

AN EXAMINATION OF THE BALANCED SCHOOL DAY SCHEDULE

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Abstract

Principals are always looking for effective ways to enhance the learning environment. The Balanced School Day (BSD) schedule, an alternative to the traditional schedule, reframes the school day by eliminating recess and lunch breaks and providing two scheduled nutrition breaks. Advantages and disadvantages to the schedule have been anecdotally reported. A two-year evaluation was completed to verify these claims. The BSD showed some favourable results (e.g., amount of instructional and transition time, school cleanliness), some positive trends (e.g., student concentration and behaviour in the hallway), and some mixed results (e.g., supervision time and outdoor time). Although the evaluation did not provide a direct assessment of the schedule's impact on student achievement, some teachers and parents felt that students were achieving better. Tracking will need to take place over the next few years to examine student achievement within these schools.

Introduction

The school principal has the important task of scheduling teachers' and students' time so that each receives the most out of their school day. The school schedule can either create an opportunity or hinder the teaching of students, the offering of extra curricular activities, the organization of team planning time, as well as other school related processes or activities. With so many scheduling options and recommendations available, it may be difficult to know what is best for a school and what works well in one school may not work at all in another.

Research has been completed to examine the advantages and disadvantages of various school scheduling options. Block scheduling and year-round scheduling, for example, are two options that have been studied. Block scheduling is defined as any schedule format with fewer but longer classes than traditional schedules permit (Jones, 1995). There are many forms of block scheduling such as 'the intensive block', 'the 4 x 4 block', and 'the modified block'. For students, the reported benefits of block scheduling include improved grades and attendance rates (Reid, 1996; Schoenstein, 1995). Due to the longer periods, teacher reported benefits include the opportunity to use a wide variety of instructional techniques (Rettig & Canady, 1996) and better relationships with students. The reported benefits however, are largely anecdotal and may vary since schools structure their blocks in ways that suit the needs of the school.

Year round education is another scheduling option. Year-round schooling is a rescheduling of the school year to twelve months. The total number of school days and vacation days is the same as the traditional school year but the days are spread out over the twelve months (Koki, 1992). Some of the reported benefits for students include a more continuous learning pattern and a reduced need for review (Serifs, 1990). Teachers report less burnout due to the shorter instructional cycles (Levine & Ornstein, 1993). Some of the concerns for year-round education include the cost of setting up the program, renovations to school buildings, including air conditioning, frustration from parents of children who do not have common vacation times (Levine & Ornstein, 1993) and the difficulty for teachers to pursue continuing education (Fager, 1997).

While some school scheduling options have been examined, new approaches should be studied to ensure that they meet the needs of the school community. The Balanced School Day (BSD) schedule is a new alternative to the traditional school day schedule. Originating within the Peel District School Board in Ontario Canada, this innovative approach to reorganizing the school

day has recently captured the interest of many parents, teachers, and administrators across the province of Ontario. The BSD schedule, as displayed in Table 1, consists of three– 100 minute blocks of instructional time, separated by two ‘nutrition breaks’. The ‘nutrition breaks’ are typically 40 minutes in length; 20 minutes is allotted for healthy eating and 20 minutes for outdoor time. The breaks are followed by five minutes for entry or transition time. While the structure of the schedule remains constant, slight variations in the timing or order of activities within the breaks may exist across settings.

Table 1: Sample Schedule

Time	Activity
8:50 a.m.	Entry
8:55 a.m. – 9:45 a.m.	Period 1
9:45 a.m. – 10:35 a.m.	Period 2
10:35 a.m. – 11:15 a.m.	Nutrition Break #1
11:15 a.m. – 11:20 a.m.	Entry
11:20 a.m. – 12:10 a.m.	Period 3
12:10 a.m. – 1:00 p.m.	Period 4
1:00 p.m. – 1:40 p.m.	Nutrition Break #2
1:40 p.m. – 1:45 p.m.	Entry
1:45 p.m. – 2:35 p.m.	Period 5
2:35 p.m. – 3:25 p.m.	Period 6
3:25 p.m.	Dismissal

Many schools across Ontario have experimented with the BSD schedule but systematic evaluation of this approach is rare. Stakeholder surveys have reported benefits of improved student concentration and behaviour, increased planning and instructional time, less supervision time, and cleaner schools (Halton District School Board; 2003, Walmsley, 2001). The disadvantages have included decreased student attention due to long instructional blocks, poor student nutrition, less time for exercise, teacher burnout, and little time for teachers to meet and plan (Chater & Lafond, 2003). An evaluation of such a departure from usual practice warrants more than just a look at consumer satisfaction. This report describes the evaluation completed by the Hamilton-Wentworth District School Board (HWDSB) during the 2002-2003 and 2003-2004 school years, which complimented stakeholder surveys with behavioural observation and tracking methods.

