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The Impact of Scheduling
on the Implementation of the New Ontario Curriculum:
Teachers' Perceptions

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Submitted in partial fulfillment of
the requirements for the degree of
Master of Education

Faculty of Education, Brock University
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Abstract

This qualitative study explored secondary teachers' perceptions of scheduling in relation to pedagogy, curriculum, and observation of student learning. Its objective was to determine the best way to organize the scheduling for the delivery of Ontario's new 4-year curriculum. Six participants were chosen. Two were teaching in a semestered timetable, 1 in a traditional timetable, and 3 had experience in both schedules. Participants related a pressure cooker "lived experience" with weaker students in the semester system experiencing a particularly harsh environment. The inadequate amount of time for review in content-heavy courses, gap scheduling problems, catch-up difficulties for students missing classes, and the fast pace of semestering are identified as factors negatively impacting on these students.

Government testing adds to the pressure by shifting teachers' time and attention in the classroom from deeper learning to a superficial coverage of material, from curriculum as lived to curriculum as text to be covered. Scheduling choice should be available in public education to accommodate the needs of all students. Curriculum guidelines need to be revamped to reflect the content that teachers believe is necessary for a successful course delivery. Applied level courses need to be developed for students who are not academically inferior but learn differently.

Acknowledgements

I would first like to thank my teacher participants - Terri, Siona, Peter, Dave, Brian, and Cory – for taking time from their busy schedules to allow me to explore their perceptions of the best scheduling method to implement Ontario's new curriculum. Their interest in my study and articulate understanding of their classroom experiences allowed and encouraged me to complete this thesis.

For their constructive criticism of my first draft of the thesis and for their insightful comments and questions during my thesis defense, I thank my committee members, Dr. Renée Kuchapski and Dr. Alan Wheeler.

For her patience, encouragement, and knowledge of qualitative methods, I thank my thesis advisor, Dr. Susan Tilley. Her guidance and support have kept me on track throughout the thesis process. I feel that I have grown as a researcher and a person because of her influence.

Lastly, I thank my husband Peter who has always been there for me for the last 32 years. Without his unflagging support this thesis would not exist. He was available to bounce ideas off and was a sympathetic listener whenever I became overwhelmed with the challenges of my research. He always encourages me to do my best and find new pathways to explore. I dedicate this thesis to him, a man I not only love but also greatly admire.

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CHAPTER ONE: THE PROBLEM

Introduction

For more than a century, secondary schools in Ontario followed the traditional timetable. In this system, students meet with their subject teachers over the entire school year and the school day is divided into periods of approximately 55 minutes each. In 1970, four schools in Ontario piloted a new scheduling system called the semester system (King, Clements, Enns, Lockerbie, & Warren, 1975). Within this system, students take half of their subjects in the first half of the school year and the other half in the remainder of the school year. The school day is divided into periods of approximately 75 minutes each.

In the 1970s, the Separate Catholic School System in Ontario, funded only up to grade 10, enthusiastically adopted the semestering system. However, by 1984 only 35% of the publicly funded secondary schools were semestered (Raphael & Wahlstrom, 1986). In 1985, the Ontario Ministry of Education announcement that 70,000 students a year were dropping out of Ontario high schools (Ontario Ministry of Education, 1985, p. 30) and the announcement of full funding for the Catholic Separate School System set the stage for the full-scale move to semestering in Ontario's secondary schools. The following year, 90% of secondary schools in Ontario were semestered (Raphael & Wahlstrom).

I taught secondary school science and mathematics for 25 years in Ontario. My entire career was spent teaching within a semestered timetable. As a science teacher, I found there were many advantages to 75-minute classes. I could complete

most labs in a single period or I could teach a lesson after which there was often time for student-centred hands-on activities related to the lesson. As a mathematics teacher, however, I discovered that my students had a great deal of difficulty with 75 minutes of math. They would rather take it in smaller doses. Topics that were covered in 2 weeks in the all-year, 55-minute classes, were covered in 1 week in the half-year 75-minute ones. This made it difficult for weaker students to digest the math and build concepts. In the second term of the school year, many students taking Grade 10 (or above) math had not taken it since first term of the year before. It took them the first month just to get back up to speed.

The new curriculum was introduced in Ontario schools in September 1999. It compressed secondary school from 5 years down to 4. Referred to as “the new educational orthodoxy” (Stoll, Fink, & Earl, 2003, p. 184), it promised higher standards, deeper learning, a focus on literacy and numeracy, and evidence of educational effectiveness. In the spring of 2002, while supply teaching in a semestered secondary school, I had an opportunity to discuss with some mathematics teachers their experiences teaching this new Ontario Curriculum. Their students were having difficulties assimilating the material given to them in the 75-minute periods but they felt that if they slowed the pace they would be unable to cover the course. In practice this new Ontario curriculum’s emphasis on both depth and breadth of learning appears to be creating a great deal of pressure for both students and teachers. My conversations with these mathematics teachers piqued my interest in time organization for maximum student learning of the new Ontario curriculum. By phoning the school boards in Ontario I discovered that in the fall of 2002, 88% of the

secondary schools scheduled their classes in 75-minute periods for half the year (Appendix A). Interestingly, I learned that two school boards had already started the process of reverting to the traditional schedule after years of using the semester system.

Background of the Problem

Block scheduling is defined as a restructuring of the school day into classes longer than the traditional 55-minute periods (Adams & Salvaterra, 1997). In the late 1970s and in the 1980s, secondary schools in Ontario embraced this restructuring. There was a rapid shift away from the traditional year-long timetable to a semestered one of four 75-minute periods per semester (4x4). In 1977 only 24 public schools were semestered in Ontario (Ross, 1977) compared to 90% of all publicly funded schools in 1986 (Raphael & Wahlstrom, 1986).

The popularity of semestering lay in the belief that the restructuring of the timetable would create positive contributions to the “social, emotional, and cognitive growth of students”(Ross, 1977, p. 23). Ontario underwent a full-scale restructuring of its high schools based on assumed advantages. However, a literature review of block scheduling and its alleged effectiveness reveals studies with conflicting results about these advantages.

Statement of the Problem

There is no clear evidence that one scheduling method is the best for all students. Semestering has been the scheduling system of choice in Ontario since

1986 but it may not be the best system to facilitate secondary students' learning of the more challenging and greater amounts of school knowledge found in the new Ontario curriculum. Teachers need to be asked what they perceive to be the best way to organize school knowledge to maximize student learning of this new curriculum.

My Research

What anyone chooses to say and do about any educational issue cannot be deduced from any one theory but will be created within one's personal framework, which includes many kinds of theories as well as a host of organizational, economical, and social factors. (Sparzo, Bruning, Vargas, & Gilman, 1998, p. 6)

This thesis was based on a theoretical framework constructed from available curricular, historical, and pedagogical literature and informed by my lived experience including 25 years of teaching in secondary schools in Ontario.

The purpose of this study was to explore teachers' understandings and perceptions of scheduling in relationship to pedagogy, curriculum, and student learning. The following research questions were the focus of my investigation:

1. How do teachers perceive the effect of scheduling on the ability of students to deal with the new Ontario curriculum?
2. What do teachers perceive to be the best scheduling method to deal with the challenges of the new Ontario Curriculum? Does it vary with the subject being considered?

3. How can school scheduling be organized to allow teachers to implement the new Ontario curriculum in a way that provides students the best opportunity to meaningfully assimilate knowledge?

Rationale for my Research

Many researchers (Bateson, 1990; Khazzaka, 1997/1998; Lockwood, 1995; Raphael & Wahlstrom, 1986) have used quantitative methods to measure student achievement under the semestering versus the traditional timetable, with mixed results. I believe that the inability to control all the variables in studies of student achievement led and will consistently lead to mixed results. There is likely no definitive answer. Each educational situation is idiosyncratic, not generalizable to every setting and child (Pinar, Reynolds, Slattery, & Taubman, 1995). As a result of exploring with my participants how curriculum should be organized to best support student learning I have gained insights into their experiences as teachers under different scheduling methods. By reinterpreting their stories, my intention was not to propose definitive answers but to illuminate the possibilities of solutions and to stimulate conversations about scheduling effects on pedagogy, curriculum, and student learning. The findings of my study should encourage administrators to evaluate whether their scheduling method is the most efficient way to support their teachers as they implement the new Ontario curriculum. It should also provide teachers with information on how to implement this curriculum and with insights into problems other teachers are experiencing.

Limitations of the Study

Interviewing administrators, students, and parents to learn what they perceive to be the best way to organize school knowledge to maximize student learning of the new Ontario curriculum would have given me a better understanding of the problem. However time constraints prevented me from taking this more encompassing approach.

Definitions of Terms

The following list provides working definitions of terms used in this thesis.

Semestered timetable: This refers to a timetable where there are four instructional periods in a day with each period lasting approximately 75 minutes. The same four classes are repeated every day for one semester that will run for approximately 20 weeks. The school year is divided into two semesters of equal length. During each semester students are able to complete up to four credits. Students can enter courses at the beginning of each semester, either in September or February (Bateson, 1990).

Traditional timetable: This refers to a timetable where eight courses meet for the entire year. In a standard day there are six periods, each approximately 55 minutes long. The timetable tumbles taking a 4-day cycle to complete a rotation so that in those 4 days a given class is in session 3 times.

A/B timetable: This refers to a timetable where there are four instructional periods in a day with each period lasting approximately 75 minutes. However, on day 1, students will attend periods 1 through 4 and on day 2 students will attend periods 5 through 8. This schedule will alternate through the entire year with students receiving

a possible 8 credits. Half credits may be awarded at the end of the first semester as the year can be divided into two semesters of equal length.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The research literature provided a foundation for my study of teachers' perceptions of the best way to schedule the new Ontario curriculum to facilitate student learning.

The literature reviews time in the context of both its objective and subjective reality.

Research provides a definition of objective school time and reviews teachers' perceptions of time. The studies of traditional and block scheduling provide an historical overview of both schedules and outline the perceived strengths and weaknesses of both schedules. Comparison studies of traditional scheduling and block scheduling indicate current and past research findings. Finally, the literature is reviewed to provide an historical background to the new Ontario curriculum.

Time

Understanding teachers' experiences of scheduling leads to the topic of time and its role in the culture of schools. Hall (1983) believes that time determines both how a culture develops and how the people within that culture experience the world. The elusive nature of time, however, confounds our efforts to capture it within a single definition. It has both an objective and subjective reality (Werner, 1988).

The objective reality of time, sometimes called fixed-time, objective-time (Werner, 1988), or rational time (Cambone, 1995), is an agreed-upon convention that can be used as an organizing frame for life (Cambone; Hall, 1983; Werner). This objective reality of time is a linear perception that enables us to explain past, present,

and future in an orderly fashion using socially constructed methods such as clocks, calendars, and schedules (Giddens, 1984; Hall; Schonman, 1990; Werner). It also allows for the quantification of time (Cottle & Klineberg, 1974; Hargreaves, 1994; Zerubavel, 1979). This conception of time as measurable clock time is characteristic of modern Western culture (Giddens). Under this conception, time can be thought of as a resource or commodity that can be harnessed, spent, or saved (Lakoff & Turner, 1989). Lafleur (1997), Werner, and Schonman all reported that teachers in their respective studies referred to time as a limited resource and used many time-related metaphors in relation to their daily practice as teachers. Hargreaves defines school time as technical-rational time, “a finite resource or means which can be increased, decreased, managed, manipulated, organized, or reorganized in order to accommodate selected educational purposes” (p. 96). The scheduling of this time places constraints on teaching and learning (Werner).

The subjective reality of time, also referred to as lived-time, subjective-time (Werner, 1988) or phenomenological time (Cambone, 1995), varies from person to person. A young child and a grown-up watching the same news broadcast will experience the duration of the program quite differently. It also varies within the same person depending on context. The 2-hour time duration watching a good movie is perceived quite differently when waiting that same amount of objective time in a hospital emergency room. Subjective time is formed by or through the accumulation of experiences and by what beliefs a person holds (Cambone; Shimron, 1990). “Once formed our perception of time shapes our behaviour, it affects the pace of actions we perform or expect others to do in a particular context” (Shimron, p. 240). Therefore

our perception of time is linked with our internal rhythms and consequently to our personalities (Schonman, 1990). How a teacher uses time depends on his/her personality and cognitive style (Cambone). Hall (1983) believes that the internal rhythm of a teacher must correspond to that of his/her students. This belief stemmed from a study of Native American teachers who had not been trained by white educators. They had a classroom rhythm that was much slower than the rhythms encountered in black or white classrooms of urban America. Native American children were only comfortable enough to settle down and learn when immersed in their own familiar rhythm.

A teacher's response to time is culturally determined (Schonman, 1990). In her study of time metaphors used by Israeli teachers, Schonman found that many teachers used expressions such as "time bomb," "explosive time," and "time is a mine." This time imagery was explained as understandable given the culture-specific context. Israelis live in a society where the tensions of war and security threats are an everyday reality. Hall (1983) believes that there is a cultural grammar that defines the way humans build their picture of the world and establishes their internal rhythms. All Northern European languages, including English, reflect the belief of time as travelling along a continuum by having verb tenses that express past, present, or future. This creates an imagery of time that allows for the concept of managing and controlling time. Wasting time becomes real because it can be quantified. Hall's study of Hopi and Sioux Indians revealed that they have no word for time in their vocabulary. Hopi verbs do not even have tenses. They live in the eternal present where time is not equated with money or progress.

Time perception in a particular context is formed through accumulated experiences and from certain beliefs we have (Shimron, 1990). Teachers in schools are obsessed with time (Lafleur, 1997; Schonman, 1990). Teachers in Schonman's study related their ideas about their daily practice as teachers by talking about time objectively and as something that was beyond their control. Time was an issue that was foremost on the minds of these teachers as evidenced by the many metaphorical references to time in their interviews. Lafleur's study investigated time as experienced and perceived by 3 teachers who were implementing Ontario's *Common Curriculum*. In each interview teachers talked about time as a scarce resource when relating it to covering content. The content became the metronome that controlled the pace of activity. However, when they refer to their time in classrooms with students, they talked about their efforts to control the pace to benefit student learning.

"The primary definition of schooling is in terms of years, not in terms of what is to be known" (Connelly & Clandinin, 1990, p. 43). In Ontario a secondary school credit is defined as 110 hours of instruction. Content is then defined within this mathematical definition by curriculum committees. When too much content is defined within that time frame, teachers who feel obligated to cover mandated material experience frustration and stress because they feel that time is out of their control (Cambone, 1995; Schonman, 1990; Werner, 1988). Werner interviewed 20 female primary grade teachers who were implementing a new reading program in 15 schools. He found that time was central to their implementation experience. When they felt that they did not have enough time to accomplish all that was asked of them, all participants reported feelings of being overloaded and pressured. Teachers had

various ways of resolving these feelings of overload. They included: delaying the implementation to ensure adequate planning time and availability of materials; prioritizing use of time either by shortchanging other curriculum areas or by being selective about what activities to implement; viewing future encounters with the newly implemented material with optimism; and collaborating with other teachers to raise concerns and get ideas on what works in other teachers' classrooms.

Organization of the School Day: Scheduling

The traditional timetable in Ontario came into effect around the time that Ryerson began to centralize control of Ontario's school systems. *The School Act of 1846* and subsequent legislation (Contento, 1993) gave Ryerson control because he was able to withhold grants from schools that did not follow his curricular prescriptions. Under pressure from employers of the day, he set up a public school system to manufacture a disciplined labour force that could work obediently to prescribed schedules. He subsequently divided the school day into periods of equal lengths to control the movement of students from one class to another. This facilitated setting up the curriculum along subject disciplinary lines. "Knowledge was broken into pieces, reduced to its elements and compartmentalized" (Contento, 1993, p. 17) into the periods of equal length known as the traditional timetable.

In believing that education should preserve the status quo and only prepare students for their adult life and duties, Ryerson can be thought of as a traditionalist (Kliebard, 1975; Tanner & Tanner, 1990). Many traditionalists are influenced by a philosophy known as *essentialism*, which simplistically could be characterized as a

"back to the basics" philosophy (Tanner & Tanner). Traditionalists in this context believe that the school's purpose is simply for training the intellect and not for meeting the personal-social needs of students. According to the traditionalist doctrine of mental discipline, the mind is "as a muscle to be exercised or as a vessel to be filled with information or facts" (Tanner & Tanner, p. 345). Traditionalists contend that the curriculum should be confined to academic studies of English, mathematics, science, history, and modern foreign language. The curriculum is treated as text or curriculum-as-plan, one which has its origins outside the classroom but which the teacher is expected to teach (Aoki, 1993). Teaching and learning are aimed at knowledge transmission and recitation (Tanner & Tanner). The teacher dispenses knowledge in prescribed dosages to learners who are perceived as passive receptacles (Boomer, 1994). The traditionalist's conception of curriculum fits well with the Ryerson timetable that remained an unquestioned structure of the public school system in North America for a century.

