninety-minute blocks per day; school year divided into two semesters; former year-long courses completed in one semester. Students concentrate on only four courses per semester and may retake failed courses. Students and teachers prepare for fewer courses each semester.

TIME	FALL	SPRING
7:45 - 9:15	Course 1	1 Course 5
9:20 - 10:50	Course 2	2 Course 6
10:52 - 11:25	Lunch	Lunch
11:25 - 1:05	Course 3	3 Course 7
1:10 - 2:40	Course 4	4 Course 8

- Alternate day block schedule: (A/B plan) six or eight courses spread out over two days; teachers meet with half of their students each day. The alternate day schedule allows for development of new teaching strategies, but teachers still have a large number of students, and both teachers and students have as many classes for which to prepare

	Monday	Tuesday	Wednesday	Thursday	Friday	Monday
TIME	**A-Day**	**B-Day**	**A-Day**	**B-Day**	**A-Day**	**B-Day**
7:45 - 9:15	Course 1	Course 2	Course 1	Course 2	Course 1	Course 2
9:20 - 10:50	Course 3	Course 4	Course 3	Course 4	Course 3	Course 4
10:52 - 11:25	Lunch					
11:25 - 1:05	Course 5	Course 6	Course 5	Course 6	Course 5	Course 6
1:10 - 2:40	Course 7	Course 8	Course 7	Course 8	Course 7	Course 8

- Trimester Plan: This time schedule allows students to take two or three core courses each trimester, over 60 days. Variations on this plan may include two long classes and one short class per day, two long and two short per day, two large blocks and three standard-sized blocks per day; or other patterns. Students concentrate on only two courses per trimester and students and teachers prepare for fewer courses each trimester.

Time	Trimester 1	Trimester 2	Trimester 3
	(60 days)	(60 days)	(60 days)
Morning	Course 1	Course 3	Course 5
Afternoon	Course 2	Course 4	Course 6

- Some classes (such as band, keyboarding, foreign language) taught daily, others in longer blocks on alternate days.

- Six courses, each meeting in three single periods, and one double period per week.

- Seven courses. Teachers meet with students three days out of four--twice in single periods, once in a double period. (Rettig & Canady, 1996; Canady & Rettig, 1995)

WHY DO SCHOOLS CHOOSE BLOCK SCHEDULING?

The critics of the traditional five- to seven- period day, maintain that the pace and preparation for students and teachers is very tiring and there is very little time to investigate ideas in depth. The schedule discourages the use of a variety of teaching and learning strategies, reduces the opportunity to individualize learning and reduces student and teacher interactions. The same amount of time is scheduled for each course which means that academic core courses are the same length as elective courses. "*Flexible scheduling patterns, on the other hand, are a much better match for pedagogical practices that meet the educational needs of students and the professional needs of teachers*" (Irmsher, 1996).

Example:
Many schools develop their own variation of block scheduling to suit their local needs.

In 1997 Coopersville High school in Michigan moved from a traditional six-period, 55-minute per period day schedule to an alternate day schedule with 90-minute periods in order to allow for more elective course offerings and to provide opportunities for more in-depth instruction (Veldman, 2002). After 4 years on this schedule, they created an ABC 3-day schedule, which is a blend of traditional and block scheduling. Students meet in a class for two out three days, 70 minutes per period. There are five periods per day and one 70 minute seminar (study block) and a time to get extra help from teachers every three days.

The staff has noted these positive outcomes: increased on task learning, better use of seminar time for school learning and anecdotal reports of improved instruction and increased student achievement.

THE ABC COOPERSVILLE SCHEDULE

TIME	Day A	Day B	Day C
7:35 a.m.-8:45 a.m.	Course1	Course 2	Course 1
8:50 a.m.-10:00 a.m.	Course 3	Course 3	Course 2
10:05 a.m.-11: 15 a.m.	Course 5	4 seminar	Course 5
11:20 a.m.-1:00 p.m.	Course 7	Course 6	Course 6
1:05 p.m.-2:22 p.m.	Course 8	Course 7	Course 8

ADVANTAGES TO IMPLEMENTING A BLOCK SCHEDULE

Some of these advantages were listed by the Northwest Regional Educational Research Laboratory (1997) and they have been augmented and updated.

- Because of the longer classes, students may be exposed to a variety of instructional techniques that provide them with more opportunities for reinforcement, making them more likely to understand and master difficult concepts (Shortt & Thayer, 1995; Sturgis 1995; Rettig & Canady, 1996). A grade eight teacher in Andover Minnesota discovered that by adding social interaction and movement and a vary of learning activities to her ninety-minute math classes, she was able to reduce monotony and increase student involvement (Broman, 2002).

- Students' achievement may improve (Schoenstein, 1995; Buckman, King, & Ryan, 1995; Walker, 2000; Chesapeake Public Schools, 1996; Cobb, Abate & Baker, 1999; Mutter, Chase & Nichols, 1997; Pisapia & Westfall, 1997; Snyder, 1997; Stanley & Gifford, 1998)

  One study found a growth in the percentage of students on the honor roll of 9% (from 22% to 31%) (Evans, Tokarczyk, Rice, & McCray, 2002).

  In a study examining a school in its fourth year of a block schedule researchers found that there was a positive and significant relationship between block scheduling and grades in math, science, social studies, and English (the relationship with the cumulative GPA was less clear) (Trenta. & Newman, 1999)

- Students in special education programs benefit from a block schedule. In a Pennsylvania study, the perceptions of special education teachers and administrators were that students were: integrated more in regular classes, had more success in regular education classes, had more of program options and achieved more of their IEP (Individual Education Plan) goals (Bugaj 1998).