The Balanced School Day Schedule in the Hamilton-Wentworth District School Board

During the 2002-2003 school year, two HWDSB schools (one junior kindergarten (JK) to 5 and one JK to 6) piloted the BSD schedule. The principals and school staff decided to try this new schedule for several reasons. First, the school staff wanted to offer an uninterrupted 120-minute literacy block that was recommended by the district. Secondly, schools wanted to reduce the number of behavioural incidents on the playground, particularly during the last 20 minutes of the lunch break. Thirdly, the principals wanted to find time within the school day to give teachers and teams time to meet and plan for instruction. Finally, the school staff believed that allowing students to ‘graze’ throughout the day on healthy snacks and increasing the opportunity for participation in physical activity would not only improve the health of students but their concentration and learning in the classroom.

In order to examine whether the changes made in the school schedule had a positive impact on students and staff an evaluation was designed and carried out by E-BEST, the HWDSB’s research service. The evaluation examined student concentration, hunger level and behaviour, amount of planning and instructional time, school cleanliness, and overall satisfaction. Surveys were distributed to students, parents, teachers and caretakers in November and May and an

observational coding system was developed and piloted during the year. Playground aggression, classroom time on task, and the amount of time spent by students from the time when the bell would ring to the beginning of teacher instruction (transition time) was recorded on a monthly basis by trained observers. Approximately eight hours of training was delivered to the observers including videotaped and live coding practice. In addition to the BSD schools, two schools following the traditional schedule (two recesses and a lunch period) were recruited for comparison purposes. The schools were similar in size and demographics to the schools piloting the BSD. Surveys were completed by teachers and caretakers and monthly observations were completed. The findings from this small pilot study showed positive trends (Fox, Hoskin, Short & Woehrle, 2003).

In 2003-2004, nine schools were involved in the evaluation; four BSD and four comparison schools. The BSD schools included the two original pilot schools (JK to 5, JK to 6) and two JK to 8 schools. The comparison schools continued to follow the traditional schedule and were matched by size and demographics to the schools following the BSD. The ninth school was a comparison school during the 2002-2003 evaluation that adopted the BSD during the 2003-2004 school year. E-BEST was able to observe the transition and compare findings to baseline data. In addition to surveys administered to key stakeholders at two points in the year, observations of playground aggression, classroom time on task and transition time were completed twice a month by trained observers. Schools also tracked the number of, and reason for, discipline referrals to the office.

A strong response to the surveys was obtained. Within the BSD schools, surveys were completed and returned in November and May by students (n=1004; n=855), parents (n=573; n=314), teachers (n=52; n=41), principals (n=19; n=17) secretaries (n=5; n=5) and caretakers (n=6; n=6). Within the comparison schools responses were received in May from students (n=788) and in November and May from teachers (n=36; n=26), principals (n=4; n=4) and caretakers (n=3; n=4).

Results

Unlike the consistently positive trends during the 2002-2003 evaluation, the findings for 2003-2004 were mixed. The results are summarized in Table 2 and explained in detail below.

Table 2: Summary of Findings

Transition Time	Positive Results
Instructional Time	Positive Results
School Cleanliness	Positive Results
Ratings of Student Learning	Some Positive Trends
Student Concentration	No significant differences; some positive trends
Student Behaviour	No significant differences; some negative trends
Planning & Supervision Time	Mixed Results
Outdoor Time	Mixed Results
Eating Time	Mixed Results

Transition Time

The observers timed students from the end of their nutrition or recess break to when they were collectively ready for instruction. As displayed in Table 3, although the time per transition was not significantly different between BSD schools (4 minutes 50 seconds) and traditional schedule schools (4 minutes 23 seconds), the total time in transition was less in BSD schools because the number of transitions was reduced. The BSD schedule also factors in five minutes for transition at the end of each nutrition break, while instructional time in traditional schools begins when the bell rings. Due to the reduction in the number of transitions and the time provided for transition in BSD schools, students gained over 13 minutes of instruction each day.