In 1959, J. Lloyd Trump, a professor of Education at the University of Illinois, proposed the elimination of the traditional high school schedule in the United States. He experimented with flexible class periods. His plan involved scheduling 40-minute lectures, 100-minute labs, and 20-minute tutorial sessions (Queen, 2000). This approach was referred to as flexible modular and was an initial step toward the modern concept of block scheduling or semestering as we know it in Ontario (Gruber & Onwuegbuzie, 2001). Trump was a progressivist. Progressive educational thought grew from the ideas of progress and democracy. Progressivists are against ability grouping or streaming and believe students need to be given every educational

opportunity to reach their full potential. They think of the curriculum more in terms of the “lived experience” of teaching and learning in classrooms (Aoki, 1993; Pinar & Grumet, 1976). Many progressivists do not believe it is necessary to think about curriculum along disciplinary lines (Schrag, 1995). Students should come “to understand [forms of knowledge] through grappling with problems, issues, and conundrums that they face” (Beyer & Liston, 1996, p. 212). Teaching and learning are viewed by progressivists as transactional processes emphasizing constructed meanings and knowledge transformation (Sparzo et al., 1998). Trump encouraged teachers using his schedule to experiment with different kinds of instructional strategies (Queen, 2000) rather than to attempt to just transmit knowledge by way of lectures.

Drawing from the American experience, some schools in Ontario started using the semestered timetable. In 1970/71, 4 schools piloted the new timetable (King et al., 1975). By 1975 that number had risen to 150 schools (Ross, 1977). Semestering blended well with the introduction of the credit system in Ontario in the early 70s, a system that assumes that each subject will have the same amount of student-teacher contact time per credit. In addition there was an economic advantage for those students in the semester system who could accumulate enough credits to complete a 4-year diploma in 3½ years (King et al., 1975). Cash-strapped boards also realized savings since the semestered schools could use textbooks and other educational materials twice in one year.

As a result of its economic advantages, semestering was enthusiastically adopted by the Separate Catholic School System in Ontario in the 1970s. With full

public funding of the Catholic System in 1985, students in Ontario now had the choice of attending either the Public or the now tuition-free Catholic system. The perception that students in the Public system might be attracted to the semestering of the Catholic system was likely a factor in the almost wholesale adoption of semestering by the Public system. In May of 1984, only 35% of the publicly funded secondary schools in Ontario were semestered. By 1986 that figure had jumped to 90% (Raphael & Wahlstrom, 1986). By the fall of 2002, 88% were still semestered (Appendix A).

Studies on Scheduling

Economic advantages aside, according to Raphael, Wahlstrom, and McLean (1986) slender evidence existed for other perceived benefits of semestering. The premise behind creating longer classroom periods was that they would give teachers more instructional flexibility (Carroll, 1990; Cawelti, 1994). Block scheduling [or semestering] "fosters the use of a variety of instructional approaches that are more personalized and more effective" (Carroll, p. 362). Some researchers reported that teachers in semestered schedules did use a greater variety of instructional methods compared to their traditionally scheduled counterparts (Benton-Kupper, 1999; Deuel, 1999; Veal & Flinders, 2001). But Veal and Flinders also report that these teachers who did change their teaching practices did so at the risk of not covering mandated content. Jenkins, Queen, and Algozzine (2002) found that semester and traditionally scheduled teachers reported the same level of use of many instructional strategies. Over 2000 high school teachers participated in the study. Approximately half taught

in a semestered schedule and half in a traditional one. The research involved a cross-sectional survey of teachers in all the schools in the state of North Carolina. Adams and Salvaterra (1997) discovered that many teachers continue to use the lecture method, or quickly return to it, after block schedules are implemented. Hart (2000) reported in his study of 26 traditionally scheduled schools and 26 semestered schools that teachers in traditionally scheduled schools actually used more interactive instruction than did teachers in the semestered schools. As for semestered providing more individual or personalized instruction, a study by Van Mondfrans, Schott, and Denney (1972) refuted this. They found that decisions concerning whether to move on to a new topic are made, in either traditional or block classes, on a group basis rather than in response to individual student performance.

One possible explanation for teachers continuing to lecture during semestered periods may be due to a loss of contact time between teachers and students compared to a course taught on the traditional schedule (Deuel, 1999). Raphael, Wahlstrom, and McLean (1986) discovered that, on average, semestered mathematics classes in Ontario have 10 fewer hours of instructional time than traditionally scheduled classes. Indeed, some semestered courses fell short of the 110 hours needed for course credit. Veal & Flinders (2001) reported a decrease in contact time of 37 hours for semestered classes in South Springfield High School compared to year-long traditional courses in the same high school. However, according to Canady and Rettig (1995), the time benefits for teachers revolve around the increase in time per day, not on the overall decrease in time for the whole year. Less content would be typically covered on a semestered schedule but the depth of coverage would increase, resulting in more

meaningful learning (Benton-Kupper, 1999; Canady & Rettig). In the Benton-Kupper study 3 female English teachers were interviewed. One stated that even though she covers less she can integrate literature with vocabulary and grammar. For each of the participants the scope of the curriculum decreased. They were not concerned about the abandonment of curriculum. However, content decision making in terms of content exclusion has not been widely addressed by the literature on block scheduling (Veal & Flinders). Not given any direction on content exclusion, some teachers tend to increase their pace of instruction to cover material rather than try to exclude selected portions. This is especially the case when they feel under pressure to cover the provincial core curriculum. Veal and Flinders reported one semestered social studies teacher as saying, "Even though [semestering] promised less lecture based courses, I have found that limited time makes lecture a quicker way to cover material" (p. 25).

Another benefit attributed to the semester system is that it helps teachers to develop closer relationships with their students (Canady & Rettig, 1995; Davis-Wiley, 1995; Veal & Flinders, 2001). In one semester a teacher is in contact with half the number of students than a teacher on a traditional timetable. This fact, coupled with a longer instructional period allows for more student-teacher contact. One science teacher commented, "In 87 minutes, I have greater opportunity to interact with students, and that helps in learning how to deal with individual problems" (Veal & Flinders, p. 26). But some teachers commented that the push to cover curriculum in semester classes and the semester length negated personal relationships. Veal and Flinders reported a semestered English teacher saying, "Because of the longer period,

I think as a class there is a nice dynamic, but just as I might figure out the key to a student the term is up and they are no longer my student" (p. 8).

It has been reported that discipline improves in a semestered schedule compared to the traditional one (Canady & Rettig, 1995; Deuel, 1999; Khazzaka, 1997/1998; O'Neil, 1995; Snyder, 1997). This has been attributed to fewer class changes resulting in less unsupervised student contact and better personal relationships between teachers and students. Snyder reported that the school in his study did not have a single hallway fight in the entire first semester of the block schedule. Yet Davis-Wiley (1995) found in her study that discipline was not affected by a change to a semestered schedule from the traditional one. The decrease in the number of student class changes had no effect on student behaviour after the transition. As well, relations between students and teachers remained unchanged. They were no better or worse on either schedule.

Many studies reported that attendance rates had improved with a change to a semester schedule (Fletcher, 1996; Khazzaka, 1997/1998; McCreary & Hausman, 2001; Snyder, 1997). Khazzaka reported an increase of 13.5% in average daily attendance rates for six high schools with an overall student population of 2,890 when they switched from the traditional to a semestered schedule. He also reported that attendance by ethnicity went up, with female Native American attendance rates increasing 57%. There were 133 female Native Americans involved in the study. This attendance improvement might be attributable to the fact that students who miss a semestered class have a more difficult time catching up since their class covers twice the material dealt with in a class on the traditional schedule. Presumably, students

think twice before missing a class. Seventy point one percent of the 80 students surveyed in Thomas and O'Connell's (1997) study said the amount of work missed in one day on a semestered timetable would influence their decision to come to school. Ross (1977) reported that students perceive that either student or teacher absence in a semestered timetable is equally detrimental to student success. Queen (2000) notes, however, that students who are absent from class have fewer classes in which they can catch up on missed work.

Teachers' Scheduling Preferences

Teachers benefit from the semester system in having increased planning time due to a decreased number of course preparations (Cawelti, 1994; Deuel, 1999; O'Neil, 1995). They typically teach three classes for a total of 75-90 students instead of five or six classes for a total of 120-150 students in a traditional schedule (Canady & Rettig, 1993; Khazzaka, 1997/1998; Queen, 2000). Teachers save administrative time because they keep records and grades for half the number of students (Queen). Deuel reported that 67% of the 130 teachers she surveyed felt better about coming to school when teaching in a semestered timetable compared to when they taught in the traditional one. They reported having less stress and noted that they were asked to perform less supervision. Fifty-six percent said they felt better about the quality of their teaching in the semestered system. Davis-Wiley (1995) noted that teachers she interviewed reported that life in a semestered schedule was "overwhelmingly positive and less stressful" (p. 12) than their life under a traditional schedule. Teachers have more time on the semestered system to plan innovative instructional techniques and to

become involved in extracurricular activities (Khazzaka). A majority of teachers surveyed by researchers reported a preference for the semestered schedule compared to the traditional one (Davis-Wiley, 1995; Deuel, 1999; Khazzaka, 1997/1998; Snyder, 1997). In Khazzaka's study, 91% of the 93 teachers surveyed said they preferred to teach under the semestered schedule. Many teachers also perceived student achievement was improved on the semestered schedule. However, Bateson (1990) warns researchers that a "halo" effect associated with the many logistical benefits of a semestered timetable may influence both teachers' and students' perceptions of its usefulness.

Students' Perceptions of Scheduling

Students' attitudes about schooling on a block versus a traditional schedule have not been consistent from study to study. Raphael and Wahlstrom (1986) reported that students in semestered courses possessed more favourable attitudes toward science. Van Mondfrans et al. (1972) and Bateson (1990) found that students on both schedules had similar attitudes toward all subjects. According to Carroll (1990), however, the traditional timetable is more stressful for students because of the larger variety of academic material, the numerous teachers students must face, each of whom has their own set of class rules, and multiple homework assignments. In one study students did say they liked the semester schedule because they had less homework (Hurley, 1997). However, Ross (1977), in a survey of schools in Ontario, found that students in semestered schools reported completing more homework than their traditionally scheduled counterparts. In the Thomas and O'Connell (1997) study,

students who had previously experienced a traditional schedule reported little difference in the amount of homework they were assigned before and after implementation of the semester schedule.

According to several researchers, there are numerous benefits afforded students who are on the semestered schedule (Canady & Rettig, 1993; Queen, 2000). By only having to prepare for four classes, students have more time to concentrate on fewer daily assignments. In Slate and Jones's (2000) study, 74.1% of the 1,205 students surveyed said that additional time to study and prepare for classes was the biggest advantage of semestering. The semestered schedule also gives students an opportunity to repeat a failed course in the next semester without having to go to summer school (Canady & Rettig). As well, struggling students theoretically have more time in the longer class to interact with the teacher and digest what is learned. Gifted students can move ahead faster. The number one reason given by students for liking the semestered schedule in the Wronkovich, Hess, and Robinson (1997) study was being able to complete more math courses in high school than they could under the traditional schedule. For instance, four consecutive mathematics courses could be completed in 2 calendar years.

Students themselves, however, have reported a number of disadvantages related to semestering. These include teachers who lecture too much and attention problems during the longer semestered periods (Hurley, 1997; Marchant & Paulson, 2001; Slate & Jones, 2000). Some teachers also indicated that students' attention span was a problem in a semestered timetable (Wronkovich et al., 1997). Another perceived problem of semestering relates to course sequencing. This was of particular

concern to teachers of sequenced subjects such as languages, mathematics, and music (Kramer, 1996; Queen, 2000). Teachers worry that long gaps between the first and second courses of a sequenced subject create a necessity for longer reviews that will further decrease the amount of instructional time available to semestered courses. King et al. (1978) surveyed students on a semestered schedule in Ontario and found that students had a difficult time returning to a subject even after one semester's break. Accordingly, careful planning needs to occur in the scheduling of these subjects to avoid the gap problem as much as possible (Queen).

Scheduling and Student Achievement

How can school scheduling be organized to allow teachers to implement the new Ontario curriculum in a way that allows students the best opportunity to meaningfully assimilate knowledge?

Studies comparing student achievement in semestered and traditional timetables reveal many inconsistencies in their findings. The problem in these studies is that there is no consensus about what best measures student achievement. Some studies showed greater student achievement for those on a semestered timetable (Carroll, 1990; Deuel, 1999; Hess, Wronkovich, & Robinson, 1999; Khazzaka, 1997/1998; Snyder, 1997). It is interesting to note that none of these studies are Canadian. In the Deuel study, students changing from a traditional schedule to a semestered schedule earned significantly more As and fewer Cs, Ds, and Fs in the semestered timetable. The same results were found when comparing students taking subjects in the traditional timetable to those taking the same subjects in a semestered

one. However, when the marks on the statewide High School Competency Test were compared, there were no performance differences between the students on a traditional timetable and the students on a semestered timetable. The fact that there were no performance differences on the external tests was completely ignored in the authors' conclusions.

Other studies found there was no difference in achievement for students scheduled in either semestered or traditional timetables (Arnold, 2002; Lockwood, 1995; Ross, 1977; Schroth & Dixon, 1996; York, 1997). Ross, a Canadian researcher, stated his finding based on self-reported marks of students. Arnold's study also found that schools that had been on a semestered schedule for 1 and 2 years outperformed schools that were on the traditional schedule. However, schools that had been semestered for 3 years or more were outperformed by schools on the traditional schedule. Arnold concluded that increases in achievement during implementation of a semestered schedule may be negated during subsequent years on the schedule. He did not give any explanation why this might occur. Possibly the Hawthorne effect (Roethlisberger & Dickson, 1939) could explain it. The increased scores during implementation, rather than being caused by the students being in a semestered schedule, may have been due to students and teachers knowing that their progress during the implementation was being monitored and studied and, as a consequence, put forth extra effort during this time period.

Still other studies found greater achievement for students studying under the traditional timetable (Bateson, 1990; Cobb, Abate & Baker, 1999; Gruber & Onwuegbuzie, 2001; Lawrence & McPherson, 2000; McCreary & Hausman, 2001;

Raphael & Wahlstrom, 1986; Raphael et al., 1986; Wronkovich et al., 1997).

Bateson, Raphael, and Wahlstrom are Canadian researchers who voiced concerns about the adoption of the semestered timetable when their findings conflicted with perceptions of teachers involved in the Ontario semester programs reported in studies by King et al. in 1975 and 1978. The Gruber and Onwuegbuzie study compared the academic achievement of 115 high school students who had followed a semester schedule for 3 years with that of 146 traditionally scheduled students. Their grade point averages were compared to determine whether or not the two groups of students were at a similar academic level. The study then used scores from the Georgia High School Graduation Tests in Writing, Language Arts, Mathematics, Social Studies, and Science to measure academic achievement. The scores of the students on the traditional schedule were higher than those on the block schedule on all the tests except for Writing. On the Writing test the scores for both groups of students were similar. Gruber and Onwuegbuzie did not appear to be happy with the results of their study, however. In their discussion they tried to rationalize the poor results of the semestered students by attributing it to the school's new attendance policy, inadequate instructional innovation of teachers, and insufficient implementation time to observe positive gains.

All of the above studies were quantitative or quasi-quantitative. The inconsistency of their findings leads one to believe that student achievement in relation to scheduling is not easily measured. There are simply too many variables which are difficult to control such as student attendance, the calibre of the teachers, and their rapport with students.

There have also been studies that have looked at student achievement on the semestered schedule from a gendered perspective. Again there have been inconsistent findings. Hess et al. (1999) stated that females show greater achievement gains in semestering than males. This was concluded based on a study of 270 sophomore students, approximately half of whom were taking courses in a semestered timetable and half in a traditional one. All students wrote retired copies of SAT tests dating from the 1980s. These tests were administered pre and postinstruction. Pretest to posttest differences for females in traditional scheduling were not significant whereas the differences in the semestered system indicated a gender bias in favour of the female students. In contrast, Cobb and Abate (1999) concluded that semestering favours male achievement. His findings were based on a study of 355 semestered and 355 traditionally scheduled students. It indicated that semestering had a more positive semester Grade Point Average (GPA) effect on male students compared to female students. The same study, however, also found that the traditionally scheduled students performed significantly better on standardized mathematics tests compared to the students in the semestered timetable.