- Attendance often improves (Schoenstein, 1995; Buckman et al., 1995; Rettig & Canady, 1996; Reid, 1996; Evans, Tokarczyk, Rice, & McCray, 2002).

- There can be more electives available (Queen & Isenhour, 1998; Evans, Tokarczyk, Rice, & McCray, 2002)

- Gifted students can benefit from block scheduling The results of a survey of administrators and teachers in ten school districts indicated that they perceived that block scheduling can provide the additional time, flexibility, and program options that can "*significantly improv*e" programs offered to gifted students (Bugaj 1999).

- Academic failure is reduced (Schoenstein, 1995; Reid, 1996). The results of one study indicated a 7% (from 29% to 22%) decrease in the number of students receiving a single D or F for a final course grade and a 3% decrease in the number of students failing two or more classes o 22 percent). There was also a decrease in the number of students experiencing multiple failures, from 8 percent to 5 percent, even though most students were completing an additional class (eight classes instead of seven). (Evans, Tokarczyk, Rice, & McCray, 2002).

- Schools report a reduction in suspension and dropout rates (Carroll, 1995; Jones, 1997, Walker, 2000); (Evans, Tokarczyk, Rice, & McCray, 2002).

- School detentions have been reduced by as much as 50% (Evans, Tokarczyk, Rice, & McCray, 2002).

- Students will have fewer classes to prepare for (on a 4x4 block), or more time to prepare for them (on the A/B plan) (Huff, 1995; Queen & Isenhour, 1998).

- If lunch times are longer, students can participate in extracurricular activities (Schoenstein, 1995).

- The traditional schedule fragments learning into unrelated small episodes but the block schedule allows time for reflection and the pace is slowed adding a dimension of depth. *Consequently, students can see that the block schedule is marked by coherence and integrity* (Kienholz, Segall, and Yellin, 2003; Creamean, Lightle; Horvath, Jeffery, 2000).

- Students can participate in more independent projects and present them in class (Evans, Tokarczyk, Rice, & McCray, 2002)

- Students reported spending less time on homework because they have time to fully understand the assignment in class (Evans, Tokarczyk, Rice, & McCray, 2002).

- Teacher will meet fewer students per day, teach and prepare fewer classes each day, as well as fewer papers to grade. (Jones, 1995; Schoenstein, 1995; Sturgis 1995; Rettig & Canady, 1996; Canady & Rettig, 1995; Evans, Tokarczyk, Rice, & McCray, 2002). A secondary English teacher commented, "*Block scheduling is no panacea for all of education's ills, but it seems to be one of the most promising of the "opportunities" I've experience in my career. It serves me well as a medium in which to guide students to an understanding and appreciation of language arts and offers the same promise for other disciplines"* (Kienholz, Segall, and Yellin, 2003).

- Teachers have the opportunity to use a wide variety of instructional techniques (including interdisciplinary approaches) and move away from lecture methods (Rettig & Canady, 1996; Reid, 1996; Canady & Rettig, 1995).

- Because of the longer classes, teachers can get to know their students better (Canady & Rettig, 1995; Evans, Tokarczyk, Rice, & McCray, 2002).

- Several studies have found that teachers in the early stages of a move to block scheduling were supportive of the effectiveness of the block schedule (Averett 1994; Wyatt 1996; Khiazzaka 1997; Wilson and Stokes 1999). Then, the teachers sometimes encountered a usually short period common to many changes when they did not feel confident with the changes (Skrobarcek et al, 1997; Flenming et al.1997)

In a study designed to determine if teachers maintained perceptions that they had regarding the effectiveness block scheduling in their first or second year of implementation when they reached the third and fourth year of implementation, researchers resurveyed 131 teachers (Stokes & Wilson, 2000). They found that teachers still believed that block scheduling is more effective than traditional scheduling. The three factors that they mentioned has being critical to the success of the schedule were "*daily teacher planning, multiple-activity lessons in one period, and the use of hands-on activities*" (p.98). The research regarding positive teacher perceptions is supported by other research (Kramer 1997; Staunton 1997; Queen, Algozzine and Eaddy 1998).

- Many schools report the climate is more positive (Schoenstein, 1995; Buckman et al.,1995; Reid, 1996; Shortt & Thayer, 1998).

- The reduced transition times may mean that discipline referrals decline and the school is cleaner (Rettig & Canady, 1996; Reid, 1996; Buckman et al., 1995; Canady & Rettig, 1995; Queen & Isenhour, 1998; Evans, Tokarczyk, Rice, & McCray, 2002).

- Many surveys indicate that parents and students support this schedule (Reid, 1996; Evans, Tokarczyk, Rice, & McCray, 2002).

- In focus groups led by researchers, parents stated that "*students seemed to be learning more, were involved in a greater variety of learning activities, and seemed to know their teachers and course requirements better*" in addition, they agreed that "*their children were more productive and being held to higher expectations for learning*" (Evans, Tokarczyk, Rice, & McCray, 2002).

POTENTIAL CHALLENGES TO IMPLEMENTING A BLOCK SCHEDULE

These concerns were listed by the Northwest Regional Educational Research Laboratory (1997) and others.

- Evidence regarding improvement of academic achievement is inconsistent.

Mixed results have been noted by Kienholz, Segall, and Yellin, (2003). They point out that researchers (Gruber and Onwuegbuzie, 2001) found that the students on a traditional schedule scored higher than students on a block schedule in social studies on the Georgia High School Graduation Test. Another study in California (Eineder and Bishop, 1997) found that the students on the block schedule out performed students on a traditional calendar in social studies.

Some researchers have found no significant difference in grades for students on a block schedule when compared with students on a traditional schedule (Guskey & Kifer, 1995; Williams,1999). Another study found that students received mean scores on four end-of-course tests for Algebra, biology, English, and History (Lawrence and McPherson, 2000).

