

**ATTITUDES OF HIGH SCHOOL STUDENTS
AND TEACHERS TOWARD DOUBLE SESSIONS**

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**A Thesis submitted in partial fulfillment
of the requirements for the Degree of
Master of Arts in Education**

**Faculty of Education
Saint Mary's University
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Abstract

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Individuals were asked to respond to statements about double session schooling. Their feelings about morale, academic achievement, school spirit, social interaction, and their preference of shift were compiled.

Results showed that generally students had a more positive attitude toward double sessions than teachers. Students and teachers both showed a strong preference toward morning sessions over afternoon or all day sessions, and that school spirit, morale and social interaction did not suffer during double sessions.

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Research

Introduction

The phenomenon of the overcrowded school still plagues the education community in 1990. Although it is less common now than in certain periods of the past, it remains a problem that has to be dealt with in order to ensure a quality education for all students. Overcrowded schools have many negative effects on students such as, increasing stress, reducing time spent with teachers on an individual basis, and physical inconveniences in classrooms, halls, washrooms and eating areas. Teachers are similarly affected, particularly when they are dealing with too many students in each class. In addition, the physical plant is subject to more wear and abuse because there are simply too many bodies in too small a space.

One strategy for overcoming this problem is split shifts or, more commonly termed, double sessions. This refers to the division of a school population into two groups, each group attending the same school but at different times. Split shifts usually have a morning session and an afternoon session but variations have been used involving three (or more) overlapping schedules.

Prescott (1970) indicates that the first widespread use of double sessions to alleviate overcrowding occurred following World War 1 when veterans and their children swelled school populations. A second wave of rapid enrollment increases occurred following World War 11. This second overcrowding of classrooms occurred as the "Baby Boom" generation moved through elementary schools in the 1950's and through secondary

schools in the 1960's. In addition, double sessions have been necessitated in more recent times by unprecedented geographical shifts occasioned by various social and economic developments (Green 1958).

Advantages of Double Sessions

The obvious advantage of the double shift is that it permits schooling for all students which would have been impossible under single sessions (Oliver in N.S.B.A. 1960). Overcrowding of classes and facilities is eliminated simply and expediently. Another benefit is, seemingly, the financial savings that occur. Capital costs of construction, including the overtime involved in building a school quickly, can be delayed or eliminated. In fact, in the United States, bond issues for new school construction were often defeated because taxpayers thought there would be tax savings. One study by Cypress (1970) reported considerable savings. Fowkes (1969), however, argues that the longer operating day is bound to increase taxes as it requires higher operational funds to cover the cost of more heat, light, maintenance, electricity, and transportation. He indicates also that experienced teachers choose to leave double session schools, and boards must pay a salary premium to hold or to get good teachers.

The financial impact of switching to double sessions at a high school in Arlington Heights, Illinois was also studied extensively by Dr. Eugene Oliver of Northwestern University in 1957. (N.S.B.A. 1960). He noted a rise in per capita costs of 7% for the year of double sessions compared to the preceding year. However, Oliver indicates that it would be unwise to conclude that the increase was the result of double sessions because there

was an unrelated rise in supply costs and wages. In one specific area - transportation, the costs were actually reduced. Following the return to single sessions costs continued to rise. It appears from the above studies that financial savings are indeed real when adjusted for inflation and rising costs in all areas, and when judged on a per student basis.

Academic Effects of Double Sessions

Green (1958) quoted a report comparing academic achievement of 204 pupils in California who attended school in both single and double shifts. When pupils were paired and conditions equated, careful measurements revealed that those who attended single session schools made better progress. He also indicated that in a comparison of Austin, Texas schools, half-day classes did not provide a satisfactory substitute for the enriched academic program of full day sessions.

Saunders (1951) reported the results of achievement tests administered to children attending double sessions in Raritan, New Jersey. Those attending regular sessions did as well or better than those in double sessions. Saunders also perceived a level of academic equality or superiority in reading, spelling, arithmetic, and language on the part of full-time students.

In a study at Arlington high School, Illinois in 1957, Oliver (N.S.B.A. 1960) found that grades declined slightly during a year of double session, with students whose grades were above average before double sessions showing the greatest loss. Those whose grades were below

average before double sessions showed no change. Papillon and McGlinn (1961), after an extensive study of sixth grade pupils comparing three double shift schools to full day schools, concluded that pupils of high average ability will learn almost as much on a double-shift as on a full day session, at least for one elementary school year.

No significant differences between grade point totals for high school students on regular and double sessions were found by Hanhila (1961) in Phoenix, Arizona. Nighswander (1971) also studied high school students and the effects of double sessions on their grade point totals. Results were higher after one year of double shift than before, but in analyzing mean scores on a standardized test he found lower scores after one year of double sessions. DeGregorio (1973) evaluated a double overlap schedule for a high school in Massachusetts and found no appreciable differences in grades, based on number of failures in each class.

Non-Academic Effects of Double Sessions

Only a handful of studies have addressed the question of non-academic effects of double sessions on students and teachers. School jurisdictions when looking at double sessions as an alternative to overcrowding might consider (in addition to academic and financial factors) the effect on school spirit, staff morale, the change of family schedules, and school social interactions. Saunders (1951) observed that full-time classes do better physically, emotionally, and socially than do those enrolled in the split session.

High school students have a loyalty to their own school which manifests itself whenever they get together, such as during competitions with other schools. When a school operates on double sessions, school spirit may decline because there is no time in the schedule for it to develop. Cypress (1970) noted the claims of some school administrators that double sessions result in decreased school spirit but stated that her study of high school students did not find this to be so.

Low staff morale, defined here as a general lack of unity or purpose on the part of the teachers, has been observed by the author while teaching double sessions. In spite of the shorter time spent in the building, many teachers couldn't leave fast enough. There was little time taken to socialize, even when there was the time at the end of the shift. Teachers appeared tired after the intenseness of a compressed school day and resented having to attend staff meeting and parent conferences. A non-professional, factory-like atmosphere of "just get the basic job done" seemed to pervade both morning and afternoon shift.