Lockwood (1997) reported in her study that there were no significant differences with regard to race, gender, or ability groups in student achievement in algebra or geometry when the same students took these subjects first in the traditional timetable and then in the semestered timetable the following year. However since the study involved only a small number of low-ability students, Lockwood cautioned that further study was needed to verify weaker students' compatibility with the semestered system.

The literature is for the most part silent on the issues of student ability and student ethnicity with respect to timetable compatibility and student achievement. Besides Lockwood's study and the Khazzaka (1997/98) study of ethnicity and attendance rates, the only other study found was Marchant and Paulson's (2001) study that examined the impact of different student academic profiles on secondary students' perceptions of schooling under a semestered timetable. It did not deal with student achievement per se but did find that low achievers who feel school is important and are displeased with their grades, had a great deal of difficulty managing school in a semestered timetable.

Finally, the literature displayed a degree of zealousness among some researchers. Those who supported semestering were quick to attack other researchers who reported negative findings about semestering. For example, Kramer (1996) suggests that the findings of Raphael, Wahlstrom, and McLean (1986) were questionable. The latter's study concluded that traditionally scheduled students significantly outperformed semestered ones on the Second International Mathematics Study. Kramer postulated that the lower marks were due to the likelihood of lower-ability students being placed in block classes. But when Kramer applies the same argument to a study by Marshall, Taylor, Bateson, and Brigden (1995), which also found traditionally scheduled students to outperform block scheduled ones, then he is forced to change course. Bateson, a co-author with Marshall, drew Kramer's attention to the overall pattern of scoring that identified traditionally scheduled students consistently as top scorers. Kramer then suggests that since the semestered schools in the 1995 study had elected to change to the semestered schedule that possibly they

had done so because the schools were low-achieving ones. This would account for their low scores on the test. He is dogged in his belief that semesterizing is the better way to go. Any study that did not support this belief had to be flawed. His doggedness reminded me of a quote: "The fundamental beliefs of progressivism are impervious to unfavourable data because progressivism is an expression of Romanticism, and Romanticism is a religious outlook that, like all religions, is inherently resistant to data" (Hirsch Jr., 2001, p. 17). Kramer is a progressivist who is fighting to maintain semestering. What are his motives? Is he advocating for block scheduling because teachers prefer their life in a semestered system or because of a sincere conviction that semestering enhances student learning of the curriculum?

Students and teachers involved in secondary education have reported perceived advantages and disadvantages for both traditional and semestered timetables. Their voices have been amply represented in the literature. However, researchers in this field using quantitative and quasi-quantitative methods have been unable to come to any consensus either as to how to measure student achievement or even as to what scheduling method provides the best venue to increase it. Consequently, the literature review of scheduling methods raises as many questions as answers. More in-depth evaluation of scheduling methods and their compatibility with the goals of secondary education is required. Accordingly, learning environments of high school students should be examined. In Ontario, that means examining the compatibility of different scheduling methods in relation to the new Ontario curriculum.

Historical Background to the New Ontario Curriculum

As of 1985, 70,000 young people a year were dropping out of Ontario high schools. This statistic was a clarion call for curricular change in Ontario schools (Ontario Ministry of Education, 1985, p. 30) and likely was one of the factors that contributed to a wholesale shift to semestering. Just prior to 1985, only 35% of Ontario secondary schools were semestered. By 1986 that figure had jumped to 90% (Raphael & Wahlstrom, 1986). Administrators were no doubt hoping that this curricular restructuring would entice more students to stay in school. By 2002, 88% of secondary schools in Ontario still followed a semestered timetable (Appendix A).

In early 1987, a newly installed minority Liberal government, that had campaigned on the promise of educational reform, commissioned George Radwanski to study the relevance of education and the issue of dropouts. Radwanski (1987) found that the school system in Ontario was relegating large numbers of less socioeconomically advantaged children to the lower general and basic educational streams where the dropout rates were 62% and 79% respectively. In contrast, only 12% of students in the highest or advanced stream were leaving school before graduation. He also found that students were dropping out for a variety of reasons. A general dislike of school based on boredom, academic difficulty, and a sense of being neglected by a system geared to brighter students were some of the reasons that were cited. He made 35 recommendations in his report. Among these, the most controversial was the destreaming of Ontario secondary schools. He deemed streaming as “a social injustice, a theoretical error and a practical failure”

(Radwanski, 1987, p. 80). According to Contento (1993) students learn by the process of streaming whether they are winners or losers.

In 1990, the New Democratic Party (NDP) defeated the Liberal government. Under the leadership of Bob Rae, the NDP campaigned against social injustice and for a comprehensive reform of the school curriculum. The new school curriculum was largely influenced by the Radwanski report that was commissioned but effectively ignored by the Liberals. In January 1992, then education minister, Tony Silipo, announced major changes for students in Grades 7-9, the Transition Years (B. O'Sullivan, 1999). These changes would take effect the following September. In the new curriculum, called the *Common Curriculum*, Grade 9 courses were no longer to be streamed. Regardless of ability, students would be scheduled into the same classes. Knowledge would not be restricted to some students by scheduling them into lower ability streams. In addition, credit courses in Grade 9 were abolished, replaced by integrated studies in the four core program areas of mathematics, sciences and technology, self and society, language, and arts. These four core program areas were found in the *Common Curriculum* from Grades 1 to 9, organized in 3-year groupings. Teachers were to use a wide variety of assessment procedures to observe and measure learning outcomes. The results of these assessments were to be reported anecdotally to parents and were to be used to improve programs and student achievement. There was a shift from content-dominated curriculum to one that had a much greater emphasis on students learning to learn. It was a curriculum straight out of Kieran Egan's (1996) *Third Educational Idea: Rousseau and Nature's Guidance*.

[There was to be] careful observation and study of students, recognition of the distinctive forms of learning and sense-making that characterize different ages, construction of methods of teaching that engage students' distinctive forms of learning, emphasis on individual differences among learners, observations that students learn much better when they are themselves active, and insistence that the student's own discovery is vastly more effective than the [teacher's] words, words, words. (p. 17)

This progressive philosophy of education had actually been a focus of Ontario's curriculum documents in 1937 but never made its way into the classroom because teachers continued to teach as they had been taught (Contento, 1993). Possibly the traditional timetable that was in place in 1937 was a factor in teachers not embracing this philosophy. In 1992, during the progressive philosophy's resurgence in the *Common Curriculum*, some headway was made in the classroom largely due to the larger blocks of time that the semester system offered. Varied activities could be accomplished within one period and there was more time for the teacher to get around to individual students during that period. There were reduced contact hours with students in the semestered schedule (George, 1997) compared to the traditional schedule which meant less content was typically covered (Canady & Rettig, 1995) but there was not the worry of covering material because the emphasis was on learning to learn rather than learning content. Learning was described in terms of outcomes in the *Common Curriculum* documents, with a focus on what students could do, and assessment was a diagnostic tool that was used to improve program and student achievement (Ontario Ministry of Education, 1995). Semestering and the

Common Curriculum were well matched. However, administrators stymied the integrated approach taken by the *Common Curriculum* by continuing to schedule courses as separate disciplines. This type of scheduling also allowed the surreptitious scheduling of same-ability students. Streaming was still occurring but it did not show up on the books.

But, "the success of an idea depends less upon its arguments, or upon the talent of its advocates, than upon the predisposition of society to receive it" (Sparzo et al., 1998, p. 5). The *Common Curriculum* was destined to be short-lived. The new textbooks had not even arrived for the implementation period (Emberley & Newell, 1994) before the NDP government was defeated at the polls by the Progressive Conservatives whose views on education leaned heavily toward the "back to the basics" traditionalists. The new government immediately fed parents' educational fears by pointing to the results of the Third International Mathematics and Science Study (Snobelen, 1996). Ontario's results were below the international and national average in most categories. The new government's reaction was to implement the new *Ontario Curriculum*. It was designed to condense 5 years of schooling into 4 years of increased content and difficulty. It came replete with province-wide standards and testing. The government wanted there to be evidence of educational effectiveness. Secondary school reform began in September 1999, with the streaming of Grade 9 classes, annual education plans for students, revised curriculum for the new four-year program and a Grade 10 province-wide literacy test. The curriculum consisted of lists of specific expectations sounding very much like objectives. It demonstrated a return to the orientation of curriculum as technology (Eisner, 1985), a traditionalist form of

education which stresses that schools should have meaningful goals and should be able to measure the extent to which these goals are achieved. Marks are based on meeting desired behaviours according to established criteria (Bobbitt, 1971; Popham, 1997; Tyler, 1975). Students who cannot meet those criteria are scheduled into lower ability streams. McNeil (1986) believes that schools transform official culture into isolated pieces of knowledge that, after being processed through student work assignments, lectures, and multiple choice or short-answer tests, serve only the interests of school efficiencies. Coverage of the specific expectations/objectives is easily measured using standardized tests so that the government and school administrations can control the curriculum. The government can measure whether teachers are following the curriculum as laid out in the course guidelines (explicit or official curriculum). Testing easily translates into a quantitative measurement useful for accountability purposes (McNeil, 1986). Governments and school administrators can use test results to justify their policies for school practice.

Curriculum as technology is an extremely controlling orientation and this has consequences for students in classrooms. Not only must they write the standardized tests to demonstrate to the public that its "educational investments yield educational payoffs" (Eisner, 1985, p. 80), but they are shortchanged as governments commit money to the testing procedures and away from classrooms. Teachers, under pressure from their administrators to have their schools look competent, often feel they must concentrate on covering material that will be tested on the exam, leaving less time for problem solving. This has the effect of narrowing the curriculum (Kieren, 1996), fragmenting it into specific objectives that can be easily evaluated. "With control over

content, teaching, and evaluation shifting outside the classroom, the focus is more and more on those elements...that can be easily measured on standardized tests" (Apple, 1993, p. 124). Students are left with isolated bits of knowledge that need to be sorted, organized, and applied to create frameworks for their understanding. But there is no time for that. More information needs to be covered for the test! So herein lies the dilemma. The political reality of standardized tests demands breadth of coverage. Educators stress depth of coverage to promote understanding of the knowledge base. The longer periods of semestering promote instructional activities that foster depth of coverage but not breadth.

The traditional schedule provides more contact time between students and teachers, implying that more material can be covered. But can it provide sufficient opportunities for depth of coverage? This timetable certainly provides more time for practice, time necessary for the continual transformation of formal knowledge into intuitive understanding, a prerequisite for the further growth of formal knowledge (Battista, 2001). Does the semestered schedule allow time for this transformation? Dempster and Farns (1990) found that spaced practice over several lessons is superior to equal amounts of time spent in massed practice concentrated in one session. This might suggest that the semestered schedule does not allow time for the transformation.

Conclusion

Scheduling is an especially important issue today in Ontario when students are experiencing a new curriculum, condensed in years but expanded in terms of content

and content difficulty. Students have less time to learn more. How can educators most efficiently use the available time to enhance their students' learning of this new curriculum? Some Boards in Ontario have returned to the traditional schedule to cope with the rigours of the new curriculum. The Avon Maitland District School Board did so relying on its Director's Action Report (Avon Maitland District School Board, 1999) which stated that there is current educational research supporting a desemestered approach in mathematics, science, and English. Two of the four studies cited were the ones conducted in Ontario by Raphael and Wahlstrom (1986) and Raphael, Wahlstrom, and McLean (1986), which were ignored by educators during Ontario's wholesale adoption of semestering. This Board is relying on 16-year old studies that were conducted under a different Ontario curriculum. There has been little or no study of scheduling in Ontario since this time. The arrival of the new Ontario curriculum in September of 1999 should have stimulated renewed interest in scheduling research but I have been unable to find this research in any of the following databases: Academic Search Premier, CBCA Full Text Education, ERIC, and ERIC E* Subscribe. Possibly researchers have been discouraged by the snub that Ontario's educators gave to Raphael, Wahlstrom, and McLean's research. There has been a plethora of research on scheduling in the United States since the beginning of the 1990s as seen in this chapter but results have been mixed. To determine how educators can most efficiently use the available time to enhance their students' learning of Ontario's new curriculum, an Ontario study is needed. To address this investigative need, I have chosen to explore Ontario high school teachers' perceptions of scheduling in relation to pedagogy, curriculum, and student learning.

CHAPTER THREE: METHODOLOGY

Introduction

Paradigm was the first new word I encountered in my Master's program. I remember asking my professor what it meant. She said that it was the worldview that a person has, the beliefs and assumptions that push a person to do the things he/she does. My choice of using a generic qualitative study (Merriam, 1998) to examine and interpret teachers' perceptions on how scheduling methods enable or hamper an effective implementation of the new Ontario curriculum reflects a particular worldview. It is one where reality is subjective and composed of multiple perspectives. It is a naturalist paradigm (Lincoln & Guba, 1985). This worldview has consequences for the methodology I use to conduct my study (Creswell, 2002). It pushes me to infuse respect for my participants into every aspect of the study. In this chapter I describe in detail the methods and methodology I used and how my naturalist paradigm affected them. I describe my position as a researcher and its effects on my perceptions and actions. I outline my participant selection method and explore my relationship to my participants. I discuss my data collection methods and the issues revolving around them. As well, I inform the reader about my method of data analysis and how it was used to represent my participants' experiences.

To keep track of what was completed and what was left to do with each participant, I set up a research chart (Appendix B) to keep me organized. It also kept me from feeling bogged down in the research because as I updated the chart I could see that I was actually making progress.

Researcher Positioning

I believe that retiring after 25 years of teaching provided me with a unique opportunity to be a qualitative researcher. As a former insider, I have a lived experience of the classroom. I was in a good position to gain my teacher participants' trust so they would be willing to share the stories of their experiences of classroom life. My ability as an insider to read between the lines was useful for interpreting data but it could also be a potential source of bias (Acker, 2000). Those years of teaching sometimes made it difficult for me to bracket my own preconceptions and assumptions and be truly receptive to my participants' perspectives. I was especially concerned about superimposing my own ideas. The objective was to gain a greater understanding of the participant's story rather than reflect a mirror image of my own (Hollway & Jefferson, 1997). I knew that I had to constantly remind myself to pay attention and to be open to new ways of seeing things (Cottle, 1973). I thought that I was up to that challenge, especially given my retirement. It has given me the time, the distance, and energy to confront some of my preconceptions.

Participant Selection

I engaged in purposeful sampling (Creswell, 2002; Lincoln & Guba, 1985) to provide a wide range of data to inform the study. The participants were chosen using a criterion-based selection method (LeCompte & Preissle, 1993). The criterion was the scheduling model or models teachers have experienced or are presently experiencing at the secondary level in Ontario. I chose to interview teachers because they work in scheduling contexts and their perceptions are "based not simply on

experience but on an articulated, disciplined understanding of that experience” (Freeman, 1998, p. 3). Two were teaching in a semestered timetable, 1 in a traditional timetable, and 3 had taught in both a traditional and a semestered timetable. All participants are presently teaching in secondary schools in Ontario. All were contacted by phone after I received permission from the Ethics Research Board of Brock University (Appendix C) to pursue my research. I gave them a brief explanation of the purpose of my study and after gaining their consent, I sent them written information that outlined details of the study including the research questions, methodology, and an interview protocol (Appendix D). After 1 week, I phoned them again to inquire whether they were interested in being participants. The individuals indicated their interest and an interview was scheduled for a time and location of their choosing. At the beginning of each of the first round of interviews, I fully explained to the participants the purpose of my study and their role as participants. I emphasized that they could withdraw from the study at any time, were free to refuse to answer any questions deemed inappropriate, and that I would make a good faith effort to protect their anonymity (Creswell, 2002; Manning, 1997). Upon our signing of a fully informed consent document, a copy of which was provided to each participant (Lincoln & Guba, 1985), we proceeded with the first interview.

While I was writing up my research proposal, this participant selection process did not seem problematic. I knew lots of teachers after being in the school system for 25 years. I would just phone these people for permission to knock on their personal door of insight (Connelly & Clandinin, 1990; Stake, 1994). But before every phone call I made I would agonize over the possibility of their refusal. I felt like I was

imposing myself on their busy schedules and they were not going to let me in. When I called them, however, there was no hesitation on their part. They made a place for me in their busy lives and for this I am very thankful.

Participants

The names of the following participants are pseudonyms and identifying information has been excluded to protect their anonymity.

Terri has taught all grades and all levels of English in her 27 years of teaching. All of her secondary experience has been in one secondary school in a semestered timetable.

Siona has been teaching secondary mathematics for 19 years. She has taught all grade levels. In the old curriculum she taught both general and advanced but under the new Ontario curriculum she has only taught the academic course in Grade 9 and the university-level courses in Grades 11 and 12. In her first 5 years of teaching she experienced the A/B timetable. For the last 14 years she has been teaching in a semestered timetable.