Other researchers also give examples of the mixed results (Texas Education Agency Office of Policy, Planning, and Research, September 1999; Evans, Tokarczyk, Rice, & McCray, 2002).

Researchers suggest that these mixed results may be because of the number variables that are difficult to control at each site, including variation in the instructional strategies used by teachers (McCreary, Hausman, 2001).

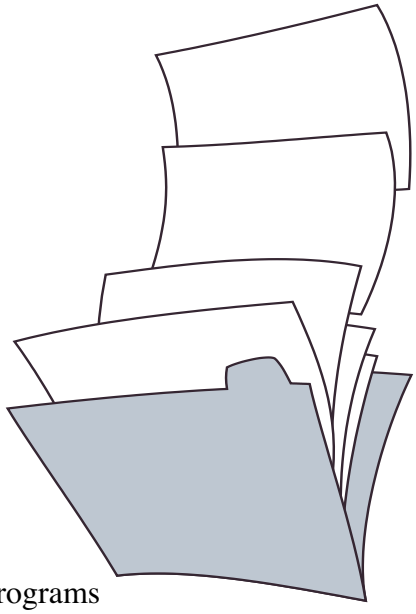
- When a student misses a class, it is the equivalent of missing two classes (Kienholz, Segall, and Yellin, 2003).
- There are concerns that music, art and advanced placement courses will not be effectively integrated into the schedule (Schoenstein, 1995; Rettig & Canady, 1996). "*Enrollment in electives, such as music, often declines when students are forced to choose between academic and enrichment classes; only if accommodations for these classes are made can their enrollment be maintained*" (Woronowicz, 1996 as cited in Northeast and Islands Regional Educational Laboratory, 1998).
- The block schedule may not always produce achievement gains in students' scores on standardized tests. When comparing standardized test scores of grade 11 students in Virginia who had a seven-period A/B block schedule with those in a seven-period traditional schedule, no significant difference was found in scores (Arnold, 2002).
- Teachers must be given enough time for staff development before implementing the block. If this is not possible, the change should not be made. (Jones, 1995; Shortt & Thayer, 1995; Canady & Rettig, 1995; Freeman, 1996; King, 1996; Staunton, 1997; Throneburg, 1998; Queen & Isenhour, 1998; Banbury, 1998; Adams & Salvaterra, 1998; Wilson & Stokes, 1999; Benton-Kupper, 1999; Deuel, 1999; Stokes & Wilson, 2000). Teachers must be prepared in order to teach using different strategies. If they are not trained, they will unsuccessfully rely on the lecture method rather than introducing a variety of teaching strategies (Queen 2000).
- A result of a recent study suggest that *"block-schedule teachers' opinions about the use and appropriateness of a wide variety of instructional strategies are basically no different than those of high school teachers teaching in traditional schedules."* (Jenkins, Queen, & Algozzine, 2002). The implication is that some teachers have not expanded their repertoire of instructional strategies in order to teach the longer periods of the block schedule.
- There is a concern that some courses, such as mathematics, require continuous learning and practice which would not be available in a semester configuration. There is conflicting evidence about learning loss during the semesters when a course is not continued.
- Teachers report that preparing for substitute teachers takes more time and effort and students commented that often substitutes are unprepared (Evans, Tokarczyk, Rice, & McCray, 2002).
- If the instruction is not designed for the longer block, students may not maintain motivation and interest.
- Although their overall perception of block scheduling was favourable, parents in three school expressed these concerns to researchers at Temple University, in Philadelphia: students in a subject where they are struggling may become frustrated during the long periods, students have less time to social with friends because transition times in the hallways have been reduced and students may not be being challenged enough in their classes (Evans, Tokarczyk, Rice, & McCray, 2002).
- "*The process of making the transition is probably the biggest challenge: building support for altering such a time-honored tradition, and finding/creating the planning time needed to make the change*" (Irmsher, 1996).

IMPLEMENTATION IDEAS

These implementation ideas were listed by the Northwest Regional Educational Research Laboratory (1997)

The following list details a few recommendations for any school contemplating the switch to block scheduling.

In regard to change, intensive scheduling should be viewed as a means rather than an end. It should not be implemented in isolation and should be accompanied by changes in the delivery of instruction. (Bugaj 1999).



1. Become familiar with the research. (Huff, 1995).
2. Visit other schools using the block. (Huff, 1995; Buckman et al., 1995; Wyatt, 1996).
3. The approval of the staff is essential (Huff, 1995; Buckman et al., 1995; Wyatt, 1996).
4. It is also important that parents be a part of discussions from the beginning. They must be kept informed at all times and be part of the decision-making process. Students should also have full information and be part of the decision-making process.
5. In order to take advantage of the longer class time, teachers will need to move from lecturing to instructional strategies that increase student involvement. (Schoenstein, 1995; Rettig & Canady, 1996).

   Consider the needs of students in special education and gifted programs and involve appropriate stakeholders in planning (Bugaj 1998, 1999).
6. The provision of ample time for staff development is essential. Teachers will need to learn new teaching strategies and how to adapt the curriculum. (Jones, 1995; Shortt & Thayer, 1995; Canady & Rettig, 1995; Freeman, 1996; King, 1996; Staunton, 1997; Throneburg, 1998; Queen & Isenhour, 1998; Banbury, 1998; Adams & Salvaterra, 1998; Wilson & Stokes, 1999; Benton-Kupper, 1999; Deuel, 1999; Stokes & Wilson, 2000).