The disruption of family schedules is another concern. Stress is put on home and work patterns of all concerned: students, teachers, and families. In the late 1950's the U.S. Commissioner of Education reported to a sub-committee of the House of Representatives that double sessions led to disruption in normal family routines. Also, because there is more confusion, children become more fatigued and irritable and as a result, teachers are affected. The Commissioner reported that behavior and discipline problems are increased at school and because of children having

time at home which is unsupervised, behavior problems there as well (Derthick 1957).

The decline in social interaction during double sessions has an effect during the student's school years and beyond. A great deal of what a teenager learns about social behaviour and how to interact with others occurs in the halls and cafeteria of school buildings, and many lifelong relationships develop between classmates in school. Noon hour get-togethers and between class discussions are virtually eliminated on a double session schedule, and there is the physical separation from the other shift. Participation in certain school activities becomes more difficult as scheduling of the events often necessitates evening meetings (Myers and Meredith 1963). Student and teacher interactions are limited on double sessions because of the lack of time for informal social talks.

The National School Board Association of the United States indicated in a 1960 report that, at least for the first year of double sessions, one should not worry about such matters as student behavior in or out of school, or on school spirit or morale. The Association feels that pupils, teachers, and the community are less affected when they respond to a temporary emergency situation which is soon to be remedial. This, however, is not the general opinion of today's educators who feel that non-academic matters are important issues at all times. The Association did indicate that extra-curricular activities should be a concern a student participation does drop off.

Quantitative Studies

Four quantitative studies on double (or multiple) sessions that use survey/questionnaire methodology to determine student and teacher attitudes were located in the literature. A three-shift system at North Miami (Florida) High School that, by design, increased capacity 50%, was analysed by Myers and Meredith (1963). Students started classes at 7:30, 8:30, or 9:30 a.m. and dismissed at 2:15, 3:15, or 4:15 p.m. respectively. Survey results showed a negative impact on teacher morale. Also, only 50% of the teachers said they liked the program. Student attitudes were not surveyed, but teachers reported that students liked the greater accessibility to school equipment and facilities, but that extra-curricular activities were negatively affected by the lateness of dismissal.

After three-quarters of a year of operation DeGregorio (1973) did a study on teacher and student attitudes toward a double-overlap schedule at a high school in Tewksbury, Massachusetts. The seniors attended from 7:30 a.m. to noon, juniors from 9:30 a.m. to 2:50 p.m. and sophomores from noon to 4:54 p.m. Of the 1350 students in the school, 352 were chosen at random and asked to check words from a list that indicated their feelings toward the schedule. The four words checked most often were satisfied (104), pleased (66), successful (51), and bored (49). Overall, the results indicated that students were positive toward the program. Teacher results were more neutral. With 58 teachers replying to the same survey, the top selections were interested (29), anxious (25), frustrated (25), and hopeful (22).

Nighswander (1971) developed student and teacher attitude questionnaires to determine feelings toward a double shift schedule in Springfield, Illinois, High Schools that was in operation from 1969 to 1972. Two grades (juniors and seniors) went to school from 7:30 a.m. to 12:30 p.m. and two grades (sophomores and freshmen) went from 12:30 to 5:00 p.m.. Student attitudes were mainly positive. The double shift was liked in general by 82% of students, and only 27% thought school morale was lowered. In response to a question about the athletic program, 33% of students thought it was better on double shifts. To the question "If it weren't for the double shift I would be without a job", 27% agreed and 37% disagreed; indicating that part-time student work was not universally hampered or enhanced by double sessions. Results showed that 74% of teachers did not prefer working one of the shifts to a regular shift and 79% felt there was a lowering of faculty morale. Three-quarters of the teachers felt they were less effective at their job during split sessions and 85% felt interest and pride in the schools had been affected.

A double shift schedule of two five-hour sessions was instituted during the 1969-70 school year in five schools in Dade County, Florida. Students and teachers were surveyed one semester later by Cypress (1970). Morning students favored double sessions as a permanent solution to overcrowding while afternoon students believed it should only be a temporary measure. There was no relationship found between which session a student attended and how much he or she liked school. Students like the opportunity for part-time employment. Teachers felt that tension in the schools was reduced as a result of double sessions, and that student discipline was less of a problem. The schedule overall rated a good grade.

A question addressed in only one study relates to the alleged phenomenon that people function better at different times of the day. Biggers (1980) found that the traditional school day favors the morning active student. Morning active students had higher academic achievement than those alert later in the day. The 641 responses from a school of grades 7 to 12 showed that younger students reported being alert more often in the afternoon while older students reported being more active in the morning. It could be suggested from this study that a double shift schedule might be more successful, both academically and non-academically, if older students were put on a morning schedule. No study reported on a double session schedule that alternated morning and afternoon students every half year.

Summary of the Research

Double sessions offer the benefits of financial savings and an immediate solution to overcrowding; but this occurs at the possible risk of lower academic achievement, a drop in school spirit and staff morale, and a decline in the quality of non-academic life at school. These results were obtained using methods that involved either a comparison of a group of students on a regular schedule to another group on a double session schedule, or an analysis of one group on double sessions. Nighswander's 1971 study, in asking teachers to compare their experiences on and off double sessions and comparing academic achievement of the same students, is the only major exception.

The following study, which is the basis of this thesis, goes beyond Nighswander's study and other studies in looking at attitudes and perceptions of teachers and students who have experienced both double sessions and regular scheduling in the same high school. Such a comparison has not been made in any previous study to date, and is statistically a more valid comparison because matching of groups is not necessary. The results of students and teachers separately comparing their own experiences will conflict in some areas with earlier research.