Brian is the most experienced of my participants but is the only one who has never taught in a semestered timetable. He has taught for 31 years in a traditional timetable. However, every 2 weeks in his traditional schedule, two days are set aside for an alternative schedule. Half of his classes are in session on one day, each for 75 minutes. The other half are identically scheduled the following day. He is primarily a biology teacher, presently teaching Grades 11 and 12 biology at the university-bound level and Advanced Placement Biology.

David has taught mainly languages, French and German, at the secondary level for 20 years. He has taught all levels and grades in both a semestered and a traditional timetable. He presently teaches in a traditional timetable.

Cory has taught social sciences, almost exclusively history, at all levels of secondary school for 9 years. He is the only participant to have taught the new Ontario curriculum under both the semestered timetable and the traditional timetable. He is presently teaching in the semestered timetable.

Peter has taught mathematics at the secondary level for 28 years. He is the only one of my participants to have taught under three different schedules – traditional, semestered, and the A/B timetable. He has taught all grades and all levels of mathematics through the years. Presently he is teaching only academic and university-bound level within a traditional timetable.

Interviews

The primary source of data in this study was in the form of hour-long audiotaped interviews that took place over a 5-month period. There were a total of 12 interviews conducted, 2 per participant. The first round of six interviews consisted of unstructured in-depth interviews (Creswell, 2002; Lincoln & Guba, 1985; Massarik, 1981; Taylor & Bogdan, 1998) that thoroughly explored my participants' perceptions and views (Merriam, 1998). I encouraged the participants to tell their stories (Morse, 1998). Dialogue was more like a guided conversation (Lincoln & Guba, 1985) between peers based on mutual respect and understanding (Massarik, 1981; Southgate, 1981). I encouraged them to continue with topics I was interested in by

using probing questions, cues, and gestures that indicated my interest (Lincoln & Guba, 1985; Taylor & Bogdan, 1998). I was particularly careful, however, not to put words in their mouth (Gillham, 2000). I started each interview asking them information about their teaching and scheduling experience. I found this “warming up” period (Lincoln & Guba, 1985) useful because inevitably when the tape recorder started to run there were several minutes of fairly stilted conversation until both my participant and I were able to forget that we were being taped and could concentrate on our conversation. I consciously did not take notes during the taped interviews so that I could pay close attention to what was being said (Emerson, Fretz, & Shaw, 1995). I found note-taking distracting during my initial interview with my first participant. I could not listen to all that she said because I was concentrating on getting the notes down. I wanted to make sure that I listened to everything my participant said so that I would not miss anything. According to Maslow (1966), if one can really listen “without ...approving or disapproving, without dueling with what is being said, without rehearsing the rebuttal in advance, without free-associating to portions of what is being said so that succeeding portions are not heard at all” (p. 96), then one will come closest to what reality actually is.

After the first round of interviews was completed, I conducted a second set of six interviews. When I phoned to make the first appointment for the second interview, Terri was worried that she would not have anything more to say so I assured her that I would come with lots of questions to ask this time. Consequently, the night before each of these interviews I read the transcripts and field notes of all the previous interviews and composed questions that were focused on issues, questions, and gaps

that emerged (Morse, 1998). I directed my efforts “toward clarifying, authenticating, and bringing into full human awareness the meaning structures” (Aoki, 1986, p. 84) of my participants’ experiences. Each participant also had an opportunity to discuss any issues that arose from the reading of his/her transcript and my initial analysis. After transcribing each interview in the study, I wrote a synopsis of the interview including telling quotes and my initial analysis of what my participant was saying. I mailed the transcript and the synopsis of that interview to the participant in a self-addressed envelope so that he/she could return it to me with any changes deemed necessary. This member checking, an important technique for establishing the credibility of my data (Creswell, 2002; Gillham, 2000; Lincoln & Guba, 1985), gave me an opportunity to see if I was on the right track, that my lenses had not distorted or refracted the data. It also gave my participants an opportunity to negotiate the text. It involved them in the interactive process of interpreting and constructing findings. My voice was not assuming sole authority in this endeavour (Manning, 1997). I felt it was a way that my participants could assert control over the interview process (Scheurich, 1995). I hope it indicated to my participants that I honoured and valued their perspectives and their authority to interpret and construct their realities (Heron, 1981). All 12 synopses and transcripts were signed by my participants and returned to me. Only two synopses and no transcripts had corrections included. Either this means I usually “got it right” or my participants were too shy to say I’d made mistakes or they were not interested enough to read the material. Knowing these participants are not shy and will state their opinions most emphatically and inferring from their

selfless participation that they were interested in my study I feel fairly confident that I “got it right,” at least as right as possible.

Several of my participants became quite self-conscious, however, about their speech after having read the transcripts of their first interviews. Even after explaining that their quotes in the transcripts would all be edited for clarity in the final product, some of my participants were noticeably aware of saying “um.” One of my participants kept apologizing and wanted to know if I was going to keep writing it down. The responses that I received made me feel like I was using the transcripts as a tool of domination (Brieschke, 1997), making my participants feel incoherent and inarticulate. I wonder, as does Poland (1995), whether verbatim transcription is necessary for member checks as it seems to have a detrimental effect on the trust that has been carefully built up over the course of the research and on a participant’s sense of worth.

I feel that most of my interviews were very successful. Technically I did everything right. My recorder was tiny and inconspicuous and I used 60-minute tapes so that I did not have to worry about running out of tape during the interview (Taylor & Bogdan, 1998). Before each of the interviews my participant and I would test the recording equipment to ensure that our voices were loud enough to facilitate transcription. Before the second set of interviews I gave my participants time to review the questions I had composed the night before their interview so they could decide whether they wanted any questions rephrased or withdrawn. No questions were ever identified as being inappropriate or needing changes but I felt that I owed

my participants this opportunity to avert any potentially embarrassing situation during our audiotaped interviews.

However, I felt that during my very first interview I was very stilted and made very little eye contact with my participant. I had originally planned to have a pilot interview but abandoned this step due to the pressures of time. I regret this now because I feel that a pilot interview would have given me more confidence for my initial interview so I could have been more familiar and relaxed with the interview procedure. With each successive interview I felt more comfortable and became more confident in my ability to draw out my participants' experiences. The interviews became more like the guided conversations that I had originally envisioned them to be.

During all the interviews my participants were open, articulate, reflective, and straightforward in their comments. They addressed their and my concerns but I did not feel at any time that they were saying things just for my benefit. Half of the interviews were conducted at my home. I do not feel that this presents an ethical concern since my participants were the ones who chose this location. I controlled the environment to the extent that we were not interrupted by the telephone or other people in the house. One interview was in the participant's office. We were interrupted three times by the telephone. Not only did this prove to be disruptive to our train of thought but it also made transcription of the interview more difficult. The most problematic interview location, however, was in a public library because there was no meeting room available. Proximity to my participant's house was the overriding factor for choosing this location after considering other alternatives. The

interview took place in the adult nonfiction area. It was quiet with no telephones but several people walked by during the course of the interview. This did not appear to have any effect on our conversation but given that it was not a private location, there may have been a tendency on my participant's part not to divulge certain information because of the risk of eavesdropping.

Transcription

“Whenever something is extended, the extension begins to take on a life of its own and quickly becomes confused with the reality it replaces” (Hall, 1983, p. 131). Many researchers warn against confusing transcripts with the reality of the interview conversation that it replaces (Kvale, 1996; Lapadat & Lindsay, 1999; Poland, 1995). Hall says that all extensions, including notation systems, leave some things out. Poland points out that even the audiotape from which the transcript is created is not strictly faithful to the interview since it does not capture some of the emotional context and nonverbal communication of the interview. Transcripts must therefore be thought of as constructed texts representing the interviews and as such are interpretations of the interviews. They are not to be thought of as an original data base for the study (O'Connell & Kowal, 1999).

I personally transcribed the audiotapes, which allowed me an intimate familiarity with my data. I did not edit them to make them sound better (Poland, 1995). The transcripts are as close to verbatim accounts of the interviews as I could possibly make them. Since I was the only one reading the transcripts, I followed the guidelines of O'Connell & Kowal (1999) to ensure the transcripts were

comprehensible by removing background supportive noises and by indicating laughter, coughing, whispering, and pauses in round brackets. Any emphasized words were indicated with bolding. After transcribing was complete, I rewound the tape and listened to it again to check it against the transcript, trying to ensure that no interview information had been lost in the transcribing process.

I was extremely fortunate to have good recording equipment. Even though I found some of the participants spoke very fast, most of what they said came through loud and clear. The greatest difficulty I encountered was deciding where to put the punctuation. Many of my participants' sentences ran on and on, as can be expected with oral discourse. But then I had to decide where to put the punctuation to make sure that I did not change the meaning of what they were saying or of what I was interpreting them to be saying. I have to admit that I initially balked at having to transcribe all of my interviews. However, with each transcript I became more adept at using the transcribing machine and the transcription task became easier. But it was when I wrote my chapter 4 that I realized the actual benefits of transcribing my own interviews. I was amazed how easily I could retrieve my participants' quotes. I could visualize particular instances of the participants' interview in my head. Their voices were calling me to use their quotes in support of my analysis. The transcription process helped me to interpret and analyze my participants' experiences (Tilley, 2003).

Other Data Sources

Although the primary source of data were the audiotaped interviews, data were also collected from my field notes, my journal, and curriculum documents.

Data triangulation, the use of more than one data source, enhanced the rigour of my study (Lincoln & Guba, 1985; Padgett, 1998). It helped me gain a better understanding of my participants' stories of their classroom lives (Fontana & Frey, 2000).

My field notes consisted of both pre and post interview thoughts. The pre-interview notes consisted of the history of my initial contacts with my participants, how I was acquainted with them, and why I thought they would be good participants for my study. The post interview notes were written as soon as possible after the interview (Emerson et al., 1995; Jackson, 1990). I wrote down my initial impressions and reactions, my personal musings about the interview, as well as a description of the setting to try to portray the whole picture (Emerson, Fretz, & Shaw, 2001). Then I listened to the audio-tape of the interview and created a brief summary of the interview encounter, writing down what I thought might be important to pursue. My field notes were selective and reductive representations of the interviews that were used to help me decide what to pursue in subsequent interviews and as jumping-off points for analysis (Emerson et al., 2001). They also helped me to decide where to focus my attention in my emerging study of scheduling by informing me about what to sample (Peshkin, 2001). In this regard they had a profound effect on my thesis. "Writing field notes is an interpretive process; it is the very first act of textualizing,

ultimately shaping the final published text” (Emerson et al., 1995, p. 16). For example, I wrote the following field note after my first interview with Cory:

I got the impression that he thinks there is too much material to cover in the new curriculum in any meaningful manner. He covers what he can in depth. The new curriculum is expecting history teachers to cover all of this material and do it in a meaningful manner as well. It wants its cake and eat it too, so to speak. (Field note entry, July 10, 2003)

In my research journal I recorded my daily thoughts about the ongoing research. It became a valuable place to jot down ideas and hunches as I was trying to make sense of my data. After interviewing Siona I wrote the following entry in my journal.

Siona was here for her second interview today. It is funny how teachers get quite possessive about their subject area. Possessive is probably not the right word. They think their subject is the most important. Maybe I should not generalize so much. Siona thought that math courses should be scheduled at the beginning of the day when student concentration is best and kids are not leaving for sports. I wonder what other subject teachers would think of that? (Journal entry, August 22, 2003)

The journal also became a space to hold my reflections about myself as I was striving to uncover my preconceptions and assumptions that were influencing my research. As well, I used it to collect significant quotes and passages from journals and books. As my study progressed and I realized how important my journal was, I started to worry about losing it. Unlike my other data, which are located on my

computer and are duplicated with hard copies, my journal is written in two books. No copies are available. I contemplated using a computer to produce my journal but after years of habit I feel I do my best thinking with my fingers around a pencil even though I am getting better at thinking while tapping my fingers. However, manual writing, using the symbols that are unique to me, ultimately seems a more personal extension and can be done so much more easily on the spur of the moment or in the middle of the night.

The new Ontario curriculum documents in Grades 9 and 10 science (Ontario Ministry of Education and Training, 1999) were compared to those used in the previous Common Curriculum (Ontario Ministry of Education, 1995). It was evident from the comparison that the new curriculum was more rigorous in terms of objectives to be learned by students. The Common Curriculum focused on learning how to learn.

Other government reports on the new Ontario curriculum were also used to familiarize myself with the new curriculum and to verify information about it that I obtained from my participants. For example, Terri mentioned in her second interview that according to official government documents that the applied level courses were suppose to be for students who learn differently than academic students but who are still very skilled. I located the document (Ontario Ministry of Education, 2000) on the internet and it verified what Terri had said. It states that applied level courses provide more opportunities to experience hands-on applications of concepts and theories than academic courses do, but that both types of courses “set high expectations for students while preparing them for studies in the senior grades” (p. 2).

Data Analysis

Although informal analysis occurred during the conducting and transcribing of interviews and during the writing of the field notes and research journal, formal analysis followed the transcription process. “The analysis of the transcribed interviews is a continuation of the conversation that started in the interview situation” (Kvale, 1996, p. 281). I read through each transcript of the first round of interviews several times and then underlined phrases and ideas that were significant to the study. These underlined words were coded by phrases or words. Coding helps to conceptualize data, raise questions, and find data (Coffey & Atkinson, 1996). A priori codes developed from the research questions were placed in the right hand margin. Emergent codes were placed in left margin. Emergent codes were then added to the list of a priori codes to be searched for in subsequent interviews. After coding all interviews in this manner it was then necessary to go back through the interviews another time to see if any of the codes that emerged subsequent to each interview’s coding could be found. For example, in Cory’s first interview, he said,

I worry about the fact of us making it too difficult for them socially and personally, not necessarily academically.

I coded this emergent code as: concern for students/ socially and personally.

When I went back to the transcript of Terri’s first interview I found an emergent code that just said: student concerns. The transcript excerpt read as follows:

They have other issues besides academics. They’ve got a social life. They have to find out who they are in relation to their family and what they want to do in their future.

I immediately changed the code to: concern for students: socially and personally.

I used these codes to interact and think about the data (Coffey & Atkinson, 1996). I organized the codes under different categories and placed these in a coding chart (Appendix E) on the computer (Gillham, 2000). Some of them did not seem to relate to a category so I placed them together in a category I called outliers so they would not become lost to the analysis process (Coffey & Atkinson). After transcribing and coding my data I was so familiar with it that I started to see recurring patterns in the data. I wrote these themes down on paper, surrounding them with the appropriate codes in order to link my data segments to the emerging themes (Coffey & Atkinson). I placed the emerging themes on a long piece of paper and drew a concept map to connect interrelating themes. I then repeated the entire process using the transcripts from the second round of interviews. Interrogating the two concept maps allowed me to see an overview of the results of the study and helped me to detect interrelationships among the themes that were not apparent by just looking at my code charts. It was at this point that I coded my field notes and journal using the list of a priori codes that had been generated during the interview coding process. No emergent codes were discovered but this process allowed me to link data segments from my field notes and journal to the themes that emerged from the transcripts. By this point I was impatient to jump in and write up the data.

Constructing the Story

Upon completion of my chapter 4, I was disappointed that my advisor was critical of what I had written. Although she thought I had very good quotes, she

thought there were too many not tied together with analysis and my focus had strayed away from my research questions. In my zeal to have all my participants' voices honoured, I padded my writing with their quotes. My writing provided vicarious experience (Stake, 1995) but not enough interpretation of the data (Merriam, 1998). In retrospect I realize that what I had regarded as my finished product was really just an important first phase in developing my story line (Taylor & Bogdan, 1998). It was not a wasted effort. Orchestrating my participants' quotes allowed me to visualize the overall picture of the study and made it easier to sift through and further organize my data into the themes and concepts that I wanted to communicate. Reworking my story line, focusing on my research questions forced me to think about, interrogate, and make sense of my data in new and different ways. I started using the ideas in my literature review to develop different lenses through which I could look at my data. When my data did not fit with what the literature was saying I started theorizing why that might be and what my data could mean in the context within which they were found. These insights were often based on my experiences as a teacher in the secondary system. When I found differences in opinion between my participants I felt that these had to be explained but as tactfully as possible. Often instead of making a definitive statement I would suggest an answer by way of posing a question. From a postmodernist perspective, my voice should not be the sole authority. However, this perspective certainly did not bar me from being as persuasive as possible and from pointing out inconsistencies of thought.

Reciprocity

Reciprocity in qualitative research is “the give and take of social interactions” (Harrison & MacGibbon, 2001, p. 323).