   Some suggestions include:

   - Have teachers meet in groups prior to implementation of the block schedule to write sample 90-minute lesson plans and curriculum guides to share with one another. (Schoenstein, 1995)
   - Access different resources about block scheduling (videos, books, articles, etc.).
   - Develop course-pacing guides that walk teachers through their new schedules. (Shortt & Thayer 1995; Rettig & Canady, 1996)
7. Be aware of course-sequencing issues when designing the schedule Also, teacher contract policies and requirements must be adhered to. (Shortt & Thayer, 1995)
8. Develop a policy for transitioning transfer students from traditional schedules to the block schedule. (Shortt & Thayer, 1995).
9. Monitor the effects of the new schedule on teaching and learning. Maintain good communication with all stakeholders (Shortt & Thayer, 1995; Reid, 1996).
10. Be prepared for the criticism and opposition that will come with change (Huff, 1995). The negative feelings that accompany all changes can be reduced by involving stakeholders at each stage of the decision making and planning processes.

DISCUSSION QUESTIONS FOR BLOCK SCHEDULING

These questions may be used to begin a discussion when introducing block scheduling to staff members, parents and community members.

1. Do you have any questions about what block scheduling is?
2. What advantages would be important for your children or students?
3. What advantages would be important for you, personally?
4. What concerns do you have for your children or students?
5. What personal concerns do you have?
6. What are the most important issues that you want to make sure are considered in making the decision to implement or not implement block scheduling?
7. Would this schedule work in your school?

REFERENCES

Adams, D. C., & Salvaterra, M. E. (1997). *Structural and teacher changes: Necessities for successful block schedule.* The High School Journal, 81(2), 98-105.

Arnold D. (March 2002). *Block Schedule and Traditional Schedule Achievement: A Comparison*. NASSP Bulletin 86.

Averett, C. P. 1994. *Block scheduling in North Carolina high schools*. Raleigh, N.C.: Public Schools of North Carolina.

Banbury, J. A. (1998). *An analysis of changes in teacher instructional practices under block scheduling in seven suburban high schools.* (Doctoral dissertation, George Washington University, 1998). Dissertation Abstracts International*,* 59(03A), 0708.

Benton-Kupper, J. (1999). *Teaching in the block: Perceptions from within*. High School Journal, 83(1), 26-34.

Broman, S. (2002). *Making Minutes More Meaningful: The Ninety-Minute Mathematics Class*. Mathematics Teaching in the Middle School. 7 No. 9, May 2002.

Buckman, D., King, B., & Ryan, S. (1995). *Block scheduling: A means to improve school climate.* NASSP Bulletin, 79(571), 9-18.

Bugaj, S. (1998) Intensive scheduling and special education in secondary schools: Research and recommendations. NASSP Bulletin 594 (January): 33-39.

Bugaj, S. (1999). Teacher/Administrator Perceptions Of Intensive Scheduling: Implications for Secondary Gifted Students. NASSP Bulletin 83 no610 62-9.

Canady, R. (1990). *Parallel block scheduling: A better way to organize a school.* Principal, 69(3), 34-36.

Canady, R. & Rettig, M. (1995). *Block Scheduling: A Catalyst for Change in High Schools.* Princeton, NJ: Eye on Education, Inc.

Carroll, Joseph M., *"Organizing Time to Support Learning."* The School Administrator 51, 3 (March 1994): 26-28, 30-33. EJ481 309.

Cawelti, Gordon. *High School Restructuring: A National Study*. Arlington, Virginia: Educational Research Service, 1994. 75 pages. ED366 070.

Chesapeake Public Schools. (1996, October). 4 *x 4 block schedule evaluation.* ERIC Document Reproduction Service. (ERIC No. ED427037)

Cobb, R. b, Abate, S. & Baker, D. (1999, February). *Effects on students of a 4 x 4 junior high school block scheduling program.* Education Policy Analysis Archives*,* 7f3). Retrieved January 21, 2003, from http://epaa.asu.edu/epaa/v7n3.html

Creamean, S. & Horvath, R. (2000). *The Effectiveness of Block Scheduling*. (ERIC Document Reproduction Service No.ED457590. Retrieved January 12, 2003, from the ERIC database.

Deuel, L. S. (1999). *Block scheduling in large, urban high schools: Effects on academic achievement, student behavior, and staff perceptions.* High School Journal, 83(1), 14-25.

Eineder, D.V., and H. L. Bishop. (1997). *Block scheduling in the high school: The effects on achievement believer, and student-teacher relationships.* NASSP Bulletin 81

Evans W., J. Tokarczyk, S. Rice, & A. McCray. (Jl/Ag 2002). *Block Scheduling: An Evaluation of Outcomes and Impact*. The Clearing House 75 No. 6.

Freeman, C. J. (1996). *Block scheduling: A vehicle for school change (reform)*. (Doctoral dissertation, University of Minnesota, 1996). Dissertation Abstracts International, 57(06A), 2290.

Gruber, C. D., and A. J. Onwuegbuzie. (2001). *Effects of block scheduling on academic achievement among high school students.* High School Journal 84(4): 32-42.

Guskey, T. R. & Kifer, E. (1995, April). *Evaluation of a high school block schedule restructuring program.* Paper presented at the annual meeting of the American Educational Research Association. (ERIC Document Reproduction Service No.ED384652)

Huff, L. (1995). *Flexible block scheduling: It works for us!* NASSP Bulletin, 79(571), 19-21.

Irmsher, K. (March 1996). *Block Scheduling*. ERIC Digest 104. Available at: http://eric.uoregon.edu/publications/digests/digest104.html

Jenkins, E., Queen, A. & Algozzine, B. (2002). *To block or not to block: that's not the question.* The Journal of Educational Research (Washington, D.C.) 95 no. 4.

Jones, R. (1995). *Wake up!* The Executive Educator, 17(8), 15-18.