Table 3: Transition Time and the Increased Classroom Time

BSD Schools	Traditional Schools	Explanation
4 minutes & 50 seconds	4 minutes & 23 seconds	Amount of transition time
X 2	X 3	Number of nutrition breaks / recesses per day
9 minutes & 40 seconds	13 minutes & 9 seconds	Average amount of transition time each day (transition time multiplied by number of nutrition breaks or recesses)
- 10 minutes	- 0 minutes	BSD factors transition time into the schedule; the traditional schedule does not
0 minutes	13 minutes & 9 seconds	Average amount of lost instructional time each day.

Instructional Time

Teachers in BSD schools not only had increased classroom time but may use their time differently. On a scale from 1 to 5, teachers following the BSD rated the organization of their teaching/learning time to be significantly higher than teachers in the comparison schools (3.74 vs. 3.10; $t=2.62, p<.05$). The principals in BSD schools also rated the organization of teaching time to be quite high (4.83 out of 5).

Parents, teachers and principals provided many comments about the BSD. Many liked the longer learning blocks in the BSD. Teachers were able to plan for longer lessons and had '*time to do more things*'. Children spent less time dressing/undressing to go outdoors, which allowed for more instructional and recreational time. Comments about student focus at the end of the day were mixed. Many primary teachers felt that students were tired at the end of the day and could not focus on the lesson. To overcome this challenge, teachers planned active lessons during the last period. Junior/ intermediate teachers, however, found the last period of the day to be productive. They were able to accomplish more at the end of the day compared to when they followed the traditional schedule.

School Cleanliness

Similar to the results in the 2002-2003 evaluation, the BSD schools were reportedly cleaner than schools following the traditional schedule. In fact, 100% of caretakers in the BSD schools reported cleaner schools while teachers in the BSD schools rated the playground to be significantly cleaner than the teachers in the comparison schools (4.05 vs. 2.98; $t=3.80, p<.05$).

Student Learning

Teachers following the BSD were asked if student achievement was better since starting the new schedule while teachers following the traditional schedule were asked if student achievement was better than last year. Although not statistically significant, 30% of BSD teachers and 17% of teachers in the comparison schools believed that students performed better while 63% of BSD teachers and 70% of teachers following the traditional schedule reported no change. Parents indicated that the BSD had a positive improvement on student learning (average score of 3.80 on a 5 point scale). Since the BSD has only recently been implemented in some HWDSB schools, it is too early to assess the impact on student learning through standard provincial assessment.

Student Concentration

With breaks and nutrition spaced out evenly under the BSD, it was hypothesized that students would be better able to concentrate near the end of the school day. Observations of on and off

task behaviour were completed during the last period of the day. In the 20-minute observation time, there were no significant differences between the number of off-task behaviours between schools. There was no significant difference between the primary, junior, and intermediate levels within these schools or between core versus other types of lessons. However, a trend towards fewer incidents of off-task behaviour in the primary and intermediate divisions of the BSD schools exists.

Teachers were also asked for their perception about student concentration. On a 5-point scale, teachers in BSD schools reported student concentration to be significantly better than teachers following the traditional schedule (3.49 vs. 2.38; $t=4.13$, $p<.05$). Teachers from the BSD schools commented that student concentration may be better since there are less distractions/interruptions throughout the day and teachers have more time to spend on specific topics.

Student Behaviour

With regards to playground aggression, there was no difference between the schools in the overall number of aggressive incidents observed during the last break of the day. Although not significantly different, there was somewhat more total aggression on the playground in BSD schools and somewhat more hallway aggression during transition times in comparison schools.

The majority of principals (83%) reported improvements in student behaviour in the BSD schools. The principals reported fewer discipline referrals to the office and the feeling of a more '*calm and settled school*'. Discipline tracking data supports this report, but the difference between BSD and traditional schools was not significant (15.4 vs. 18.5 incidents respectively). Teachers in BSD schools also rated student behaviour (on a 5-point scale) to be better than teachers in the comparison schools, however, this difference was not significant (3.34 vs. 2.89).