Without my participants’ willingness to discuss their experiences, I would not have been able to write my thesis. As a result of their cooperation I was able to go through the learning process of doing and writing up research and hopefully I will be able to attain my Master of Education degree. My participants’ comments have also helped me to uncover some of my preconceptions. I am certainly no longer convinced of the benefits of standardized testing and streaming. As well, their commitment to students and their caring attitudes have given me a new-found pride in the teaching profession. I came into this program worn down by government criticism of teachers. This criticism had the effect of eroding my feelings of worth as a teacher. This study and my participants have made a positive impact on my outlook on the teaching profession.

As a researcher I realize that I was not in control of how my individual participants benefited from my study (Tilley, 1998). It would be methodologically naïve of me to presume that I have fundamentally changed the lives of my informants (Atkinson, Coffey, & Delamont, 2003). However, I hope our interviews challenged them to reflect on their practice as teachers. But each individual teacher would benefit from my study in ways that are personal to him or her. Cory and Peter both indicated that they appreciated the chance to discuss the new curriculum and their concerns about it.

Our conversations also made David realize how he took for granted some of the benefits of his school's laptop program. In regard to the computer's ability to expand his class time, he commented that it is now just an assumption on his part that students will be able to do language labs outside of class.

I forgot that once upon a time I was limited to being in the classroom. It has now become so commonplace that I accept it. Here I am talking about it right now but I had not even thought about it earlier. (David, Interview 1)

Peter used the interview as a forum to explain his use of a homework portfolio in his classes. He had learned about the idea during a conference workshop and was anxious to discuss its successful implementation in his classrooms.

[The homework portfolio concept] ended up being a very positive way of getting [students] to do their homework. (Peter, Interview 2)

It is important for teachers to talk about and be invigorated by their accomplishments.

Ethical Considerations

"Power is about who effectively makes decisions in what manner about what and about whom" (Heron, 1981, p. 34). By virtue of my role as a researcher, I constantly made decisions about what participant experiences I deemed important enough to write down (Tilley, 1998). Exploring my participants' thoughts by using open-ended questions came with a responsibility to not use information that might harm my participants. "Questions, answers, discussion – particularly in an open-ended format – do not occur in a vacuum" (Tilley, 1998, p. 324). I had to be careful to respect my participants' comments and not use any that might cause harm. Exercising authorial prerogative also placed me in a researcher-participant

relationship in which some of the intrinsic power differences were impossible to completely resolve (Manning, 1997). Consequently it was important for me to carefully honour the multiple perspectives of my participants. I feel that I accomplished this by using multiple direct quotes of my participants to support my analysis and interpretations. It was also incumbent on me to allow my participants a voice in their own representation. This, as was previously mentioned, was also achieved by the use of member checks.

I am keenly aware of my responsibility to ensure the anonymity and confidentiality of my participants so that no harm will come to them as a result of this thesis or any papers that I write as a result of my research. This was communicated to my participants both verbally and in documentation that outlined my research and my ethical responsibility toward them. In this regard, I have tried to withhold any identifying features surrounding my participants. However, given the size of the educational community in Ontario, anyone knowing me could easily determine the educational context in which this study takes place and possibly identify my respondents. I do not believe, however, given the subject matter of the interviews, that there would be any negative responses from administrators or fellow teachers who might connect specific data to individuals.

CHAPTER FOUR: DATA AND ANALYSIS

Introduction

In this chapter I introduce some of the changes introduced by the new Ontario curriculum and re-present some of the classroom experiences described by my teacher participants as they implemented it. I look at their perceptions of how scheduling affects their pedagogy, the curriculum as a lived experience, and student learning. I also explore with them the pros and cons of the A/B timetable. Finally I report on their perceptions of how students are faring in Ontario's new educational environment.

A New Curriculum for Ontario

The new curriculum was introduced in Ontario's secondary schools in September 1999. Many of my teacher participants have indicated that their classrooms are now experiencing increased pressure in terms of having more to do but with less time to do it. I believe that the government in its hasty implementation failed to anticipate the effects of this unintended outcome of its reforms.

Compressing the time frame to 4 years, adding more mandatory courses, increasing course content difficulty, as well as changing assessment and evaluation methods have all resulted in incredible time pressures that affect both students and teachers. These reforms have also contributed to a narrowing of the curriculum as the courses that students can choose are severely limited. Many students, in an effort to complete their 30 courses in 4 years, have avoided optional courses in disciplines

such as social sciences and languages. This has caused many of these courses to be cancelled due to low enrollment. Government tests and preparation for them have added even more stress to an already difficult situation by taking important classroom time away from courses and causing worried teachers to “teach to the test” in an effort to avoid bad results that would reflect poorly on them. Weaker students worry that bad results will prevent them from graduating. The return of streaming to Grade 9 has also created pressures for weaker students who have academic aspirations but are not given the time or knowledge to pursue them.

The pressure-filled lived experience caused by this controlling curriculum has encountered some interesting resistance. “Whenever an oppressive system is set in place, an opportunity for resistance to that system is also created” (Haig-Brown, 1988, p. 131). One form of passive resistance by students is their return for a 5th year of secondary school in order to expand their time to study. Teachers also display resistance in their varied attempts to relieve the pressure in what has become a harsh educational environment for many students. Puk & Haines (1998) reported that so much curriculum upheaval over the past 10 years in Ontario has created a resistance to implement courses on the part of some teachers in hopes that there would be a change in government. David had not yet implemented the new curriculum’s Grade 9 French course when I interviewed him. He was in the process of implementation this September, 4 years after its supposed arrival. Perhaps he was waiting for that change in government or maybe just for good curriculum materials to be developed. In any case, it is ironic that the Progressive Conservatives were defeated the month following my last interview with him.

Time and not having enough time is the umbrella theme in many of my participants' conversations. Time in secondary schools is organized by schedules. According to Hall (1983), these schedules can take on a life of their own "without reference to logic or human needs" (p. 53). The human need in schools is for schedules to provide students with the best possible opportunity to meaningfully assimilate ideas into a knowledge framework. Are the existing schedules performing that function in light of this new curriculum? To investigate this I selected teachers from varying scheduling backgrounds and explored their understandings and perceptions of scheduling in relation to pedagogy, curriculum, and observation of student learning, respectively.

Scheduling in Relation to Pedagogy

Many researchers have espoused semestering (Canady & Rettig, 1995) as a means of encouraging teachers to use a variety of instructional techniques. However, all of my participants reported using a variety of teaching strategies that they felt could be used in either long or short instructional periods. This is consistent with Jenkins, Queen, and Algozzine's (2002) study that found semestered and traditionally scheduled teachers reported the same level of use of many instructional strategies. Many of my participants said it was important to use a variety of approaches in order to appeal to the different learning styles of their students.

I would say, yes, you do [use the same strategies in semestered and traditional timetables]. It is just a matter of the time, the application, and I suppose the

group of kids you have. I mean some kids react better to some strategies than others. (David, Interview 1)

The participants' use of a variety of material and teaching strategies was not just a function of period length but a reflection of their beliefs about how students learn.

You could use the same strategies for both semestered and traditional because in a lot of cases it is just a question then of how you are planning it. If you are going to organize a debate, then you obviously need to structure it slightly differently if you are only dealing with a 50-minute period. You have the presentations for and against and then the review and rebuttals in the next period. (Cory, Interview 1)

The teachers in my study designed their curricular activities based on the educational needs of their students rather than on the length of the period. This approach, in my view, is one that should be emulated by all teachers.

Students having difficulty paying attention throughout the long semester period was an issue addressed by my participants. Cory believes that varying instructional strategies during long periods puts pressure on teachers to use varied instructional strategies to ameliorate the problem.

I sometimes find that [75] minutes is a very long period of time to get students to focus on things. I think it increases the pressure on teachers to have a varied approach and plan to do multiple things. (Cory, Interview 1)

Peter even went so far as to say that he divided the long period in two and taught two separate topics in order to keep the students focused.

The biggest problem [in the semestered system] is keeping the student focused for the whole period. You have to have ups and downs within that [75-minute] period. And that is why in the past I have used completely different topics and split the period into two sessions. (Peter, Interview 1)

Siona thought the long periods were especially difficult for younger students in Grade 9.

For Grade 9 shorter periods make more sense too because Grade 9s just do not have the self-discipline to make use of that last 20 minutes of a semestered class. It takes everything in you just to keep them in their seats and keep them on task with their books open. (Siona, Interview 1)

Terri agreed:

75 minutes is quite a whack of time, especially for Grade 9 and Grade 10.

(Terri, Interview 1)

David related the problem to students who did not want to be in class.

I'd have to say that the semestered 75-minute class for a general level student or the current applied level was a disaster. It was very difficult to keep a kid who really did not necessarily want to be in the class...on task for that amount of time. You had to be very creative in what you did. You had to have a good sense of humour or God help you because it was horrible.

In numerous studies cited in my literature review, both students and teachers identified students' attention span as a problem in the semestered timetable. Marchant and Paulson (2001) found that longer class periods created attention problems for weaker students. The literature has been largely silent about the semestered

timetable's effect on the achievement levels of weak students. Lockwood (1995) found there was no statistically significant difference in the achievement of low ability students on standardized mathematics tests after instruction on a traditional timetable compared to a semestered one. But she did caution that her study involved small numbers of low ability students and that school boards implementing a semestered schedule should build a safety net for these students. Van Mondfrans et al. (1972) speculated that learners need a certain level of maturity to benefit from the learning conditions under block scheduling. Hess, Wronkovich, and Robinson (1999) found in their study that there were greater test score gains for females than males in block scheduling. It is possible that adolescent boys do not generally have that certain level of maturity postulated by Van Mondfrans et al. (1972). I certainly found students' inability to focus for 75 minutes a problem when I was teaching mathematics. This was less so in activity-based classes such as science labs. I did not note, however, any gender factor. Hart (2000) in his doctoral thesis found that not only was there no difference in the rates of off-task student behaviour between the semestered and traditional classrooms that he studied but that the rates of off-task were in fact low. However, he reported that this finding was probably due to the fact that the overall rates of active learning were high in both settings. This is consistent with my experience of teaching science classes where attention problems were minimal when students performed a lab activity. Possibly focus problems are more common if students sit in one place for a lengthy period of time. Cory's suggestion of varying instructional strategies to overcome focus problems in a long period should perhaps include strategies that enable students to get up and move around. It just

makes physiological good sense although surprisingly I was unable to find any study addressing this issue.

Although participants voiced concerns about student attention span problems, many agreed that the longer periods afforded by the semester system were beneficial in some respects. Peter believes that the longer period of the semester system works well with the exploratory structure of the new curriculum.

With a stress more on investigative learning ... in the new curriculum, the longer period lends itself to really delving into a problem and looking at its ramifications and being able to make some mistakes, going down the wrong path and then bringing the student back and trying a different problem-solving approach. In the [75-minute] period there is a greater opportunity to leave the classroom with some findings already discovered. (Peter, Interview I)

However, Terri complained that the difficulty level is not the only criterion making the new curriculum more challenging to deliver. More material has been added to the courses as well.

Grammar is no longer just an incidental focus and yet they have not changed the number of hours in a semester to accommodate that. Under each grade level they name the grammar points that have to be taught to the students so we need grammar lessons. (Terri, Interview I)

The longer period may indeed work well with the new curriculum's stress on investigative learning. However, the new curriculum also comes with increased content and content difficulty. In reality students can only assimilate so much material at any given time. Comenius, a 17th century educator believed that a teacher

should be careful not to present too much material for a child to learn at any one time (Freeland, 1980). Metaphorically he likened it to filling a narrow-mouthed jar with a big pail of water. Water will be lost in the transfer process unless care is taken to control the rate of flow. It may well be that the attention span problem that some students experience in the 75-minute semestered period is a symptom of students being inundated with information that they are not able to assimilate given the semester time frame.

One criticism that Peter had of the semester system is its short timeframe where students do not have enough time outside of the classroom to think about material they have learned.

I find if you have a true semestered system where the content is there every day for only half the year, some students have a difficult time truly understanding the underpinnings of what we are trying to teach them. The student [in an all-year schedule] who has a greater opportunity to absorb the content has a better understanding. The big difference I see is the amount of time they have to think about it outside the classroom.

Siona, however, likes the longer periods because there is a lot of time for seatwork. She believes this is important because students can get in-class help that might not be available at home.

In a traditional, all-year schedule where classes are shorter [the students'] first attempt at the homework may be on their own at home where they cannot get that quick verification to then proceed and for some kids that might mean I am giving up because my parent cannot help me.

Studies have shown that there are fewer hours of instructional time per course in a semestered schedule than in a traditional one (Canady & Rettig, 1995; Deuel, 1999; Raphael et al., 1986). In the Ontario study, Raphael et al. reported 10 less hours of contact time for a course in a semestered schedule compared to one in a traditional schedule. With the new curriculum's increased content demands, using the extra 20 minutes of the semestered period for homework assignment has created time crunches for Siona and her fellow semestered Grade 11 mathematics teachers. They felt there was so much material to cover in the Grade 11 mathematics course that there was not enough time to do a government-mandated summative assignment as well.

As a Board, we agreed that there would be no summative assignment for Grade 11 mainly because the course is so heavy that you cannot afford to waste 2 or 3 days preparing for a summative assignment and then conducting [it]. You have lost an entire week there.

This organized resistance to a government initiative demonstrates a pact among teachers to reclaim time in their classrooms for personal educational priorities.

Scheduling in Relation to Curriculum

This section looks at teachers' perceptions of scheduling in terms of how it affects the lived experience of teachers and students in the classroom.

Many participants mentioned that the new curriculum has increased the pace of their courses. Siona believes that academically strong, mature students can handle the pace in a semester time frame. Weaker and immature students have difficulties.

From Grade 10 up [the math of the new curriculum] is a killer. The pace is very, very fast and if you do not have the basic skills and the work ethic to keep up, you will be in trouble, definitely. There are lots of students that cannot cope with [the semester time frame]. The pace just kills them. And if they have got a part-time job or whatever and they do not have time to get the homework done, internalize it, think about it, they are going to fall behind really fast, get frustrated and give up. (Siona, Interview 2)

Siona's belief is consistent with those of the teachers in the Wronkovich, Hess and Robinson (1997) study. They felt that the pace of semestering put students who were not properly streamed at a greater risk of failure. Streaming, sometimes known as tracking, produces an academic caste system (Hirsch Jr., 1987) whereby students are placed in different classes according to their academic abilities. Siona thinks that an advantage of the new curriculum is that the more difficult academic course in Grade 10 mathematics compared to the old curriculum's Grade 10 advanced mathematics course helps identify weaker students earlier so they can be streamed appropriately.

Grade 10 is a huge change to the old system, but in some respects that is good because at an earlier grade we are siphoning them into their appropriate levels. (Siona, Interview 1)

But the question is whether these students would be struggling as much under a different timetabling schedule that provides them with a slower instructional pace? Would their learning performance under a different timetable avoid their being "siphoned" into another level?

Cory believes that the time pressures of the new curriculum are somewhat alleviated by the traditional all-year timetable.

In the all-year model I just had an overall sense of things having a much more relaxed pace for students and for staff. Even for students, the fact that they have breaks between classes, you saw a class 3 days a week, gave the illusion maybe that you had this extra time to either think about it or to complete homework. [In the semester model] in lots of cases the homework is asked for the very next day so there is not a lot of wriggle room. There is no real flexibility because if you do not have the homework done I cannot stop the progression of material. (Cory, Interview 1)

Even from a teacher's point of view, the time pressures imposed by the curriculum seemed less.

In an all-year timetable from a teacher point of view, your ability to plan more slowly and to go at the [curriculum] at a more reasonable pace was much, much greater. (Cory, Interview 1)

Cory feels that the slower pace of the all-year traditional model could alleviate some of the pressure that students are under as a consequence of the new curriculum. Possibly it could also prevent the siphoning of some students who learn at a slower pace.

[The all-year traditional schedule] slows down the whole teaching pace. You are going to still have the new curriculum and maybe increased expectations and you are going to have to address the issue of the volume of work you are

expecting but the fact that there is not this constant day-after-day intensity might actually lower the stress level. (Cory, Interview 2)

Many researchers (Canady & Rettig, 1993; Davis-Wiley, 1995; O'Neil, 1995) have reported that the learning climate of school is positively affected by the more relaxed and less stressful semestered timetable. Cory and Siona's experiences appear to contradict these studies. The source of the stress may not simply be the semestered timetable per se but the fact that the new Ontario curriculum does not flow effectively within that scheduling system. The longer periods are beneficial for investigative learning (Canady & Rettig, 1995) that is espoused by the new curriculum but not for the quantity of content material that it also demands and which teachers, whose students are going to be government tested, feel obliged to cover. Cory's semestered history students are not going to be government tested but even he feels that he lectures more in the new curriculum just to get the material covered. And yet he rarely gets as far in the curriculum as the government guidelines stipulate. He believes that covering the course in the time he has available to him would be encouraging rote learning of historical facts so he does not regret his resistance to a curriculum that would dehumanize historical context (Haig-Brown, 1988). So he must pick and choose what he covers in the course. Veal and Flinders (2001) raise the issue of content decision making by teachers as being a technique often used as an alternative to lecturing when they do not have enough time to cover curriculum. Teachers might fall into the trap of reducing curriculum to what is being evaluated rather than reducing it to reflect curriculum theory and educational philosophy. They

think, like Cory, that too much content can therefore become an obstacle to good teaching.