Background to this Study

This study examines the attitudes of students and teachers who have experienced double sessions at a high school in Lower Sackville, Nova Scotia. Lower Sackville is on the outskirts of the largest urban area in Nova Scotia and has been the scene of land assembly and development by the provincial government since the late 1960's. This has resulted in a rapid population increase over the last two decades from under 1000 to over 25,000 with great stress placed on the school system.

Sackville High School opened in 1972 to serve Grades 10, 11, and 12. The school faced overcrowding twice and each time double sessions were used to alleviate the situation. Beginning in September 1978, double sessions were needed for 1 1/2 school years and then in September 1986, double sessions were used again, this time for a period of 2 1/2 years. (This study used data from the more recent double session period although some teachers experienced both.)

Each time, the school population was divided by geography and a totally separate school established. Where the student lived determined which shift he or she attended. When the new school was built there was a pre-existing group ready to move into it. Shift populations were not equal as the new school buildings were not designed to accommodate as large a school population as Sackville High. There were two shifts of about 4 1/2 hours each, one in the morning and one in the afternoon. Halfway through the school year the morning shift became the afternoon shift and vice versa. In 1978 the alternative shift became Charles P. Allen High School and in 1986 Millwood High School came into existence.

Nature of this Study

The focus of this study was to investigate the feelings of students and teachers toward double sessions as compared to a regular school day to determine if there would be advantages or disadvantages in making a long term alteration of the traditional school day, like conducting morning or afternoon school only, or instituting long term double sessions. The new schedule would have to include 300 minutes of instructional time to meet the Nova Scotia Department of Education recently regulated minimum for senior high schools ("Implementation Schedule" 1990). Issues addressed include: schedule preferences, perceptions about academic achievement, feelings about school spirit and morale, the switching of shifts halfway through the year and the effect of school schedules on student employment.

Analysis and Hypotheses

Following the collection of data, frequency distribution of responses to questionnaire items and a table showing percentages of students and teacher preferences of schedule were computed.

In addition to the descriptive data analysis, the following null hypotheses were tested:

Student Hypotheses

There is no relationship between:

- a) school attended, or
- b) gender

and the student's attitude toward double sessions as regards:

- a) perception of grades
- b) perception of grades of others in the school
- c) school spirit
- d) social interaction
- e) working part-time without academic harm, and
- f) preference of schedule.

Teacher Hypotheses

There is no relationship between:

- a) school taught at
- b) gender
- c) teaching experience, or

d) subject taught

and the teacher's attitude toward double sessions as regards:

a) perception of student grades

b) school spirit

c) staff morale

d) preference of schedule, and

e) coverage of course material.

Student Hypotheses Re General Attitude

There is no relationship between school attended or gender and the students' score on the "general attitude" sub scale. (This sub scale sums ten responses, reflecting an overall attitude toward double sessions.)

Teacher Hypotheses Re General Attitude

There is no relationship between school taught at, gender, teaching experience or subject taught and the teachers' score on the "general attitude" sub scale. (This sub scale sums nine responses, reflecting an overall attitude toward double sessions.)

Hypothesis-Students vs Teachers

There is no relationship between the status of individuals (teacher or student) and the score on the "special" sub scale for attitude. (This sub scale consists of the sum of five questions which are identical on both teacher and student questionnaires, allowing a direct comparison of teacher and student attitude toward double sessions.)

Method

Subjects

The entire 1989-90 grade XII student population at Sackville High School and Millwood High School of Lower Sackville, Nova Scotia, was surveyed by questionnaire. These subjects were selected because the vast majority of them experienced 1 1/2 years of double sessions (part morning and part afternoon) and more than one year of a regular school schedule at time of completion of the survey.

Questionnaires were also given to all teachers at Sackville and Millwood High Schools who had experienced at least 1 1/2 years of double sessions and who had continued on staff up to and including the 1989-90 school year.

Questionnaires were given out to 72 teachers and 590 students. There were 67 teacher questionnaires returned which represented 93.1% of the total. All were used in the survey. Of the student questionnaires, 487 (82.5%) were returned but only 427 (72.4%) could be used. Because 41 students had not attended Sackville or Millwood High School long enough to have experienced both a morning and afternoon shift while on double sessions their questionnaires were rejected. Also rejected were 19 spoiled or incomplete questionnaires.

Of the 67 teachers whose questionnaires were used, 41 taught at Sackville High School and 26 taught at Millwood High School; 38 were

male and 29 were female. Five teachers had 5 to 10 years of teaching experience, 23 had 11 to 15 years experience and 39 had more than 15 years. Regarding teaching responsibilities; 12 indicated History/ Geography (including Canada and Global Studies) as their major area, 11 indicated English, 9 indicated Math, 5 indicated Languages, 16 indicated Science, and 14 indicated that they taught in another area (Guidance, Home Economics, Industrial Arts, Law, Music or Art).

Of the 427 students whose questionnaires were used, 322 attended Sackville High School and 105 attended Millwood High School; 223 were male and 204 were female.

Experimental Procedures

A pilot study was conducted in the school year 1988-89. A random selection of 10% of the teachers and students at both schools was made and these subjects were surveyed to ascertain their concerns about double session education. From the data obtained, multi-item questionnaires were developed.

Over a period of one week in January, 1990, the student questionnaire was distributed to the Grade XII's through their English teachers. Grade XII's not taking English were contacted personally by the author. Questionnaires were completed in class, during class time and absentees were surveyed on the day of their return to school. The teachers were personally given their questionnaire and asked to complete it at their convenience.

Instruments

The questionnaires, one for teachers and one for students, were primarily the Likert scale response type, and were developed by the author for the sole purpose of determining attitudes toward double sessions. They were loosely modelled after the scale used by Nighswander (1971) and, except for a question asking directly about preference of schedule (morning or afternoon shift, or a regular school schedule), all questions required the respondent to strongly agree, agree, be neutral, disagree, strongly disagree, or indicate not applicable to certain statements about the double session experience in comparison to regular schooling. Responses were given a value of one to five with not applicable not counted as a response at all; it was considered an empty cell. The higher values were assigned to responses that favoured double sessions over a regular schedule, or to responses that favoured the morning shift over the afternoon shift. While some questions had a duplicate (worded in the opposite way) to check consistency of responses, each question was analysed separately. No inconsistencies were found and correlations were high.