Khazzaka, J. 1997. *Comparing the merits of a seven-period school day to those of a four-period school day.* The High School Journal 81 (2): 87-97.

Kienholz, K. N. Segall, & D. Yellin. (Wint 2003).*The Block: Implications for Secondary Teachers*. Kappa Delta Pi Record 39 no. 2 WN: 0334905886006

King, B. B. (1996). *The effects of block scheduling on learning environment, instructional strategies, and academic achievement*. (Doctoral dissertation, University of Central Florida, 1996). Dissertation Abstracts International*,* 57(07A), 2771.

Kramer, S. L., 1997. *What we know about block scheduling and its effects on math instruction, Part II.* NASSP Bulletin 81 (586): 69-82.

Lawrence, W. W. & McPherson, D. (2000, September). *A comparative study of block scheduling and traditional scheduling on academic achievement.* Journal of Instructional Psychology, 27(3)*,* 178-182.

McCreary, J., Hausman, C. (2001) *Differences in Student Outcomes between Block, Semester, and Trimester Schedules.* (ERIC Document Reproduction Service No.ED457590. Retrieved January 12, 2003, from the ERIC database.

Mutter, D. W., Chase, E., & Nichols, W. R. (1997, Winter). *Evaluation of a 4 x 4 block schedule*. ERS Spectrum, 15(1)*,* 3-8.

Northeast and Islands Regional Educational Laboratory (1998). *Block Scheduling Innovations with Time.* **Providence, RI**: LAB at Brown University

Northwest Regional Education Laboratory. (February 1997). *"Scheduling Alternatives: Options for student success. Block Scheduling" By Request.* Available at: http://www.nwrel.org/request/feb97/article4.html

Pisapia, J. & Westfall, A. L. (1997, January). *Alternative high school scheduling: Student achievement and behavior.* Research report. Richmond, VA: Metropolitan Educational Research Consortium. (ERIC Document Reproduction Service No. ED411337)

Queen, J. (2000.) *Block scheduling revisited*. Phi Delta Kappan 82(3): 214-20.

Queen, J., and K. Isenhour. (1998) The *4 x4 block schedule.* Princeton, N.J.: Eye on Education.
Queen, J., B. Algozzine; & M. Eaddy. 1998. *Implementing 4 x 4 block scheduling: Pitfalls, promises, and provisos*. The High School Journal 81 (588): 107-14.

Reid, W. (1996). *The administrative challenges of block scheduling.* The School Administrator, 53(8), 26-30.

Rettig, M. & Canady, R. (1996). *All around the block: The benefits and challenges of a non-traditional school schedule.* The School Administrator, 53(8), 8-14.

Schoenstein, R. (1995). *The new school on the block*. The Executive Educator, 17(8), 18-20.

Shortt,T., & Thayer, Y. (1998/99). *Block scheduling revisited*. Phi Delta Kappan 82(3): 214-20.

Shortt, T. & Thayer, Y. (1995). *What can we expect to see in the next generation of block scheduling?* NASSP Bulletin, 79(571), 53-62.

Snyder, D. (1997, October). *4-block scheduling: A case study of data analysis of one high school after two years.* Paper presented at the annual meeting of the Midwest Educational Research Association. (ERIC Document Reproduction Service No. ED414626J

Stanley, A. & Gifford, L. J. (1998, November). *The feasibility of 4 x4 block scheduling in secondary schools: A review of the literature.* Paper presented at the annual meeting of the Mid-South Educational Research Association. (ERIC Document Reproduction Service No ED429333)

Staunton, J. 1997. *A study of teacher beliefs on the efficacv of block scheduling*. NASSP Bulletin 81 (593): 73-80.

Staunton, J. (1997). *A study of teacher beliefs on the efficacy of block scheduling.* (Doctoral dissertation, University of Southern California,1997). Dissertation Abstracts International, 58(05A 1), 1570.

Stokes, L. C., & Wilson, J. W. (2000). *A longitudinal study of teachers' perceptions of the effectiveness of block versus traditional scheduling*. NASSP Bulletin, 84 (619), 90-99.

Sturgis, Jeffrey D., *"Flexibility Enhances Student Achievement."* NASSP AP Special: The Newsletter for Assistant Principals 10, 4 (Summer 1995): 1-2.

Throneburg, M. W. (1998). *Problems and success of block scheduling implementation as perceived by high school principals in Illinois.* (Doctoral dissertation, Illinois State University, 1998). Dissertation Abstracts International*,* 59(05A), 1424.

Trenta, L. & Newman, I. (2002) *Effects of a High School Block Scheduling Program on Students: a Four-year Longitudinal Study of the Effects of Block Scheduling on Student Outcome Variables*. Second Education. 31 no1.

Veldman, R. (2002). *The Best of Both Schedules*. Principal Leadership, 3(8), 36-38.

Williams, L. M. (1999). *Effects of block scheduling on grade point averages.* ERIC document Reproduction Service. (ERIC No. ED432039)

Wilson, J. W., & Stokes, L. C. (1999). *A study of teacher perceptions of the effectiveness and critical factors in implementing and maintaining block scheduling.* High School Journal, 83 (1), 35-43.

Wilson, J. W., and L. C. Stokes. 1999. *A study of teacher perceptions of the effectiveness and critical factors in implementing and maintaining block scheduling.* The High School Journal *83* (1): 44-54.

Wyatt, L. (1996). *More time, more training: What staff development do teachers need for effective instruction in block scheduling?* The School Administrator, 53, 16-18.