Interestingly, Cory said that if there were a standardized testing of his students' knowledge as in mathematics and English, the way he covers his course would have to change.

Should that happen, oh, then that changes the whole ballgame entirely. Then you have to teach to the test a great deal because then you do have to be much more strict in how you cover the material in order to make sure that you produce acceptable results just like math and English would.

Cory's reaction to standardized testing demonstrates how it can shift teachers' time and attention in the classroom from deeper learning to a superficial coverage of material, from curriculum as lived to curriculum as text to be covered. Standardized testing is not a neutral measuring device. It is a controlling device that can shift the goals of education (Barlow & Robertson, 1994).

Cory finds the accelerated pace of a semestered timetable can make it difficult for weaker students, especially ones who do not attend on a regular basis, to keep up. He thinks the pressure caused by missed classes is significantly less in a traditional timetable than in a semestered one.

In a semestered model, especially applied levels can fall behind faster and experience more difficulty getting caught up because there is no break in the pace. When confronted with 3 days of notes and missed assignments, the weaker student starts to shut down. In an all-year model I found students had

more time and were capable of going back and catching up assignments better than they are in the semestered model. (Cory, Interview 2)

Peter, Terri, and David also perceive it to be more difficult for students to catch up on missed work in a semestered timetable.

My literature review found several studies that showed attendance rates improved with a switch from the traditional to a semestered timetable (Fletcher, 1996; Khazzaka, 1997/1998; McCreary & Hausman, 2001; Snyder, 1997). I postulated that students did not want to miss class because they intuitively realized that they would have a harder time catching up. But some students will inevitably miss classes for illness, sports, or parent pull-outs for vacation.

Queen (2000) disputes that these students will have a harder time catching up. He contends this is not the case because students will have fewer subjects for which they must complete missed assignments. Many of my participants, several of whom have taught in both semestered and traditional timetables contradict this. Perhaps Queen has failed to take into account that students in a traditional timetable with a full class schedule are taking only six subjects in any one day over the full year. Students in a semestered timetable with a full class schedule are taking an equivalent of eight subjects worth of material a day over the whole year. As Terri so aptly puts it, each semester class “has to count for so much” because it is only going to be taken by the student for half of a year.

All of my participants except for Siona mentioned the gap as a problem of semestering. In the literature it was found to be of particular concern to teachers of sequenced subjects such as mathematics, languages, and music (Kramer, 1996;

Queen, 2000; Wronkovich et al., 1997). The gap is a scheduling problem whereby a student may have a gap of 1 year or more between the taking of two sequential courses in a subject. David referred to it in our conversations as “that big emptiness.”

You’d go a whole year without that student developing any further in the language. That was always a difficulty [in the semester system] and something that was not well received by the teachers or the students. But it was a scheduling reality. (David, Interview 1)

Brian said that students who are keen in biology do not want a year off.

Kids [who] are keen in biology want to keep that continuity. They do not want a period of time to go by when they are going to forget things. (Brian, Interview 1)

Terri did not like the gap in English because it meant that her students’ skill development would suffer.

I do not think their skills would develop the same way as they would if they were working on language skills day in, day out. This necessitates spending some of your [course] time rebuilding, [reviewing] the building blocks to get students up to speed. (Terri, Interview 1)

Peter believes that the gap negatively outweighs any semestering benefits for weaker students.

The weaker students, as has always been the case, have very poor notes and have very little to fall back on if they even make the effort to go into any kind of review. So increasingly, I think, a semestered system when that huge gap

could occur is going to hurt the weaker student more and more and more.

(Peter, Interview 1)

Siona does not believe that the gap is detrimental to students' learning of math, provided students are willing to put in extra effort at the beginning of their course.

Once [students] get back into it, it is like riding a bike. ...Algebra, integers – they start remembering it all. But if they are not going to put in that effort at the beginning to refine their skills, then yeah, they are going to struggle.

(Siona, Interview 1)

Siona is a mathematics specialist who has yet to teach an applied class in the new curriculum. This may explain why she has not experienced any difficulty with students who have encountered the scheduling gap. This curriculum has left little time for review but academic level students are more inclined to do review on their own than students in applied classes. And Siona is more inclined to have students review on their own if they are experiencing difficulties in previously taught material.

The new curriculum textbooks are really good because they have a section at the back with sets of questions to review specific basic skills. If you have a student that say their integer skills are terrible then you can individually say to that student – you have got to go to the back of the book and do these 20 questions to polish up [those integers]. (Siona, Interview 1)

Queen (2000) puts the onus of eliminating the gap on administrators. But as David previously indicated, it is very much a timetable reality. When I was teaching I would warn the parents of my Grade 9 mathematics students to make sure that they

came into the school and had guidance change a timetable that showed their son or daughter having a gap year in mathematics. I think the parents need to have more information given to them about this problem and its consequences. They are the best advocates for their children in cases like this, especially in the parent-empowering atmosphere of the new curriculum where students are identified as clients.

Another scheduling problem that students and parents must be alerted to in semestering is that of unbalanced semesters. Terri notes that a student might be saddled with academic courses one semester that all have a large homework component. Then the next semester they have all hands-on courses with little homework. She finds that this is a problem for skill development in English if students find themselves with a heavy semester because they do not have the proper amount of time to devote to developing their English skills.

If [students] are scheduled in four heavy academic courses in one semester and English happens to be one of those four, then it is a challenge because there is only so much homework a student can do. If they are dividing themselves among four different areas then to find time to work on English skills can be a problem. (Terri, Interview 1)

In the traditional timetable most students get a mix of academic and hands-on courses. Teachers also realize, and if they do not, are soon informed by their students, that they are one of eight teachers giving students homework. Also, according to Cory, there is more “wriggle room” to get homework done in the traditional timetable since classes do not meet every day as in the semester system.

Consistent with my findings in the literature my participants differed in their opinions about whether you get to know your students better in a semestered or a traditional timetable. Siona believes that getting to know your students better is an advantage of the semester system. However, when I asked how her first semester Grade 9 mathematics students did on their EQAO test, she said she did not know because those students were into their second semester when the results came in. She did not get to see them to ask them their results.

Cory felt he developed closer relationships with students when he had them as students all year. He witnessed a lot more personal growth in his students over the course of a whole year compared to over the 5 months of a semestered system.

I have trouble even remembering first semester students by the end of second semester because I have a whole new slate of kids that I have to remember.

You focus on the new group and by definition start to lose the others. And you do not see them. You do not see them so you lose touch with them because they are off. (Cory Interview I)

Developing close relationships with students helps teachers deal with individual problems in the classroom. It also helps teachers promote an atmosphere of trust and respect. This creates an environment where students are more likely to ask for help from the teachers and from their classmates (Alexakos, 2001). It therefore creates a natural learning environment that should be encouraged. However there are inconsistent reports in the literature and in my own research about which scheduling method promotes closer relationships between teachers and their students. Possibly it is a teacher's personality that is the key factor that determines whether he or she finds

it easier to get to know the students better in the longer semestered periods over a shorter time frame or in the shorter periods over the entire year of the traditional system. How an individual accommodates to the pressures of time shapes his or her being and therefore is an idiosyncrasy of that individual (Lafleur, 1997).

Siona and Cory believe that the chief advantage of a semestered system is that they get to see their students every day, allowing them to introduce a topic, explore it the next day, and keep hammering away at it 5 days a week. Siona believes that a benefit of the semester system for a student struggling in a subject is that they get daily, long sessions of practice but only for half of a year.

It is more intensified versus being dragged out for the whole year. And if a kid knows they only have to do this for half a year maybe they are more willing to try because they know its not this grueling thing that is not going to go away for a whole year. (Siona, Interview 1)

Dempster and Farns (1990), however, found that spaced practice over several lessons is superior to equal amounts of time spent in massed practice concentrated in one session. Perhaps the student is struggling in the subject because there is not enough time for assimilation of knowledge in that subject. As well, this everyday routine of students seeing the same teacher at the same time may create a tedium for students especially during a last period class. I found, as a teacher in a semester system, that just tumbling the timetable every 2 days took away some of the boredom created by the schedule. There were other advantages to the tumbling timetable as well. Students who were behavioural problems during afternoon classes were much more amenable to instruction in the morning. Students leaving class last period for

sports or other activities would not miss the same class every time. A tumbling traditional timetable has the same effect. In successive days, courses have their classes in different time slots.

Terri thinks that another benefit of the semester system is that it allows students to focus for a smaller amount of time on a smaller number of courses and to apply themselves more thoroughly to those four classes.

I think if you have four things to focus on in a semester you do a better job than if you have five or six areas where things are due, homework has to be accomplished, and you have to read a book for another class. I think the concentration is a plus. (Terri, Interview 1)

Carroll (1990) agrees. He said that the traditional timetable is more stressful for students because of the larger variety of academic material. This would be true, however, only if students are not saddled with an unbalanced semester where they have all academic courses. As mentioned previously, this timetable reality would negate any stress-relieving benefits of the semester system by overwhelming the student with homework.

Peter also notes at exam time students in the semester system have at most four exams to concentrate on and there are usually no exam conflicts. In the traditional system, having eight exams at the end of the year is a problem for students. But he suggests this could be easily overcome by having the summative evaluation for some courses as an independent project in place of an exam. This would take students out of an exam time-slot for those courses.

Cory thinks the semester system is more flexible for students only needing a few credits. They can achieve their credits in a shorter framework rather than the entire year. In the school board where Terri works, 500 of the Grade 12 graduates, 37% of the graduating class, returned in September to take a few additional courses (Catholic Enrolment Higher, 2003), and that does not take into account the Grade 12 students that did not graduate. I believe that this large return of students for a 5th year of secondary school illustrates de facto passive resistance to the government's 4-year curriculum. In a semester timeframe, they will have up to four courses completed by the end of January, thereby freeing up the second semester for work, travel, or further studies. According to Cory, students coming back for a few courses in a traditional timetable have a difficult time motivating themselves for an entire year when more than half of their classes are spares. They usually end up failing their courses. .

Siona believes that the semestered timetable is more teacher-friendly. There are never more than four sets of exams to mark. The teacher deals with only half of the number of parents and students at any one time. As well, according to Cory there is a sense of satisfaction of finishing the courses and moving on to a fresh set of courses in the second semester. He did not think, however, that it was always student-friendly. He likes the way it accommodates students taking courses quickly and the way it provides them with more flexibility by having two entry points in the year. However, he thought that the pace of the semester system creates constant demands on students, increasing the level of stress and pressure that they are under with the new curriculum.

Bateson (1990) cautioned researchers about relying on teachers' perceptions of semestering because of the logistical benefits semestered timetables afford teachers. He felt there may be a halo effect associated with semestering that might blind teachers to its possible ill effects. One of the reasons I chose participants from varying scheduling backgrounds was to guard against this possible bias. I did not find, however, that my participants were affected by any preference for semestering. Even though Cory said that semestering was more teacher-friendly and that it was his preferred timetable, he was forthcoming about its deficiencies including its pace, gap scheduling problems, and catch-up problems for poor attenders.

Based on my participants' comments about scheduling in relation to the lived experience of students and teachers in the secondary schools, there are pros and cons related to both the semestered and the traditional timetable. However, the one issue common to the majority of my participants is the plight of weaker students in the semester system. They seem to be experiencing a harsh reality under the new Ontario curriculum. The gap scheduling problem is exacerbated for them by courses that have so much content in them that there is no time for review. The catch-up difficulties for students missing semestered classes, either voluntarily or not, cause many weaker students to give up. The increased semester pace to accommodate a more rigorous curriculum has resulted in more pressure for weaker students with academic aspirations. It serves as a streaming device since the student experiencing difficulties is not directed to a course where he or she will be challenged in a different way but where he or she is relegated to a course for the academically inferior.

Advanced, general, and basic classes had been eliminated in Grade 9 during the Transition Years reform of the *Common Curriculum* in September of 1992 (B. O'Sullivan, 1999). Streaming returned in the new *Ontario Curriculum* with the introduction of academic and applied classes although government documents (Ontario Ministry of Education, 2000) declared that both types of courses set high expectations for students and simply address different learning styles. However, according to Terri, something happened when the curriculum was implemented in the schools. Puk and Haines (1998) believe that some innovations are simply not explained to teachers well enough or in enough depth in curriculum guidelines and that is why they are not properly implemented. Terri believes this to be the case in teachers' implementation of applied courses.

I do not think the government has ever made it clear that the applied program is supposed to be as challenging as the academic program and it is supposed to be for students who learn differently but who are still very skilled. But I think in translation into the schools, it is an applied level so it is for students who are weaker academically. And according to official documents that is not what it is supposed to be. But something was lost by the time it made it to the schools. And I do not think it has ever been reexamined. (Terri, Interview 2)

Teachers in fact had very little direction on how to implement these classes. There were no materials available in September of 1999. The textbooks only arrived in the school I was teaching in the weekend before school started. I was in charge of the biology unit, the first unit in the Grade 9 academic science course, and all I had was the textbook and the Ministry guideline. I planned the first four lessons before

classes started to be a week ahead of my students. New quizzes, tests, overheads, notes, and labs all had to be prepared from just about scratch. All this had to be done in conjunction with teaching two other classes, doing a half-hour cafeteria duty every day, covering absent teachers' classes during my prep period, marking, and having a life. Thank goodness my extracurricular activity was in second term! I was not the only teacher undergoing what Apple (1993) refers to as intensification. I know the teachers who were implementing the applied courses were just as busy as I was. According to Apple, intensification creates symptoms ranging from no time to come up for air in the staff room to no time to stay abreast of developments in teaching. There was certainly little time for Anderson's (1997) collaboration with other teachers. And the so-called "experts" were not telling us what to do. So I can only speculate that the teachers of applied classes slipped back into the old model of teaching general level academically inferior students because it was something they were familiar with. "Intensification leads people to cut corners so that only what is essential to the task immediately at hand is accomplished" (Apple, 1993, p. 124). These teachers' task was to show up every day, teach science, and survive the semester. And they did it the best way they knew how – the same way they had always taught general level classes.

According to Terri, streaming has put a great deal of stress on students who come into Grade 9 wanting to stay in the academic level. They get very frustrated when they work hard but their hard work is not reflected in their marks.

In the *Common Curriculum* when we had Grade 9s of various abilities in the same class I think most thought they were moving on at their own pace. Now

they realize it is not so much their own pace. They have to be able to demonstrate mastery of some skills if they are going to be successful in the academic level. [And if they are not successful] students feel they are going down to the applied level. In the original notion of what applied was you were not going down. Both of them were across from one another. But that is not the case so they do not want to go down to applied if they have academic aspirations. (Terri, Interview 2)

Cory agrees with Terri in her assessment that there has been a return to streaming in Grade 9 with the new curriculum.

I do not think students are fooled for a moment by changing the names from general and advanced to applied and academic. If anything they just lose respect for a system that cannot be honest and just plays word games like this. (Cory, Interview 1)

It is evident from Cory's quote that he does not differentiate between general and applied level classes. General level classes in the old curriculum were for academically weaker students. Cory's quote illustrates the point Terri was making about how applied classes were supposed to be for students who learned differently but in practice that term now refers to students who are weaker academically. As a result, a portion of the student body are adversely affected by unintentional mislabeling.

Cory believes that the new curriculum's content and workload couched in the exacting pace of the semester system is a mechanism used to stream students in math and science.

We were losing Grades 9, 10, and even 11 students who were having significant failure rates in maths and sciences in particular and were not able to keep up with the demands of the new curriculum both in the type of content they were being asked to learn and in the volume of work they were being asked to complete [in a semester timeframe]. And it was really sorting kids out in a big way. (Cory, Interview 1)

The main goal of our secondary school system should be to provide high-level and broad learning for all of our students (Stoll et al., 2003). They should be given the best experience that will foster this learning. They should be given the time and opportunity to learn.

Scheduling in Relation to Student Learning

How can scheduling be organized to allow students the best opportunity to meaningfully assimilate knowledge? My literature review of this topic revealed many quantitative and quasi-quantitative studies with contradictory results. This is what prompted my qualitative study to explore teachers' understandings and perceptions of scheduling in relationship to pedagogy, curriculum, and observation of student learning.