A "general attitude" sub scale was constructed for students using questions 8, 9, 11, 12, 14, 17, 18, 19, 22, and 23, and results summed to give a score indicative of a general attitude toward double sessions. A "general attitude" sub scale for teachers was constructed using questions from the teacher questionnaire numbered 8, 9, 11, 12, 14, 18, 19, 20, and 21. Another "special" sub scale was constructed using those questions that were identical on both student and teacher questionnaires. These were

questions 8, 9, 11, 12, and 14. This sub scale facilitated a direct comparison of teacher and student attitudes.

The student questionnaire can be found in APPENDIX A and the teacher questionnaire in APPENDIX B.

Results

Analysis of Variance was computed to determine if any relationship existed between school, gender, teaching experience, and subject taught (X-variables) and student responses to questions 8 to 23, teacher responses to questions 8 to 22, and the two sub-scale scores (Y-variables). Analysis of Variance was also used to determine if any relationship existed between school status (student or teacher) and the "special" sub-scale score, and probability for all ANOVAS was selected to be less than .01 for significance. Chi square was computed to determine if teacher and student schedule preferences were significantly different.

The frequency choices for each of strongly agree, agree, neutral, disagree, and strongly agree was computed for responses to student questions 8 to 23, and teacher questions 8 to 22 to determine if any definite preferences existed. Agree and strongly agree responses, and disagree and strongly disagree responses, were subsequently combined.

The comparison of schedule preferences indicates that when asked to choose their "best liked" schedule, the first choice for both teachers and students was the morning shift, but when asked to choose the "least liked" schedule, teachers picked the afternoon shift while students picked the regular school schedule. The chi square test for best liked and least liked schedules gave values of 51.7 and 10.5 respectively, indicating probability of less than .01 in both cases. See Table One and Table Two for the complete results.

Table 1
Schedule Preferences-"Best Liked Schedule"

Status	A.M.	P.M.	Regular
Student	82.6%	5.9%	11.5%
Teacher	55.4%	10.8%	33.8%

Table 2
Schedule Preferences-"Least Liked" Schedule

Status	A.M.	P.M.	Regular
Student	5.4%	42.6%	52.0%
Teacher	7.9%	61.9%	30.2%

Definite preferences (more than 60% of respondents indicating disagree/strongly disagree or agree/strongly agree) appeared 16 times. Strongest polarization occurred in the following areas:

- a) Teachers felt students performed better on the morning shift as compared to the afternoon shift (teacher question 17).
- b) Students and teachers preferred the morning shift over the afternoon shift when choosing between the two (teacher question 10 and student question 10).

c) Students and teachers would have preferred to continue on the morning shift all year if that was their September schedule, but wanted to change (half-way) if afternoon was their September schedule (student questions 13 and 16, teacher questions 13 and 16).

d) Students felt they could work at a part-time job without academic harm while attending school on the double session schedule (student question 21).

No definite preferences occurred with respect to the effect of double sessions on staff morale, student school spirit, or social interaction. Teachers showed a slight indication that school spirit was better on a regular school schedule. For a summary of frequency of responses see Table Three and Table Four.

Table 3
Frequency of Responses to Student Questions

Question	Strongly Disagree or Disagree	Neutral	Strongly Agree or Agree
8	32.0%	22.4%	45.6%
9	16.9%	11.0%	72.1%
10	10.1%	4.3%	85.6%
11	12.4%	9.6%	77.9%
12	41.1%	29.0%	29.8%
13	79.3%	5.2%	15.5%
14	43.5%	33.7%	22.7%
15	14.4%	3.8%	81.8%
16	13.7%	3.8%	82.5%
17	27.4%	11.2%	61.4%
18	14.7%	23.1%	62.1%
19	38.6%	16.4%	45.0%
20	36.9%	23.3%	39.7%
21	10.3%	16.7%	72.9%
22	30.6%	26.5%	42.9%
23	19.1%	31.7%	49.1%

Table 4
Frequency of Responses to Teacher Questions

Question	Strongly Disagree or Disagree	Neutral	Strongly Agree or Agree
8	34.4%	18.0%	47.5%
9	41.5%	7.7%	50.8%
10	13.4%	1.5%	85.1%
11	39.4%	7.6%	53.0%
12	53.0%	19.7%	27.2%
13	90.2%	0%	9.8%
14	63.6%	28.8%	7.6%
15	16.7%	1.5%	81.8%
16	18.5%	1.5%	80.0%
17	9.8%	13.1%	77.0%
18	37.9%	30.3%	31.8%
19	47.8%	11.9%	40.3%
20	53.2%	17.7%	29.0%
21	34.8%	24.2%	40.9%
22	8.1%	16.1%	75.8%

Analysis of Variance ($p = .01$) supported the student null hypotheses with these exceptions:

a) A significantly higher number of Sackville High students agreed with a statement indicating school spirit was better on double sessions, and disagreed with a statement indicating school spirit was better on a regular schedule.

b) A significantly higher number of female students agreed with a statement that their own marks were just as good on double sessions.

c) A significantly higher number of Millwood High students disagreed with a statement suggesting that their own marks were better as a result of being on a regular schedule.

d) A significantly higher number of Millwood High students disagreed with a statement indicating that they could work part-time while on a regular school schedule without hurting their grades.