Internet Resources suggested by the Northeast and Islands Regional Educational Laboratory (1998).

http://carei.coled.umn.edu
The Center for Applied Research and Educational Improvement, part of the College of Education and Human Development at the University of Minnesota, maintains a web page on block scheduling with information and links to numerous other pages on the topic.

http://www.ed.gov/pubs/studies.html
On the U.S. Department of Education page are the links to three reports from the National Education Commission on Time and Learning entitled “Prisoners of Time,” “Prisoners of Time—Research: What We Know and What We Need to Know,” and “Space and Time: Schools and Programs Making Time Work for Students and Teachers.”

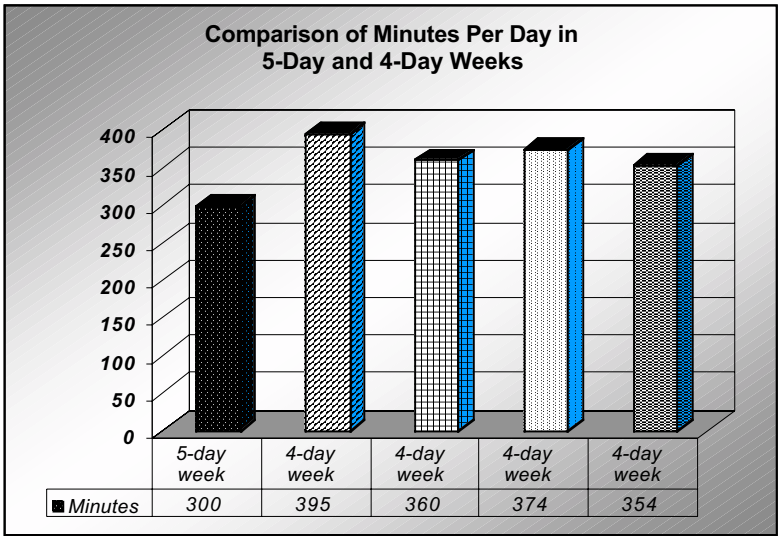
http://www.jefflindsay.com/Block.shtml
A parent of a child in the Appleton, WI School. District has organized a web page entitled “The Case Against Block Scheduling.” This site provides information about block scheduling and links to other pages.

The Four-Day Week

WHAT IS THE FOUR-DAY WEEK?

The four-day school week is a response to a reduction in funds. A school increases the hours that a school is in session for four days of the week so that the school can be closed one day. It is expected that this closure will result in decreased overall expenses. It is usually small rural schools or school districts that choose this schedule. The districts are usually characterized by small populations and large geographical areas. High heating and transportation costs often motivate schools to adopt a four-day week schedule. Parents or extended family members who are farmers are available to supervise children on the fifth day. The schools may choose Friday as the day off because it is the day that usually has the lowest attendance or Monday may be chosen to take advantage of maintaining the cost savings of the weekend shutdown, (NWREL, 1997).

A variation of this schedule, often found in Great Britain and Australia, is the 9-day Fortnight. In this configuration schools increase the length of the school day for nine of the ten school days in a two-week period and close the school on the tenth day. It is intended as a cost-saving measure.



WHY DO SCHOOLS CHOOSE THE FOUR-DAY WEEK

Examples

British Columbia School District # 51 (Boundary) adopted a 4-day week in September 2002, in order to reduce operating costs and reports in January 2003 indicated that the district was "*well on its way to its goal of saving $210,000 dollars this fiscal year.*" (Steffenhagen, 2003). In addition, the superintendent reports that the students' behaviour, attendance, and focus on learning have improved. A secondary school principal reported that students are spending less time on buses and have more opportunities for part-time employment. Some parents worry that the full curriculum may not be being offered and they are waiting for provincial testing results before passing judgment. Some employees, such as bus drivers, who have lost a day of work each week, are not supportive of the schedule.

In Saskatchewan, Scenic Valley School Division #117 has been operating on a Four-day week calendar for many years. Scenic Valley has 197 calendar days like all other divisions in Saskatchewan: 163 days are longer days and 34 are regular days. The longer days are usually Monday, Tuesday, Wednesday and Thursday. If Monday is a statutory holiday, then Friday becomes a longer day of classroom instruction and often Monday's timetable is moved to Friday.

Engelhard Elementary in Kentucky has a four-day week (Tuesdays through Fridays) and it also has a modified balanced calendar. On Mondays, they operate is "*an optional program to assist working families while providing child-centered enrichment programs for students.*" http://www.jefferson.k12.ky.us/Schools/Elementary/Engelhard.html

In September 2002 Hot Springs, South Dakota school district implemented the Four-day week in its elementary school, middle school, and high school. In a survey of parents and students completed in January, 2003, 67 % of parents stated that their child likes the new schedule and 60% thought that their child was doing well. 82 % of students stated that they liked it. The top three advantages listed by parents were having Fridays off (50%), more family time on weekends (50%), and being able to schedule appointments on Fridays (62%). Students saw the advantages as: having Fridays off (94%), school work; attend the free tutoring Friday a.m. (53%), and being able to schedule appointments on Fridays (37%). The most often mentioned concerns of parents and students were: length of the school day (35%) , how early the day starts (18%), and he whole idea of doing 9 months of education in 4 days a week; too much work too fast (11%). The students reported these concerns: length of the school day (42%), how early the day starts (28%) and length of time before lunch (17) (Hot Spring, South Dakota School District http://www.hssd.k12.sd.us/survey2.htm)

Preliminary feedback from administrators and staff indicates that:

- *The longer class period provides more efficient use of instructional time.*
- *Middle and high school teachers have observed that students are more "focused" on their schoolwork.*
- *Principals are reporting fewer discipline problems this year and a more positive attitude of the students.*
- *Preliminary observation indicates there have been fewer student absences.*
- *Students are adjusting to the longer school day better than the staff. Staff report being very fatigued by Thursday, but many staff members are taking advantage of Fridays to get caught up on work or prepare for the new week so they have a weekend with family.*