Cory has not seen any problems with students' comprehension in the social sciences due to the pace of the semester system. He attributes this to the topics covered in these courses not being as challenging as those in languages, science, and mathematics. He does, however, feel that in social science courses the increased

content and workload demanded by the new curriculum when delivered within the semestered system causes more pressure for students.

So from that point of view in terms of the scheduling or the pace point of view, I think students [in this new curriculum] are under a lot more pressure and they face more deadlines in a semestered model. (Cory, Interview 2)

Brian does not have any trouble covering his new biology course under the traditional timetable and he does not think there are any additional student comprehension problems. He attributes this to the fact that both the old and the new Ontario curriculum only had two biology courses. The compression of the curriculum from five to four years did not have the same effect on biology as it had on English and mathematics.

They have taken the 5 years of math and shoved it into 4. We did not have 4 years of biology. We've always had only 2 years. So I think you are going to find that this is more of a concern with English and mathematics. (Brian, Interview 1)

It may be, however, that Brian is not having any trouble covering the curriculum because he is teaching it within a traditional timetable. As well, there are no standardized tests that Brian has to worry about, unlike teachers of mathematics and English. The following quote illustrates that he believes externally imposed standardized tests shift a teacher's perception of curriculum from curriculum as lived to curriculum as text to be covered.

I was under that kind of regime when I taught in Quebec. The kids had to write Provincial exams. If you wanted to spend a certain amount of time on a

topic you could not do that because you had to get through the curriculum.

(Brian, Interview 1)

Brian also does not think that longer periods improve student learning. They do, however, facilitate doing activities such as labs.

It just gives me more time and gives students more time so that it is not rushed. I have split a lot of labs over periods and I have never sensed it as detrimental [to student learning]. It is more of a logistical nightmare for the teacher to make sure that the results are there. (Brian, Interview 2)

The premise behind creating longer classroom periods was that they would give teachers more instructional flexibility (Carroll, 1990; Cawelti, 1994). But when critics pointed out that the restructuring to longer periods would actually decrease overall contact time with students, proponents of semestering countered that less content would be covered but the depth of coverage would increase, resulting in more meaningful learning. This claim certainly illustrates why teachers implementing the new Ontario curriculum within a semestered timetable would run into difficulties. The curriculum's emphasis on increased and more rigorous content within an investigative structure demands both breadth and depth of coverage. In actual fact, teachers are forced to make a choice. Those faced with the prospect of their students undergoing government testing would probably make the choice for breadth. Siona who teaches in a semestered timetable took the government-mandated Grade 9 mathematics standardized test seriously. It was not a prerequisite for students to graduate so to make sure her students took it seriously, she made some of it count toward the mark in her course.

You could get kids not taking it seriously and hence poor results and the government would use that to badmouth teachers on how they are doing their jobs. (Siona, Interview 1)

Siona was preoccupied with covering all the material in the course so that her students would not be at a disadvantage on the test. But she admitted that some kids found the pace challenging.

Out of fairness to the kids, you wanted to get through all of your curriculum or else they did not have as much of an advantage writing the EQAO. (Siona, Interview 1)

This again illustrates the dilemma that many teachers face. They talk about curriculum in terms of what is happening in the classroom, the lived experience. But too much content, scheduling that does not accommodate that content, and standardized testing that demands that content be covered, pushes them to view the curriculum as text to be covered.

The government test coupled with a curriculum of increased content and difficulty had to be delivered within a semestered timetable, one that encourages depth of coverage not breadth of coverage. Those that found the pace challenging were the ones that could not accommodate the rate of flow. Comenius (Freeman, 1980) would likely have said that water was no doubt lost in the transfer. The schedule and the government test controlled the flow. Should not the teacher be controlling that flow? And shouldn't it be controlled in the interest of student learning, not in the interest of accountability?

Peter believes that one of the biggest advantages of the traditional system is having the students for a whole year so that they have time to digest and verify for themselves concepts that have been taught to them.

There is a greater opportunity to see development of ability over a whole year.

In the semestered system that development has to come very quickly and some concepts just do not come quickly. The students just do not have the same kind of gestation period to let things percolate and let them sort of fit together on their own. It is much more forced and I think that they believe on faith much more than believing because they know it to be true. Instead they resort to rote learning that is not easily transferred to unfamiliar problems and may not be remembered over a possible year's gap between sequential courses. I think there is a greater opportunity [for understanding] in a system where they have that subject all year, where they have a greater amount of time to think about a problem, come back to it, and maybe talk to the teacher than if they are just seeing it for half a year. (Peter, Interview 1)

This explanation of why learners need time to digest material is consistent with the constructivist theory that knowledge is constructed through the mental activity of learners (Driver, Asoko, Leach, Mortimer, & Scott, 1994) who are sharing, reflecting on, evaluating, and restructuring ideas (Greenwood, 1996). And of course, this takes time. But the problem is how we use time, not our lack of it (Stoll et al., 2003). The longer semestered period was to promote deep learning. But is the extra 20 minutes sufficient for students to share, reflect, evaluate, and restructure ideas? It needs to be because the following day students will be on to another set of ideas

because the semester will soon be over. Perhaps the rate of flow of ideas in the semester system is too fast for some students.

Siona believes that for some students, the semester system does not fit their learning style.

Some kids need to learn things over a longer period of time and need to hear it two or three times or practice it two or three times to get it to really sink in.

You can really tell which kids learn math on faith and which ones do not because many of them, they just regurgitate old formulas or they do not even think logically about what they probably should be doing. They are so focused on the rote aspect of it and they cannot take something that they know and apply it. You really cannot apply a mathematical concept unless you understand the basics. (Siona, Interview 2)

Terri perceives that weaker students find it difficult to assimilate material in the semester system.

There is sort of, not much time for skills to be built before the credit is over if you are a struggling student. I think a good solid student, skills in place, could probably excel in either [the semester or traditional scheduling] system. I think that for students who are weaker, probably semester scheduling is very fast for them. There is not much time to process things. (Terri, Interview 1)

As well, Terri says that she finds that the identification of weaker students at the beginning of high school is difficult.

By the time you find that out [which students are going to be struggling to get through the curriculum] you are partway through one semester and you are

trying to make some accommodations for the next semester so that they can get assistance. (Terri, Interview 1)

It is quite evident that many of my participants believe that the semester system does not give the weaker students enough time to process learning. Time is an important element of education. When educators consider students' ability to learn, they usually think of their aptitude, a term often associated with genetic endowment and social class effects. Carroll (1963) however, has created a model that associates students' intellectual aptitude with a time variable. Learners who need a large amount of time to learn a certain task are said to have low aptitude for that task. A weak student whose intellectual assimilation rate is less than that demanded by the multiple tasks involved in some of the courses of the new Ontario curriculum courses then becomes a temporally sensitive student. This label is preferable because it associates the student with a variable for which schools can accommodate. Temporal sensitivity, within reason, can be overcome by increasing the time for student engagement. Time is an organizing frame for our lives. Some people just need more time to organize themselves. It is a matter of personality and cognitive ability (Cambone, 1995).

Adolescents faced with multiple social, educational, and personal challenges are the most vulnerable to time challenges in the secondary educational system. Currently, school time is organized to meet administrative and institutional needs. However I believe, to the extent possible, school time should be organized, first and foremost, to accommodate students' learning needs. But the pace that accommodates assimilation of ideas into a knowledge framework is idiosyncratic to the student. In a semester system where classes only meet for 5 months, the rate of flow has to be faster than in

a system where classes meet over the entire year. Maybe the pace endemic to the semester system causes problems for some students. Not given adequate time to assimilate ideas, they fail to measure up to standards set by the government.

The A/B Timetable

During my first set of interviews several participants mentioned that they thought it was important for a student to study a subject over the course of a year because it provides the students more time to organize and make sense of their learning. Several participants also mentioned that the long period of the semester system accommodates the investigative approach of the new Ontario curriculum. This made me wonder whether or not the A/B timetable might be a suitable scheduling method to accommodate students' learning of the new Ontario curriculum. In my second set of interviews I probed some of my participants' ideas on this scheduling method.

Siona thinks that having longer periods all year long but seeing those classes every other day (A/B semestering) would be better for the development of students' math skills.

The kids would be working on [math skills] all year so there would never be this time where they were not doing any math. Math is all about practice and if you want to be a good math student even though you are a good problem solver if you are not practicing your basic skills on a regular basis, you are going to be careless and not get the right answers. (Siona, Interview 2)

However, she thinks the biggest problem with the A/B semestering is that the kids have to write eight rather than four exams at the end of the year.

The only thing I did not like about it was students having to study for eight exams at the same time. The whole exam scenario creates a lot of anxiety.

(Siona, Interview 2)

As mentioned previously, Peter suggested alleviating this problem by having the final exam replaced in some courses by a summative assignment.

Peter says that he prefers the A/B timetable to both the traditional and semester schedules because not only do students take subjects over the course of a year but it also creates flexibility for curriculum delivery.

[It] is the system I like the best ... because you can have all of the options available to you. You can break that class down into two smaller classes or smaller topics just as if you were teaching in a 55-minute period but you can also on a regular basis do investigative or group work. (Peter, Interview 2)

However, he perceives that the A/B schedule does have its disadvantages.

Students missing classes might have problems catching up.

You are covering a lot of material in any one day. But I think the onus then falls on the students to do the follow-up that is necessary or the preplanning before. (Peter, Interview 2)

Peter also believes that time has to be found within the school's curriculum, the school's workday for students who need one-on-one help.

I think there has to be more opportunity for tutorial within the school day and if that has to be an actual timetabled period, then I think that is the route we have to go. (Peter, Interview 2)

David prefers the traditional timetable with its shorter periods. He does not think he would like to teach in an A/B schedule. He cites attendance issues and student behaviour again as reasons for his preference.

The impact of missing a long period is greater for a student and I am always worried about the reaction of a student in a longer period, whether they might become tired, bored, or antsy. (David, Interview 2)

This is the second time that David has related behavioural problems with the longer semestered period. He said that teaching applied level students who did not want to be there necessitated being very creative and having a good sense of humour. A behavioural problem is usually a symptom of one or more underlying problems. Students could just have a physiological need to get up and move around. This problem is easily solved by the creativity of the teacher. But more often behavioural problems are a symptom of frustration and that frustration could be caused by a rate of flow of ideas that is either too fast or too slow rather than the length of the semestered period.

The A/B schedule has its difficulties and certainly is not universally preferred. It would be difficult to find a timetable method that would accommodate everybody's needs. However, I think it is particularly important to accommodate the needs of temporally sensitive learners by giving them more time to learn. Possibly school Boards could offer timetabling choice within the Board. Schools could even run two

timetables to accommodate students' varying abilities to process and assimilate ideas into knowledge frameworks. Presently, in the school district in which I taught, there is no choice in public education in regard to scheduling. All secondary schools offer a semestered timetable. The only way to experience a traditional timetable is to enroll in a private school. That is not a viable choice for many parents nor should it be. Public education should be for the benefit of all students. If students' learning needs are better accommodated by an alternative scheduling method, then our publicly funded school systems should provide it. "A strong public education system is the cornerstone of a civil, prosperous, and democratic society" (Leithwood, Fullan, & Watson, 2003, p. 15).

Resiliency or Resignation

Cory finds that some temporally sensitive students do give up under the pressures of the new curriculum but generally he has been amazed and pleased to see how hard others have been working to achieve the demands of the curriculum.

[Temporally sensitive students] develop coping mechanisms. Sometimes it is a reliance on peers in the class. Sometimes it is just that they work a lot harder. It is amazing to see how clever applied students can be when push comes to shove. (Cory, Interview 2)

David is also optimistic about his students' ability to overcome the challenges of the new curriculum.

I think students, even the weaker students, will be able to adapt and change and do what is necessary. (David, Interview 2)

Siona also believes that her students have been up to the challenge.

It is amazing how they are rising to the occasion and maybe it is because they have been exposed to the new curriculum for a longer period of time. (Siona, Interview 2)

Brian thinks that his students do not even worry about the challenges of the new curriculum.

I think students just go along their way and do the best they can. (Brian, Interview 2)

I am happy to see the optimism these teachers have for their students. However, I wonder if their diagnosis of resiliency among temporally sensitive students is ill-founded. “Oppressed people are very skilled and sophisticated in the art of survival” (Maruyama, 1981, p. 232). Perhaps their students are simply resigned to their fate. To graduate and win, they know they must play the game no matter how harsh of an educational environment they find themselves in (Contento, 1993).

Conclusion

My conversations with my participants described an educational environment in Ontario where students and teachers are feeling a great deal of pressure and frustration. Teachers who are confronted by a curriculum with too much content and by standardized tests feel compelled to increase the pace of instruction, especially within a semestered timetable. This creates an environment where the challenges faced by a temporally sensitive student may be overwhelming.

The semestered timetable has its benefits. It is more teacher friendly than the traditional timetable and accommodates students only needing a few credits. As well

it allows students to concentrate on fewer subjects on a daily basis and study for fewer exams. However, its longer period can cause attention problems for students and the semester pace can be detrimental to a student's ability to assimilate concepts. Even more disturbing is the perception of my participants that students who are weak or temporally sensitive are having difficulties with the semester timetable and that the new curriculum delivered within the semester timetable may be causing the streaming of these students into lower ability classes. The high failure rate for applied students in the grade 10 literacy test (Leithwood et al., 2003) as well as the many comments from my teacher participants about so-called weaker students and their difficulties with specific characteristics of the semester system lead me to fear that for many students the game is getting too high paced for them to play. We as educators need to advocate for scheduling changes in schools. We need to ensure playing times are available that can accommodate both temporally sensitive and weaker students so they do not end up being cut from the academic team unnecessarily or quitting the league in frustration. Unfortunately, according to a study by Alan King (2004), this is exactly what is happening. Low levels of achievement in the Grade 9 and 10 applied courses have created student motivation problems. Of the 162,000 students in the first cohort of the new curriculum, 61,000, more than one third, failed to graduate in June 2003 (Sokoloff, 2004). Of those, 32,000 returned to school but half are expected to drop out. Gerard Kennedy, the current Minister of Education in the new Liberal government acknowledges that so much attention was devoted to the problem of having enough room in universities for qualified students that the students in the applied stream were largely ignored.

CHAPTER FIVE: RECOMMENDATIONS AND REFLECTIONS

Introduction

There were a number of findings in my study. There is too much content in many of the courses of the new curriculum. The new curriculum has created a pressure-filled environment for many teachers and students in Ontario. One of the most disturbing though, was that teachers in my study have identified a problem in the educational system that they experienced in the microcosm of their respective schools. Weak students are having difficulties assimilating ideas in the time frame of the semester system, given the increased rate of flow of ideas necessitated by the increased rigour of Ontario's new curriculum. What effect has it had on these students?

My participants report increased pressure on these students. It may be causing a streaming of students into an academically inferior program. It may be causing some students to give up and drop out of school. This is an educational concern because in a democratic society it is incumbent on schools to serve the needs of all of their students. Ideally, schools should be designed to suit each individual's unique way of learning. E. O'Sullivan (1999) states that "inclusion means an openness to variety and difference with a sense of including all in a manner which attends to the uniqueness of each and every member" (p. 247). Eisner (2002) proclaims that "we ought to be creating conditions in school that enable students to pursue what is distinctive about themselves" (p. 579). But can we ever hope to approximate this ideal with a "one size fits all" scheduling system? Semestering has been entrenched

as the scheduling system of choice in the public school system where I taught and indeed in many of the school systems of Ontario (Appendix A).

In this chapter I first propose recommendations addressing some of the above-mentioned findings from my study. Secondly, I suggest ideas for further research that arose from questions that were generated by my study and by my reading of related literature. I then reflect on my journey of self-discovery through which I have discovered some of the assumptions I was taking with me into my research. Finally, I discuss my personal development throughout the Master of Education program.

Recommendations

Scheduling choice could be provided for students. Administrators need to consider looking at their scheduling system in light of the demands of the new curriculum and determine whether it is meeting the needs of all of the students in their schools. The objective is to schedule courses so that students who require more time to assimilate information have that time and are not marginalized because of their inability to digest the rigorous new curriculum within a semestered time frame. Perhaps alternative scheduling methods such as the A/B semestering model or the traditional model could be integrated with their existing timetables. Alternatively, board-wide scheduling initiatives could set up geographically adjacent sister schools where different timetabling methods are used to provide scheduling choice for students. Weekly tutorials could be scheduled into school timetables to enable students to get help from teachers outside of their classroom environment. If, as Schrag (1995) contends that the organization of a school's time conveys a message,

then let that message be that schools care about “all students, not just the highest achieving or more privileged ones who promise the biggest success and corporate return” (Hargreaves & Fullan, 1998, p.65).