Analysis of Variance supported the teacher null hypotheses. However, one question approached significance. The subject taught was a variable ($p = .0217$) for the statement that said academic performance of students was better on the morning shift as opposed to the afternoon shift. Language teachers agreed most strongly, followed by Science, then

English teachers. Analysis of Variance supported student and teacher null hypotheses re general attitude. Analysis of Variance did not support the null hypothesis that there was no relationship between school status and scores on the special sub scale for attitude. Students had a significantly higher score than teachers, indicating that students were more positive about double sessions than were the teachers.

Summaries for Analysis of Variance can be found in Appendices C, D, and E.

Discussion

It is clear that both students and teachers liked attending school early in the day as is shown in their choice of morning shift as "best liked" schedule of the three alternatives. Also, over 85% of students and teachers preferred the morning shift to the afternoon shift. Further, the students showed strong reluctance to change shifts if their September shift was the morning shift (82.5%), and an eagerness to change if afternoon was their September shift (79%). This supports earlier research by Cypress (1970) which showed a morning schedule preference. The fact that most teachers and students in this study felt academic performance on the morning shift was equal to or better than other schedules gives further evidence of a morning bias.

Teachers were mixed in their perceptions of the academic achievement of students on double sessions generally. About 52% did not feel that permanent double sessions would cause academic harm, but 47% thought that their students were doing better academically on a regular schedule. Students thought that while their own grades were just as good on double sessions (62%), they weren't as sure about other students (54.4%). These results were consistent with the mixed findings on actual academic achievement by Nighswander (1971) and the insignificant results on grades obtained by Hanhila (1961) and DeGregorio (1973).

Students indicated that part-time work was less of a problem when they attended school on double sessions. The extra free time probably allows for flexibility in scheduling work school assignments and

recreation. Cypress (1970) had obtained the same result but Nighswander (1971) found that double sessions did not hamper or facilitate part-time work.

The results of this study showed that, school spirit, and student social interaction were not significantly affected by double sessions. Also, staff morale (as defined by the individual teacher completing the survey) was not perceived as being any different on double sessions than on a regular full day. The majority of teachers did not indicate that staff morale improved when there was a change from regular sessions to double sessions or vice versa. This contradicts research by Nighswander (1971) and Myers and Meridith (1963) that found teacher morale was negatively affected.

In spite of the fact that there were significant differences between schools and between males and females on several questions, it would be impossible to draw meaningful conclusions from them without further research.

Teaching experience proved to be an insignificant factor in teacher attitudes toward double sessions even though means indicated more positive feelings on the part of less experienced teachers in nearly all questions. It should be noted here that no teachers in the survey had less than five years of teaching experience. The faculties of Sackville High and Millwood High School are a rather homogeneous group of experienced teachers and this fact probably accounts for the non-significance.

A statistically significant difference between teachers' and students' attitude toward double sessions was shown with students being more positive about the experience. Research by Cypress (1970), Nighswander (1971) and DeGregorio (1973) support this find, and, while not a surprising result, a repeat comparison using a greater number of test items would be useful as only five items were compared in this study.

The results of this study actually indicate that "morning only" school has some concrete advantages and only a few disadvantages. Perhaps the traditional school day could be altered to provide the 300 minute instructional daily minimum required by the Nova Scotia Department of Education within a 7:30 a.m. to 1:00 p.m. timetable. Many parents leave for work as early as this and so parent-student schedules could be brought more in harmony than is the case now. While some parents work until 5 p.m., the students could attend extra-curricular activities in the afternoon and, in addition, the school authorities could extend the hours of their community school programs. If Biggers' (1980) findings are correct, high school students should perform better academically on these early hours. Also, students holding part-time jobs would have greater flexibility in coordinating school, work and free time.

This study did not involve an analysis of academic achievement, only the perception of it, so it may be inappropriate to make any predictions about student grades on an alternative schedule using the data obtained here. While perceptions of academic achievement have validity,

it is recommended that further research be undertaken to see if actual academic achievement is affected by non-traditional school timetabling.

In conclusion, it has been shown here that double sessions are a reasonable alternative to overcrowding. While only attitudes were analysed, both students and teachers were positive about double session schooling. Grades were perceived as being unaffected by double sessions and, as regards non-academic factors, not one item surfaced as a significant problem. Education authorities may well consider the use of double sessions in the future.

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APPENDICES

APPENDIX A

SPLIT-SHIFT QUESTIONNAIRE

THIS QUESTIONNAIRE IS FOR GRADE XII STUDENTS ONLY, WHO HAVE EXPERIENCED "SPLIT-SHIFTS".

Mr. Brault, of the Science Department at Sackville High School, is doing a follow-up survey to one conducted last year. He would appreciate you taking a few minutes to answer these questions. The information is being used as part of a project/Thesis for Saint Mary's University and will be kept confidential. Thank you for your help.

1. School attending this year: Sackville High ☐ or Millwood High ☐
2. Sex: Male ☐ or Female ☐
- 3.4. Of morning shift, regular school day, or afternoon shift, which schedule did you like the best? _____ (3)
The least _____ (4)
5. How long have you been attending this school?
1/2 year ☐ , 1 1/2 years ☐ , 2 1/2 years ☐ , more than 2 1/2 years ☐
6. If you had a part-time job while attending school on split-shifts, about how many hours per week did you work? _____ hours/week
7. If you have (or had) a part-time job while attending school on a regular school schedule, not split-shifts, about how many hours per week do you work? _____ hours per week.

(Please turn to the next page)

IN THE FOLLOWING SECTION, PLEASE READ EACH STATEMENT CAREFULLY AND DECIDE WHETHER YOU STRONGLY DISAGREE (SD), DISAGREE (D), NEUTRAL (N), AGREE (A), OR STRONGLY AGREE (SA). IF FOR SOME REASON THE STATEMENT DOES NOT APPLY TO YOU - NOT APPLICABLE (NA).