SAMPLE ELEMENTARY SCHEDULE
EACH DAY OF FOUR – DAY WEEK

Morning	Afternoon
8:00 - 8:25	12:00 - 12:20 4th Grade Lunch
8:30 - 8:55	12:00 - 12:20 4th Grade Lunch
9:00 - 9:25	12:00 - 12:40
9:30 - 9:55	12:00 - 12:15 5th Grade Recess
9:35 - 9:50 K and1st Grade Recess	12:20 - 12:40 5th Grade Lunch
10:00 - 10:15 2nd and 3rd Grade Recess	1:00 - 1:25
10:00 - 10:25	1:30 - 1:55
10:30 - 10:55	1:35 - 1:50 K and 1st Grade Recess
11:00 - 11:40	2:05 - 2:20 2nd and 3rd Grade Recess
11:00 - 11:15 1st and 2nd Grade Recess	2:30 - 2:45 4th and 5th Grade Recess
11:20 - 11:40 1st and 2nd Grade Lunch	2:00 - 2:25
11:20 - 11:35 3rd Grade Recess	2:30 - 2:55
11:40 - 12:00 3rd Grade Lunch	3:00 - 3:25
11:40 - 12:20	3:30 - 3:55
11:40 - 11:55 4th Grade Recess	

Kindergarten sessions are 8:00 a.m. to 11:30 a.m. and 12:30 p.m. to 4:00 p.m.

SAMPLE MIDDLE AND HIGH SCHOOL SCHEDULE
EACH DAY OF FOUR – DAY WEEK

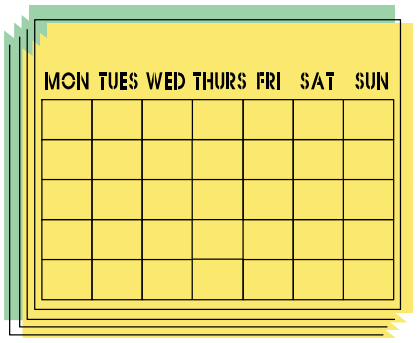
TIME	Grade 6	Grade 7	Grade 8	High School
7:55	Enter Bell Rings			
8:00-9:15				1st Period
8:00-8:12	Homeroom	Homeroom	Homeroom	
8:15-9:15	1st Period	1st Period	1st Period	
9:18-10:18	2nd Period	2nd Period	2nd Period	2nd Period
10:21-11:21	3rd Period	3rd Period	3rd Period	3rd Period
11:21-11:51	Lunch			
11:24-12:24				4th Period
11:24-11:54		4th Period	4th Period	
11:54-12:54	4th Period			
11:54-12:24		Lunch	Lunch	
12:27-12:54		4th Period	4th Period	
12:57-1:57	5th Period	5th Period	5th Period	5th Period
2:00-3:00	6th Period	6th Period	6th Period	6th Period
3:03-4:03	7th Period	7th Period	7th Period	7th Period

ADVANTAGES TO IMPLEMENTING A FOUR-DAY WEEK

The unexpected advantages being experience by the Boundary District have been recorded in other areas as can be seen in the research studies below which are based on a summary prepared by the Northwest Regional Educational Laboratory (1997). They have been updated with more recent studies.

"*The four-day school week was probably one of those few decisions made in education in the name of money that actually ended up having educational benefits in terms of the academic performance of kids,*" says Joyce Ley, director of the Northwest Regional Educational Laboratory in Portland, Ore. "*Schools end up operating more efficiently and they can maintain their programs, even when their resources have been reduced. It's been a good choice*" (Reeves, 1999).

Students and Teachers:



- Student dropout rates decline. (Litke, 1994; Grau & Shaughnessy, 1987).
- Student disciplinary referrals decrease (Koki, 1992).
- Student achievement is generally not affected either positively or negatively. (Nelson, 1983; Daly & Richburg, 1984; Reeves, 1999).
- Class time has been more productive (Reeves, 1999)
- Student and teacher attendance improves (Blankenship, 1984; Litke, 1994; Koki, 1992; Grau & Shaughnessy, 1987; Sagness & Salzman, 1993;Featherstone, 1991; Steffenhagen, 2003).
- When teachers and students feel positive about the schedule change and school in general, morale improves (Blankenship, 1984; Litke, 1994; Grau & Shaughnessy, 1987).
- The school staff may have more time for staff development if the fifth day is used (Blankenship, 1984; Litke, 1994).
- The fifth day may be used for personal business, medical appointments, or extracurricular activities (Litke, 1994; Koki, 1992; Grau & Shaughnessy, 1987; Culbertson, 1982; Steffenhagen, 2003).

The School in General:

- Schools report significant savings on utility bills, substitute teacher pay, school buses, and building wear and tear (Blankenship, 1984; Richberg & Sjogren, 1983; Koki, 1992; Grau & Shaughnessy, 1987; Culbertson, 1982; Sagness & Salzman, 1993; Featherstone, 1991; Reeves, 1999).
- Schools can make up school days missed due to inclement weather or statutory holidays on what would have been the fifth school day (Blankenship, 1984; Litke, 1994, Steffenhagen, 2003).

POTENTIAL CHALLENGES TO IMPLEMENTING A FOUR-DAY WEEK

Some of these concerns were listed by the Northwest Regional Educational Research Laboratory (1997). They have been updated and augmented

- The four-day week has rarely been tracked or assessed. (Reeves, 1999).

- School days are long for students (particularly those in elementary schools). (Reeves, 1999). To compensate for this schools may plan the day so that the more rigorous academic work is completed in the morning (Blankenship, 1984).

- There is a concern about young students missing the repetition of learning on the fifth day (Reeves, 1999).