Teacher Planning & Supervision Time

Teachers from both schedules provided mixed results when asked about their planning time. Approximately 80% of teachers following the BSD or traditional schedule indicated that they were able to meet for team building or planning sessions (meeting approximately three times per month). Although not significant, the teachers in the comparison schools reported slightly longer meeting times of 41 minutes compared to 32 minutes at the BSD schools.

Teachers were also asked about their supervision time. Teachers following the traditional schedule reported significantly more duty times per week compared to teachers in BSD schools (5 vs. 4 times, $t=2.00$, $p<.05$). However, on average, the teachers in BSD schools reported significantly more minutes of duty per week (115 vs. 90 minutes per week; $t=2.68$, $p<.05$). When asked if they have more duty than the previous year, 25% of teachers from both the BSD and comparison schools believe they had more duty than the previous year. In some BSD schools, principals noted that the teachers' perceptions are not necessarily the reality. According to the school timetables, the teachers in BSD schools receive more release time (often 90 minutes above contract release time) and only 80 minutes of duty time compared to the 90-120 minutes within the traditional schedule.

Outdoor and Eating Time

Students, parents, and teachers were asked about their satisfaction with the amount of time for play and nutrition in the school day; the responses varied widely and the results were mixed. Significantly more primary students in the traditional schedule (54%) compared to those following the BSD (41%) indicated that they had time to play outside ($\chi^2=7.32$, $p<.05$). This was similar for the junior students where those following the traditional schedule rated "

have enough time to play outside" higher on a 5-point scale than those following the BSD (3.38 vs. 3.15, $t=2.56$, $p<.05$). The results, however, were reversed for the intermediate level students; those following the BSD provided a significantly higher rating than those in the traditional schedule (3.49 vs. 3.13, $t=2.73$, $p<.05$). It is important to note that students in both schedules requested more outdoor time in the additional comments area of the survey. Parents of children following the BSD were mixed in their perceptions; 54% indicated that their children had enough time to exercise on the nutrition break, while the majority of teachers (81%) in BSD schools believed that the two playtimes were adequate.

Responses to the amount of eating time were also mixed. While there was no significant difference between the primary and intermediate students, the junior students in the comparison schools rated: "*I have enough time to eat lunch*" significantly higher than the junior students following the BSD (3.76 vs. 3.37, $t= 4.05$, $p<.05$). As well, only half (52%) of parents indicated that their child had enough time to eat. In the comment section of the survey, some teachers believed that students had enough time to eat while others believed that students were rushed; this may be explained by division where primary students need more time to eat than older students.

Moving from the Traditional Schedule to the Balanced School Day

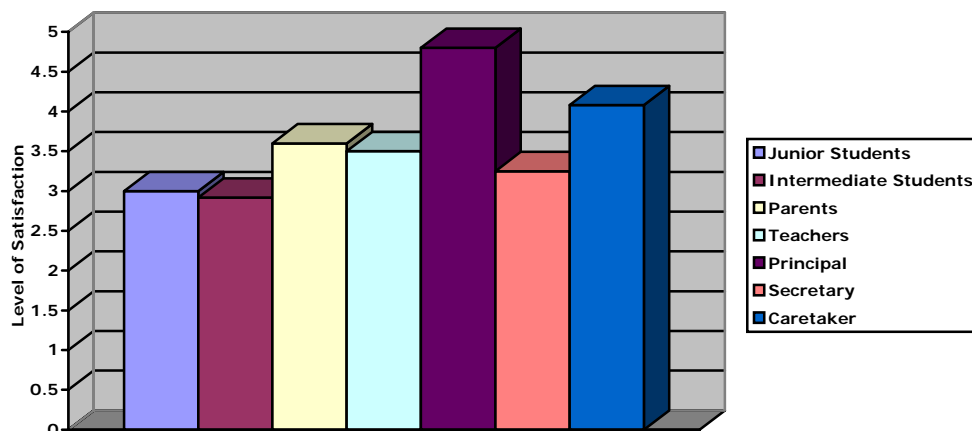
As indicated in the methods section, one comparison school in the 2002-2003 evaluation implemented the BSD schedule during the 2003-2004 school year. The evaluation team decided to continue to monitor this school and compare their previous year's data (while under the traditional schedule) to the data collected while following the BSD.