PLEASE CIRCLE THE APPROPRIATE RESPONSE.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
8. Most students are probably making higher marks on this year's regular time schedule as compared to split-shifts.	SD	D	N	A	SA	NA
9. I like this year's regular schedule better than split-shifts.	SD	D	N	A	SA	NA
10. When I attended school on split-shifts, I liked the morning shift better than the afternoon shift.	SD	D	N	A	SA	NA
11. I preferred attending school on a split-shift schedule to attending school on this year's regular schedule.	SD	D	N	A	SA	NA
12. School spirit is better this year than when I was on split-shifts	SD	D	N	A	SA	NA
13. When I began the school year on afternoon shift, I would have liked to have stayed on the afternoon shift all year.	SD	D	N	A	SA	NA
14. School spirit was better on split-shifts than now.	SD	D	N	A	SA	NA
15. When I attended school on split-shifts, I liked the afternoon shift better than the morning shift.	SD	D	N	A	SA	NA
16. When I began the school year on morning shift, I would have liked to have stayed on the morning shift all year.	SD	D	N	A	SA	NA
17. My marks were just as good on split-shifts as they are this year.	SD	D	N	A	SA	NA
18. For most students, marks were just as good on split-shifts as they are on a regular school schedule.	SD	D	N	A	SA	NA
19. A regular school schedule is better for students socially than split-shifts.	SD	D	N	A	SA	NA
20. This year, on a regular school schedule, I am able to work at a part-time job without hurting my grades.	SD	D	N	A	SA	NA
21. When I attended school on split-shifts I was able to work at a part-time job without hurting my grades.	SD	D	N	A	SA	NA
22. A split-shift schedule is better for students socially than a regular schedule.	SD	D	N	A	SA	NA
23. My marks are better this year because I am attending school on a regular schedule - not split-shift.	SD	D	N	A	SA	NA

(Please check to see if you have answered all the questions)

APPENDIX B

SPLIT-SHIFT QUESTIONNAIRE

THIS QUESTIONNAIRE IS FOR TEACHERS AT SACKVILLE HIGH OR MILLWOOD HIGH WHO HAVE EXPERIENCED "SPLIT-SHIFTS".

Dennis Brault, of the Science Department at Sackville High, is doing a follow-up survey to one conducted last year. He would appreciate you taking a few minutes to answer these questions. The information is being used as part of a project/Thesis for Saint Mary's University and will be kept confidential. Thank you for your help.

1. Which school are you presently teaching at?
Sackville High ☐ or Millwood High ☐
2. Sex: Male ☐ or Female ☐
- 3.4 Of morning shift, regular school day, or afternoon shift; which schedule did you like the best? _____ (3);
the least? _____ (4)
5. Years of Teaching experience: _____ Years.
6. When did you start teaching at your present school? _____
Year
7. What is your major subject teaching area? _____

(Please turn to the next page)

FOR THE FOLLOWING SECTION, PLEASE READ EACH STATEMENT CAREFULLY AND DECIDE WHETHER YOU STRONGLY DISAGREE (SD), DISAGREE (D), NEUTRAL (N), AGREE (A), OR STRONGLY AGREE (SA). IF FOR SOME REASON THE STATEMENT DOES NOT APPLY TO YOU - NOT APPLICABLE (NA).

PLEASE CIRCLE THE APPROPRIATE RESPONSE.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
8. In my classes students are performing better academically this year than when I taught on split-shifts.	SD	D	N	A	SA	NA
9. I prefer teaching on a regular school schedule to teaching on a split-shift schedule.	SD	D	N	A	SA	NA
10. When teaching on split-shifts I liked the morning shift better than the afternoon shift.	SD	D	N	A	SA	NA
11. I liked teaching on a split-shift schedule better than teaching on a regular school schedule.	SD	D	N	A	SA	NA
12. School spirit is better as a result of changing to a regular school day from the split-shift schedule.	SD	D	N	A	SA	NA
13. When I began the school year on afternoon shift, I would have liked to have stayed on the afternoon shift all year.	SD	D	N	A	SA	NA
14. School spirit was better on the split-shift schedule than on the regular school schedule.	SD	D	N	A	SA	NA
15. While teaching on split-shifts I liked the afternoon shift better than the morning shift.	SD	D	N	A	SA	NA
16. When I began the school year on morning shift, I would have liked to have stayed on the morning shift all year.	SD	D	N	A	SA	NA
17. When I taught on split-shifts my students performed better academically on the morning shift as compared to the afternoon shift.	SD	D	N	A	SA	NA
18. Staff morale was better on the split-shift schedule than on the regular school schedule.	SD	D	N	A	SA	NA
19. Any regular High School could operate on a split-shift time schedule permanently without Academic harm to students.	SD	D	N	A	SA	NA
20. I am able to cover more course material on this year's regular schedule than I could with split-shifts.	SD	D	N	A	SA	NA
21. Staff morale is better as a result of changing to a regular school day from the split-shift schedule.	SD	D	N	A	SA	NA
22. When I taught on split-shifts my students performed better academically on the afternoon shift as compared to the morning shift.	SD	D	N	A	SA	NA

APPENDIX C

Analyses of Variance-Student Hypotheses

X	Y	Means	F-Test	p
School	Question 8	SHS = 3.100 MHS = 3.394	5.532	.0191
School	Question 9	SHS = 3.851 MHS = 4.048	2.071	.1509
School	Question 10	SHS = 4.426 MHS = 4.577	1.499	.2215
School	Question 11	SHS = 4.081 MHS = 4.269	2.191	.1395
School	Question 12	SHS = 2.968 MHS = 2.495	12.744	.0004*
School	Question 13	SHS = 1.850 MHS = 1.861	.367	.5449
School	Question 14	SHS = 2.849 MHS = 2.490	7.784	.0055*
School	Question 15	SHS = 4.090 MHS = 4.314	2.524	.1129
School	Question 16	SHS = 4.273 MHS = 4.343	.251	.6165