- The perception is that less time is being devoted to school (Reeves, 1999).

- Parents are concerned about childcare on the fifth day. Some schools used high school students as baby-sitters for parents who had no other alternative (Blankenship, 1984). "*The four-day week is more prevalent in rural areas where childcare is less likely to be an issue*" (Reeves, 1999).

- There is a concern that at-risk and special-needs students may have retention difficulties with an extra day off each week (Blankenship, 1984; Culbertson, 1982).

- The extra time in the extended day must be used wisely as academic time (Reeves, 1999).

- Some educators may be concerned that the four-day week appears to be inconsistent with the new emphasis for wise use of time in school (Blankenship, 1984).

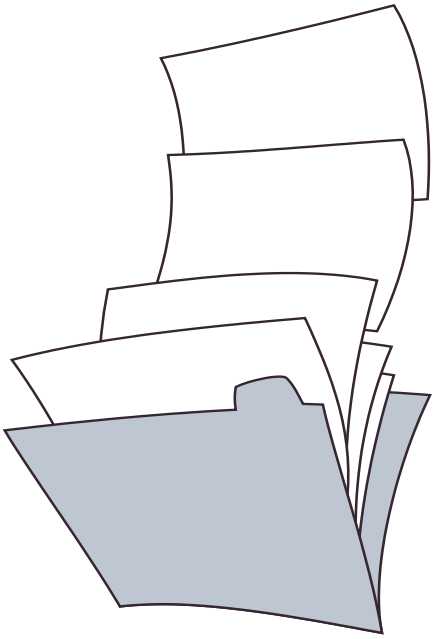
- The four-day week may affect daily community routines. Community agencies could be encouraged to schedule activities on the fifth day.

- Students arrive home in the early evening after classes and extra curricular activities.

These questions may be used to begin a discussion when introducing the four-day week to staff members, parents and community members.

IMPLEMENTATION IDEAS

These ideas were listed by the Northwest Regional Educational Research Laboratory (1997)



1. Develop a familiarity with the concepts and implications of a four-day week. Read research and case studies. Talk to other administrators and teachers using this schedule.
2. The school staff must be involved in the decision making process. It will not be possible to implement the change without their support (Litke, 1994)
3. Involve all stakeholders (students, parents, and community) in discussions and decisions (Litke, 1994)
4. Parents will have questions and concerns related to the effects of the change on family schedules and other matters. Be sure that they receive full information and participate in discussions and the decision-making process.
5. Design the schedule to accommodate the needs of staff and students. Make sure all changes stay within contract requirements.
6. The curriculum will require some changes and this will require staff development (Richberg & Sjogren, 1983; Featherstone, 1991)
7. The implementation must be constantly monitored
8. Assessment of the program will require time. (Blankenship, 1984).
9. Investigate the use of the fifth day to provide remedial or enrichment activities. (Koki, 1992).
10. Use the money saved in ways that will benefit students.

DISCUSSION QUESTIONS FOR THE FOUR - DAY WEEK

1. Do you have any questions about what a four-day week is?
2. What advantages would be important for your children or students?
3. What advantages would be important for you, personally?
4. What concerns do you have for your children or students?
5. What personal concerns do you have?

6. What are the most important issues that you want to make sure are considered in making the decision to implement or not implement the four-day week?

7. Would this schedule work in your school?

8. Do you need more information?

9. What questions do you still have?

These questions may be used to begin a discussion when introducing the four-day week to staff members, parents and community members.

REFERENCES

Blankenship, T. (1984). Update: *These school systems swear by the four-day school week because students work harder and face fewer distractions.* The American School Board Journal, 171(8), 32-33.

Culbertson, J. (1982). *Four Day School Week for Small Rural Schools.* Las Cruces, NM: ERIC Clearinghouse on Rural Education and Small Schools.

Daly, J. & Richburg, R. (1984). *Student Achievement in the Four-Day School Week*. Fort Collins, CO: Office for Rural Education, Department of Education, and Colorado State University.

Featherstone, H. (1991). *The rewards of a four-day school week*. Principal, 71(1), 28-30.

Grau, E. & Shaughnessy, M. (1987). *The Four Day School Week: An Investigation and Analysis.* Portales, NM: Eastern New Mexico University.

Hot Springs, South Dakota School District*. The Four-Day week*. Retrieved on Feb. 20, 2003 from http://www.hssd.k12.sd.us/survey2.htm)

Koki, S. (1992). *Modified School Schedules: A Look at the Research and the Pacific.* Honolulu, HI: Pacific Regional Educational Laboratory.

Litke, C.D. (1994). *Implementing the modified four-day school week.* The Alberta Journal of Educational Research, 40(3), 271-81.

Nelson, S. (1983). *An Evaluation of the Sheridan County School District Alternative School Schedule.* Portland, OR: Northwest Regional Educational Laboratory.

Northwest Regional Education Laboratory. (February 1997). *''Scheduling Alternatives: Options for student success. Four-Day School Week'' By Request.* Available at: http://www.nwrel.org/request/feb97/article4.html

Reeves, Kimberly. (March 1999) .*The Four-Day School Week.* The School Administrator.

Richberg, R. & Sjogren, D. (1983). *The four-day week: What are the advantages for schools?* NASSP Bulletin, 67(459), 60-63.

Sagness, R. & Salzman, S. (1993). *Evaluation of the Four-Day School Week in Idaho Suburban Schools.* Jackson, WY: Paper presented at the annual meeting of the Northern Rocky Mountain Educational Research Association.

Steffenhagen, J. (January 15, 2003). *Four-day school week a hit in Boundary district.* The Vancouver Sun.

School Fits Three R's into Four Days. (1983). Las Cruces, NM: Sun News.