The teachers reported similar times to meet for team building and planning and no difference in supervision times. Student behaviour, however, was rated to be better while following the BSD schedule. In November 2002 (while under the traditional schedule), 100% ($n=10$) of teachers reported behaviour problems 'everyday'. In May 2004 (after implementing the BSD for almost a full school year), only 1 (10%) teacher reported daily behavioural incidents, 80% ($n=8$) of teachers experienced monthly incidents. The teachers also rated their school playgrounds to be significantly cleaner (3.30 in November 2002 vs. 4.80 in May 2004; $t= 9.61$, $p<.05$). When examining the observation data, transition times were better under the BSD (5:38 vs. 6:55). No significant difference in on-task behaviour or playground aggression exists (although a positive trend was observed for playground aggression), and there was slightly less hallway aggression.

Overall Satisfaction

As displayed in Figure 1, on a scale from 1 to 5, principals (4.8) were most satisfied with the schedule, followed by caretakers (4.1), parents (3.6), teachers (3.5) and secretaries (3.3). The students (3.0 for junior, 2.9 for intermediate) were least satisfied with the new schedule.

Figure 1: Satisfaction with the Balanced Day



The final survey question, for those following the BSD, asked if it should continue. As shown in Table 4, students were least favourable towards the BSD, particularly the junior students. Principals and caretakers were most favourable followed by parents, teachers and secretaries.

Table 4: Should the Balanced School Day Schedule Continue?

	Continue with BSD or No Preference	Return to Traditional Schedule	Try a Different Schedule
Junior Students	37%	33%	30%
Intermediate Students	54%	25%	21%
Parents	76%	22%	2%
Teachers	75%	17%	8%
Principals	100%	0%	0%
Secretary	75%	25%	0%
Caretaker	100%	0%	0%

Discussion

The BSD schedule is an innovative way of organizing the school day. Over the past few years, schools across the province of Ontario have adopted this new schedule while others are awaiting the results of various evaluations to try to determine its effectiveness and decide whether to implement it into their schools. To date, mixed reports have surfaced so additional scrutiny is required to ensure that the schedule is helping and not harming students.

Unlike other reports that have shared the results of perceptual surveys, the HWDSB incorporated an observation coding system and discipline tracking form to evaluate the BSD over a two-year period. While the results during the first year were somewhat positive, the results during the second year were mixed. Along some dimensions, such as instructional and transition time and cleanliness, the BSD showed favorably. Positive trends existed for student concentration and hallway behaviour while mixed results were reported for planning and supervision time and the amount of eating and outdoor time. The positive trend towards more aggressive behaviour on BSD playgrounds is worrisome and requires further investigation and monitoring. As to the schedule's impact on student achievement, some teachers and parents felt that students were achieving better, but this evaluation did not provide a direct

assessment. Tracking and follow-up needs to take place over the next few years to examine student achievement within the BSD schools.

It is important to note that there are variables that exist in schools that may impact our findings. The research design tried to control for these variables by selecting comparison schools that were similar to the schools implementing the BSD. Factors, however, still exist in applied research that influence the results. As well, the original surveys were revised and new ones created for principals and secretaries so the findings may not be perfectly in line from the first to the second year. The coding system was also refined and despite efforts to perform consistent observations, the data points may not be sufficient to overcome influences such as teacher discipline style, observer perception and school culture. It is also early in the implementation process; the BSD is new in many schools and they may need time to adapt to this change before significant change is observed.

Due to the small amount of research that has been completed, firm conclusions about the advantages and disadvantages of the BSD cannot be made. This study did not find any overwhelming evidence for or against the BSD so principals interested in adopting or continuing this schedule should proceed slowly and track and observe the outcomes within their schools. While this study examined a wide array of areas, future research should take a more detailed look at each of the topics of interest. Questions for future research may include: does the BSD improve the short and long term academic outcomes of students, how do teachers change their programming to accommodate the longer instructional blocks found within the BSD, and are students experiencing improvements in the physical fitness and eating habits from participation in the BSD? It is recommended that more than just survey data be gathered as tracking and observations can yield more illuminating findings. Finally, the BSD may 'work' in some settings due to enthusiasm in how it is implemented and the acceptance by stakeholders but concerns around its overall effectiveness still exist.

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Note - Funding for this project was received from the Ontario Principal's Council (OPC). Special thanks to the schools participating in the study, Deb Knoll-Moore who assisted with coordinating the evaluation, and the McMaster University Psychology students who completed the observations.

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