**APPENDIX C
(Continued)**

X	Y	Means	F-Test	p
School	Question 17	SHS = 3.441 MHS = 3.660	2.27	.1327
School	Question 18	SHS = 3.580 MHS = 3.644	.333	.5643
School	Question 19	SHS = 3.150 MHS = 3.176	.031	.8605
School	Question 20	SHS = 3.018 MHS = 3.405	7.075	.0082*
School	Question 21	SHS = 3.887 MHS = 4.162	4.44	.0359
School	Question 22	SHS = 3.294 MHS = 3.216	.316	.5741
School	Question 23	SHS = 3.301 MHS = 3.694	10.029	.0017*
School	Sub Scale General Attitude	SHS = 33.898 MHS = 35.077	2.060	.1520
School	Sub Scale Special	SHS = 17.519 MHS = 18.269	2.661	.1036
Gender	Question 8	M = 3.138 F = 3.214	.504	.4783
Gender	Question 9	M = 3.946 F = 3.848	.682	.4049

APPENDIX C
(Continued)

X	Y	Means	F-Test	p
Gender	Question 10	M = 4.389 F = 4.542	2.08	.1499
Gender	Question 11	M = 4.126 F = 4.128	.008	.9282
Gender	Question 12	M = 2.796 F = 2.909	.953	.3296
Gender	Question 13	M = 1.963 F = 1.892	.325	.5689
Gender	Question 14	M = 2.708 F = 2.816	.961	.3276
Gender	Question 15	M = 4.150 F = 4.139	.009	.9259
Gender	Question 16	M = 4.190 F = 4.396	2.991	.0845
Gender	Question 17	M = 3.329 F = 3.685	8.388	.0040*
Gender	Question 18	M = 3.509 F = 3.697	3.928	.0482
Gender	Question 19	M = 3.086 F = 3.244	1.497	.2218
Gender	Question 20	M = 3.138 F = 3.082	.197	.6577

APPENDIC C
(Continued)

X	Y	Means	F-Test	p
Gender	Question 21	M = 3.883 F = 4.034	1.86	.1735
Gender	Question 22	M = 3.244 F = 3.315	.352	.5533
Gender	Question 23	M = 3.277 F = 3.534	5.775	.0167
Gender	Sub Scale General Attitude	M = 33.583 F = 34.882	3.399	.0659
Gender	Sub Scale- Special	M = 17.525 F = 17.892	.857	.355

* = Significant at .01 level

APPENDIX D

Analyses of Variance-Teacher Hypotheses

X	Y	Means	F-Test	p
School	Question 8	SHS = 3.162 MHS = 3.083	.073	.7876
School	Question 9	SHS = 2.900 MHS = 3.080	.210	.6482
School	Question 10	SHS = 4.293 MHS = 4.577	.881	.3514
School	Question 11	SHS = 3.050 MHS = 3.615	2.238	.1396
School	Question 12	SHS = 2.600 MHS = 2.500	.114	.7362
School	Question 13	SHS = 1.486 MHS = 1.708	.570	.4534
School	Question 14	SHS = 2.075 MHS = 2.308	.905	.3449
School	Question 15	SHS = 3.927 MHS = 4.160	.491	.4862
School	Question 16	SHS = 4.125 MHS = 4.240	.127	.7228
School	Question 17	SHS = 4.000 MHS = 4.000	0	1.000
School	Question 18	SHS = 2.925 MHS = 3.000	.062	.8034

APPENDIX D
(Continued)

X	Y	Means	F-Test	p
School	Question 19	SHS = 2.610 MHS = 3.269	4.289	.0423
School	Question 20	SHS = 2.711 MHS = 2.583	.167	.6845
School	Question 21	SHS = 3.150 MHS = 2.846	1.102	.2978
School	Question 22	SHS = 3.974 MHS = 3.783	.524	.4719
School	Sub Scale General Attitude	SHS = 25.268 MHS = 27.731	1.259	.2659
School	Sub Scale- Special	SHS = 13.22 MHS = 14.231	.602	.4405
Gender	Question 8	M = 3.229 F = 2.960	.858	.3582
Gender	Question 9	M = 3.108 F = 2.741	.890	.3491
Gender	Question 10	M = 4.447 F = 4.429	.004	.9495
Gender	Question 11	M = 3.579 F = 2.778	4.696	.0340
Gender	Question 12	M = 2.568 F = 2.538	.012	.9147

APPENDIX D
(Continued)

X	Y	Means	F-Test	p
Gender	Question 13	M = 1.400 F = 1.680	1.072	.3047
Gender	Question 14	M = 2.324 F = 1.929	2.713	.1045
Gender	Question 15	M = 4.108 F = 4.000	.116	.7350
Gender	Question 16	M = 4.459 F = 3.852	3.944	.0515
Gender	Question 17	M = 4.229 F = 3.68	4.270	.0433
Gender	Question 18	M = 3.243 F = 2.536	6.147	.0159
Gender	Question 19	M = 3.000 F = 2.643	1.214	.2747
Gender	Question 20	M = 2.722 F = 2.52	.427	.5162
Gender	Question 21	M = 3.289 F = 2.630	5.543	.0217
Gender	Question 22	M = 3.889 F = 3.920	.014	.9071
Gender	Sub Scale General Attitude	M = 27.763 F = 23.75	3.537	.0646

APPENDIX D
(Continued)

X	Y	Means	F-Test	p
Gender	Sub Scale Special	M = 14.342 F = 12.429	2.244	.1390
Teaching Experience	Question 8	5-10 years = 3.25 11-15 years = 2.85 >15 years = 3.27	.987	.3863
Teaching Experience	Question 9	5-10 years = 3.60 11-15 years = 3.00 >15 years = 2.87	.503	.6069
Teaching Experience	Question 10	5-10 years = 5.00 11-15 years = 4.26 >15 years = 4.41	.767	.4688
Teaching Experience	Question 11	5-10 years = 4.40 11-15 years = 3.14 >15 years = 3.21	1.538	.2227
Teaching Experience	Question 12	5-10 years = 2.60 11-15 years = 2.39 >15 years = 2.66	.371	.6917
Teaching Experience	Question 13	5-10 years = 1.50 11-15 years = 1.77 >15 years = 1.46	.540	.5858
Teaching Experience	Question 14	5-10 years = 2.40 11-15 years = 1.78 >15 years: 2.37	2.934	.0605

**APPENDIX D
(Continued)**

X	Y	Means	F-Test	p
Teaching Experience	Question 15	5-10 years = 4.50 11-15 years = 3.87 >15 years = 4.05	.425	.6554
Teaching Experience	Question 16	5-10 years = 4.00 11-15 years = 3.91 >15 years = 4.35	.909	.4084
Teaching Experience	Question 17	5-10 years = 4.00 11-15 years = 3.83 >15 years = 4.11	.532	.5903
Teaching Experience	Question 18	5-10 years = 3.60 11-15 years = 2.68 >15 years = 3.03	1.419	.2496
Teaching Experience	Question 19	5-10 years = 3.80 11-15 years = 2.65 >15 years = 2.87	1.629	.2042
Teaching Experience	Question 20	5-10 years = 3.50 11-15 years = 2.36 >15 years = 2.75	1.841	.1676
Teaching Experience	Question 21	5-10 years = 3.80 11-15 years = 2.87 >15 years = 3.03	1.360	.2641

**APPENDIX D
(Continued)**

X	Y	Means	F-Test	p
Teaching Experience	Question 22	5-10 years = 4.33 11-15 years=3.74 >15 years = 3.97	.661	.5202
Teaching Experience	Sub Scale General Attitude	5-10 years = 31.40 11-15 years=24.22 >15 years = 26.74	1.568	.2164
Teaching Experience	Sub Scale Special	5-10 years = 15.60 11-15 years=12.52 >15 years = 14.00	.986	.3786
Subject Taught	Question 8	Hist/Geog = 3.17 Eng. = 3.28 Math = 2.63 Lang. = 3.40 Sci. = 3.13 Other = 3.20	.422	.8316
Subject Taught	Question 9	Hist/Geog = 2.42 Eng. = 2.82 Math = 2.56 Lang. = 4.00 Sci. = 3.44 Other = 2.92	1.245	.2999

**APPENDIX D
(Continued)**

X	Y	Means	F-Test	p
Subject Taught	Question 10	Hist/Geog = 4.33 Eng. = 4.18 Math = 4.67 Lang. = 5.00 Sci. = 4.06 Other = 4.64	.764	.5793
Subject Taught	Question 11	Hist/Geog = 2.75 Eng. = 3.27 Math = 2.89 Lang. = 4.20 Sci. = 3.44 Other = 3.46	.844	.5237
Subject Taught	Question 12	Hist/Geog = 2.67 Eng. = 2.27 Math = 2.22 Lang. = 2.80 Sci. = 3.00 Other = 2.31	.920	.4744

APPENDIX D
(Continued)

X	Y	Means	F-Test	p
Subject Taught	Question 13	Hist/Geog = 1.50 Eng. = 1.46 Math = 1.50 Lang. = 1.50 Sci. = 1.79 Other = 1.58	.136	.9832
Subject Taught	Question 14	Hist/Geog = 2.00 Eng. = 2.09 Math = 2.11 Lang. = 2.40 Sci. = 2.31 Other = 2.15	.207	.9582
Subject Taught	Question 15	Hist/Geog = 4.08 Eng. = 4.09 Math = 4.38 Lang. = 4.60 Sci. = 3.69 Other = 3.86	.558	.7316

**APPENDIX D
(Continued)**

X	Y	Means	F-Test	p
Subject Taught	Question 16	Hist/Geog = 3.92 Eng. = 4.64 Math = 3.75 Lang. = 4.40 Sci. = 3.93 Other = 4.43	.826	.5365
Subject Taught	Question 17	Hist/Geog = 3.42 Eng. = 4.18 Math = 3.38 Lang. = 5.00 Sci. = 4.33 Other = 4.09	2.894	.0217
Subject Taught	Question 18	Hist/Geog = 2.58 Eng. = 2.82 Math = 2.89 Lang. = 3.60 Sci. = 3.00 Other = 3.14	.626	.6803

APPENDIX D
(Continued)

X	Y	Means	F-Test	p
Subject Taught	Question 19	Hist/Geog = 2.42 Eng. = 2.82 Math = 2.56 Lang. = 4.20 Sci. = 3.13 Other = 2.70	1.691	.1503
Subject Taught	Question 20	Hist/Geog= 2.58 Eng.= 2.46 Math = 2.11 Lang. = 2.80 Sci. = 2.94 Other = 3.00	.784	.5657
Subject Taught	Question 21	Hist/Geog = 2.91 Eng. = 2.82 Math = 2.67 Lang. = 4.00 Sci. = 3.00 Other = 3.21	1.070	.3859

**APPENDIX D
(Continued)**

X	Y	Means	F-Test	p
Subject Taught	Question 22	Hist/Geog = 3.25 Eng. = 4.09 Math = 4.50 Lang.= 4.50 Sci.= 3.75 Other = 4.00	2.246	.0622
Subject Taught	Sub Scale General Attitude	Hist/Geog = 24.58 Eng. = 26.00 Math = 23.78 Lang.= 32.60 Sci. = 28.41 Other = 24.71	1.020	.4138
Subject Taught	Sub Scale Special	Hist/Geog = 13.00 Eng. = 13.73 Math = 12.11 Lang. = 16.80 Sci. = 15.13 Other = 12.14	1.068	.3872

APPENDIX E

Analysis of Variance-Special Sub Scale

X	Y	Means	F-Test	p
Status	Sub Scale Special Attitude	Students = 17.701 Teachers = 13.612	53.536	.0001*

*** = Significant at .01 level**