An illustration of how innovative scheduling can convey this desirable message was recently reported in the *Toronto Star*. An article by Joe Fiorito (2004) talked about how one multiethnic school in Toronto had gone from having the lowest scores in math and literacy of all the high schools within its system to posting the highest math scores. Students, whose first language is not English, need constant incremental exposure to the math and English. To achieve this the teachers divided the 76-minute periods of the semester system into two periods of 38 minutes and taught math and English back to back, every day, all year long. Their ingenuity paid dividends! Their Grade 9 math scores went “from worst to first” (Fiorito, p. B2). Instead of the schedule manipulating teachers and students, the schedule itself was manipulated to serve the needs of the students and their teachers. A school changing from a semestered to a traditional timetable or a combination of the two will, however, need more textbooks. The new Liberal government could set up special funding to help such schools with the additional costs they incur.

Parents need to be alerted to the problems of semestering. High schools now have open houses for Grade 8 students and their parents in January and February to attract and welcome the future Grade 9 students by showing off the school’s facilities. In those high schools with a semester system, this night should also be used to make parents aware of the problems of unbalanced semesters and the potential of gap periods between sequential courses.

The Ministry of Education could streamline course content. Too much content in the new Ontario curriculum was a common complaint of my teacher participants. The Ministry of Education ought to heed the voices of their professionals in the field because although “the government can start a new curriculum [teachers] have the discovery of what works and what does not work ” (Terri, Interview 2). To address the content problem, curriculum committees could be set up by the Ministry for the different subject areas in the secondary curriculum for one week each summer. Each committee would consist of a subject area teacher from each Board of Education and of representatives of the Ministry of Education’s curriculum branch. Committee members would change every 2 years. Participating teachers could earn credit toward their continuing education. Each committee’s mandate would be to determine by consensus about what content teachers found to be necessary for successful course delivery and what content they found to be superfluous. Curriculum guidelines for courses would be revamped and placed online to reflect the committee’s annual findings.

Boards of Education could consider providing opportunities for teachers to collaborate with teachers from other schools. “[Collaboration] probably is the most powerful force in educational reform” (Anderson, 1997, p. 274). Hargreaves and Fullan (1998), talk about collaboration in terms of networking and believe computer technology is a powerful networking tool for teachers. “Networking provides teachers and others with a way to share ideas, swap experiences, exchange lesson plans, provide support, and undertake professional learning based on their perceptions of their own needs and agendas, and not on mandates imposed by others” (Hargreaves &

Fullan, p. 66). Teacher chat rooms could be organized to help the collaboration process so teachers can discover shared purposes and produce preferred outcomes (Torbert, 1981). “Learning from our colleagues certainly deserves space and attention, and, even more important, it requires a reconceptualization of the sources of teacher development” (Eisner, 2002, p. 2). Teacher isolation in his/her classroom can create and sustain stagnation of teaching practices. This could be ameliorated by “explicit conversations about why teachers do what they do” (Broadway, 1999, p. 243). These need to take place in research, in teacher pre-service programs, and in teacher in-service programs to help teachers vocalize their views and develop their beliefs about how students learn. “Learning how to teach is like any other learning. It never stops” (Broadway, p. 244). Teachers need to collaborate to find out what other teachers are doing in their classrooms, why they are doing these things, and which scheduling format best serves their teaching requirements under the new curriculum.

Terri’s assertion that applied level courses were improperly implemented in schools as courses for academically inferior students needs to be examined by the Ministry of Education, secondary school administrators, and by teachers of those classes. The Ministry could possibly provide more guidance and specific implementation materials for accommodating students who are not academically inferior but simply learn in different ways. The revamping and revitalizing of applied level courses is particularly pressing in light of Alan King’s (2004) *Double Cohort Study* submitted to the Ontario Ministry of Education. In that report he states that the majority of students in the first cohort of the new Ontario curriculum who took applied level courses in Grades 9 and 10 are at risk of not graduating.

Students in pre-service teaching programs could be encouraged to collaborate with their fellow students, not only to get the most out of their practice teaching experience but also to instill in them a spirit of sharing ideas as a change to the competition mode so often encouraged in our schools. As well, pre-service programs could impart to their students how to choose curricular content that will reflect curriculum theory and educational philosophy. This skill is particularly important for pre-service teachers who will be teaching in a semestered timetable where content decision making is a reality in the context of the new Ontario curriculum.

My final recommendation is to those employed in educational research. It is important to go back to primary sources whenever possible and to read those sources critically. The practice of relying on secondary sources of data can easily disseminate misinterpretations to readers who might be making educational decisions based on the reading. For example, a paper on block scheduling (semestering) in public high schools in Texas published by the Texas Education Agency of Policy Planning and Research (1999) adopted Kramer's (1996) analysis concerning the five Canadian studies on semestering without ever reading the five articles. The Canadian studies were based on a comparison of the performance of one group of students enrolled in a full-year system to a second group of students taking the same courses in a semester system. Kramer suggested that the Raphael, Wahlstrom, and McLean (1986) study was likely biased against block (semestered) schedules because "low-ability students may have been excluded from all-year classrooms" (Texas Education Agency Office of Planning and Research, 1999, p. 13). A look at Raphael, Wahlstrom, and McLean's (1986) study sample makes Kramer's suggestion at the very least highly

suspect. The majority of the students in both groups in the study were enrolled in Grade 13 mathematics classes. It is highly unlikely that any low-ability students would be enrolled in a Grade 13 mathematics class. Accordingly, how could such students be excluded from either the semestered or traditional classrooms and thereby skew the results against semestering?

Recommendations for Further Study

1. Time constraints of my program prevented me from conducting research on administrators', students', and parents' perceptions of how scheduling affects teachers' implementation of the new Ontario curriculum and students' ability to deal with the new curriculum. A study including these stakeholders would introduce additional perspectives to the scheduling conversation.
2. The research literature indicated that weak students experience problems in a semestered schedule (Marchant & Paulson, 2001; Wronkovich et al., 1997). There should be research to explore whether low-ability students on a semestered schedule perceive that they have a more difficult time with the new Ontario curriculum than low-ability students on a traditional timetable.
3. Hess, Wronkovich, and Robinson (1999) found that there were greater gains for girls than boys in a semestered timetable. Van Mondfrans, Schott, and Denney's (1972) study suggests that learners need a certain level of maturity in order to benefit from the learning conditions of a semestered timetable. There should be research to determine whether girls benefit more from a semestered timetable than do boys and if so, whether that benefit is maturity or gender related.

4. “[Man’s] responses to time are culturally conditioned” (Toffler, 1970, p. 40). There has been very little research related to students’ ethnicity and their scheduling preference. Given the multicultural nature of this province, there is a need for research to determine if students of different ethnic origins have a scheduling preference reflecting this cultural conditioning.

5. There have been many claims in the literature about the effects of a standardized test on classroom experience of the curriculum (Apple, 1993; Barlow & Robertson, 1994; Gitlin, 1983). There needs to be research to determine whether or not different scheduling methods influence these effects.

6. Streaming or tracking is a controversial issue in education (Anyon, 1980; Barlow & Robertson, 1994; Contento, 1993; Hirsch Jr., 1987). There needs to be research to determine the effect that the return of Grade 9 streaming in Ontario has had on students’ learning conditions.

Reflections

Pinar (1995) wrote that one of the functions of research in curriculum is to stimulate the researcher to self-reflect to promote a better understanding of oneself. We can search but will not find or recognize truth without first knowing ourselves. If we do not have an understanding of our preconceptions and their effect on the assumptions we make then the lenses that we use to perceive the world will filter out key elements of reality, the truth of which we seek to find. Shoseki, a Zen Master, wrote that truth only reveals itself when one does give up all preconceived ideas (Durckheim, 1962). First, one has to realize that one does have preconceived ideas

and then identify them before they can be jettisoned or otherwise dealt with. This is not an easy process but I believe that my journey of self-reflection in my research journal has helped me do that. Writing my ideas down helped me to clarify them as well as remember them. In my qualitative research methods course my professor urged us to “try to realize what assumptions you are taking with you” (personal communication, S. Tilley, February 4, 2002) as you research. So I started to write assumptions down in my journal as I identified and challenged them.

On September 10, 2002, just after reading Linda McNeil’s (1986) *Contradictions of Control*, I realized that I had always taken streaming in schools for granted. I wrote, “maybe streaming is not in the interests of students.” I had assumed that it was always done in the best interests of all students but now I was not so sure. For example, when I was teaching Grade 9 advanced science in the 1980s, we used to be able to give a student in an academic class a general credit if they had to struggle to get a grade of 40%. I thought that this was a good policy because the student, instead of being relegated to the general level class, could stay and have the benefit of the knowledge and help of his fellow students. The Ministry of Education, however, decided to end this practice. I could never understand why but then I had always assumed that the government wanted all of its citizens to realize their full educational potential. Now I am not so sure.

After teaching in the semester timetable for 25 years I had become very disillusioned with it. I found it did not fit the school year very well. In my journal I compared the semester’s fit into the school year like fitting a square peg into a round hole (Oct. 2, 2003). First semester should end with exams before the Christmas 2-

week holiday but it does not. Students must resume their first term courses in January and 2 weeks later they begin their final exams. I also did not like the long periods, especially when I was teaching mathematics. I assumed that the traditional system had to be better. Would it not be wonderful teaching in 55-minute periods? I was about to enter my research for my thesis with the preconceived idea that the traditional schedule was infinitely better when I was offered a position teaching for 4 months at a school where they followed the traditional timetable. I accepted and on February 24th, 2003, I wrote the following in my journal.

I am finding the tumbling schedule very confusing. I hope I do not miss any classes. Class is over before I know it. I am swamped and tired.

In June 2003, I started my research with one less preconception.

Another preconception I identified was about standardized tests. I had only thought of them in terms of their accountability usefulness. I realized they were a method used to ensure that a teacher covers the course content but I had never thought of them in terms of being instruments that will narrow the curriculum. I wrote the following in my journal on June 17, 2003.

Ultimately, is the level of challenge the new curriculum presents to students only up to the individual teacher, department head, principal? Is there really any accountability? Maybe all courses should have standardized tests.

After my second interview with Siona, I wrote the following fieldnote entry.

I got the impression that she would not mind if the EQAO test counted [toward graduation] because that might make students take it more seriously and not slack off. (Fieldnote, August 22, 2003)

I had never thought that a teacher would see a standardized test as a control method to keep students on task. And after reading Barlow and Robertson's (1994) account of standardized testing as a device that shifts the aims of education, my conception of standardized testing as a useful tool was encountering significant resistance. Maybe standardized testing is not such a sound educational tool?

Identifying and challenging these preconceptions and their effect on my assumptions helped me to bracket them during the research process. Making my own assumptions explicit to myself gave me a feeling of self-awareness, of confidence that I could really listen to what my participants' voices were truly communicating. I could understand what they were saying. My preconceptions did not shroud the meaning. Are there other preconceptions that I have yet to uncover? Undoubtedly there are some outside of my range of awareness. Could they have clouded my observations, analysis, and interpretations of events? Probably they did. That is one of the reasons, I believe, that doing literature reviews and writing essays and journals is so important to the research process. The more you read and write, the greater chance you have of uncovering, challenging, and dealing with your preconceptions which could otherwise be obstacles to successful analysis, and interpretation. "Our research success depends on how effectively we conceive, perceive, and represent what we have sampled" (Peshkin, 2001, p. 240).

Personal Development

Throughout my 25 years of teaching secondary school, I had always felt that the rewards of the classroom outweighed any of the difficulties that I had to endure.

Discipline problems I encountered were trivial compared to the joy I received from the teaching and learning experiences I shared with my students. However, in my last year of teaching I became very disillusioned with the job. I was tired all of the time, working all of the time, and deriving very little joy from my life in the classroom. Not knowing about the symptoms of intensification outlined by Apple (1993), I thought I was burned out and just was not a very good teacher any more. I decided to retire early in the interest of my students and my health. After many months of isolating myself reading books, my husband urged me to continue my studies. I hesitantly looked into the Master of Education program and in 2001 I decided to take a summer course before making a complete commitment. That course and the many that followed in the program rejuvenated my interest in teaching and learning. I loved the classroom discussions with fellow teachers who were filled with enthusiasm about their classes. I enjoyed learning new ideas about assessment, equity issues, behavioural problems, and theories of learning.

The classes and seminars prepared me for the daunting task of researching and writing my thesis. I believe the *Zeitgeist* in educational research has been away from total reliance upon empiricism where the truth can only be found from what is measurable or can be made measurable. When I entered the Master of Education program, my thinking was heavily influenced by the empiricism of the scientific method. My undergraduate degree in science and my experience teaching science and mathematics for 25 years bound me to a world where investigations of phenomenon had to be quantified to possess meaning. My involvement in philosophy and qualitative research classes released me from this narrow conception of research. I

now believe that as a researcher I can reveal at least partial truth by careful listening to the multiple voices of participants. Their experiences can provide me with a data source containing a wealth of knowledge and meaning.

The keys to unlocking knowledge and meaning from data, however, depend on my ability to view it from multiple perspectives. Peshkin (2001) refers to these various perspectives as lenses of differing focal points that allow us to perceive what we observe with our senses in kaleidoscopic ways. I realize that the more adept I become at using different lenses and combinations of lenses, the more acute my perception will become. This will lead me to a greater understanding and interpretation of reality than I could ever expect to have by just using my senses. But this takes time and I now see that being a qualitative researcher necessitates the development of patience. (I am working on that). In order to properly interrogate my data, I found I had to take time to get to know them just like it takes time to get to know a friend. And yet I despaired at ever being able to assemble the pieces of my gigantic jigsaw puzzle of data. In my journal I wrote in a moment of self-doubt, “How am I ever going to pull all of this together?” (Research journal entry, September 10, 2003) I decided to assemble a picture album composed of my participants’ quotes (snapshots) of their experiences of the new Ontario curriculum and organize my analysis chapter around these. After a month of writing I submitted this to my advisor. She suggested that there were too many quotes strung together without sufficient analysis. Restructuring was necessary while keeping my research questions always in mind and this restructuring was to be completed in 2 weeks. Frustration was my initial response. I panicked at the thought of a 2-week deadline.

Then I realized that my first month of writing had not been in vain. It had been part of the process of interrogating my data, of organizing my thoughts, of putting together the jigsaw puzzle. I returned to my chapter 4 and saw new possibilities. “All types of constraints, are also types of opportunity, media for the enablement of action” (Giddens, 1984, p. 117). In 2 weeks I completed chapter 4, one step closer to the completion of my thesis. Inch by inch, everything is a cinch, a good saying to remember in the face of an overwhelming task.

Where to Now?

I feel it is incumbent on me to communicate information gleaned from my participants’ experiences in such a way that transference can be readily identified by those in a position to contemplate it as a possibility (Lincoln & Guba, 1985). I owe this not only to my participants who gave up their valuable personal time to take part in my study but also to students who might benefit from my findings. I fear, however, that the only readership of this thesis might be my academic colleagues that participate in my thesis defense. I have therefore applied to give a paper on the results of my findings at the 2004 Canadian Society for Studies in Education (CSSE) conference to broaden my audience. I also plan to submit a paper on the findings for publication in a journal read by administrators. My hope is that administrators that read my findings will be stimulated to review their present scheduling method to determine if it meets the needs of their students (Manning, 1997).

I have come to realize that as researchers we cannot look for truth in just one place and that one truth may not even exist for all questions. I understand now that a

fixed time-schedule in a school makes the assumption that all students' needs are similar. My teacher participants' experiences indicate that this is not a valid assumption. There is not one scheduling method that will accommodate all students. I began my research believing there was. Now I believe that students in the public education system need to be offered more choice in scheduling either within their respective schools or within their Board so that they have an opportunity to choose a scheduling system that will align more closely with their learning needs.

In response to the plight of students failing in applied classes, Gerard Kennedy, the Minister of Education said, "People need to know that this is not these students' fault. The government and the system have to take responsibility" (Downs, 2004, p. A9). We can only hope that his awareness of the problem will result in the necessary changes.

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Appendix A

Report on the Scheduling in Ontario High Schools (as of September, 2002)

Board Name, phone number, website	# secondary schools	# semestered
Algoma District School Board, (705)-945-7111, www.adsb.on.ca	12	12
Algonquin and Lakeshore Catholic District School Board, (613)-354-2255, www.alcdsb.on.ca	6	6
Avon Maitland District School Board, (519)-527-0111, www.avonmaitland.on.ca	11	0
Bluewater District School Board, (519)-363-2014, www.bwdsb.on.ca	11	10
Brant HaldimandNorfolk Catholic District School Board, (519)756-6505, www.bhncdsb.edu.on.ca	3	3
Bruce-Grey Catholic District School Board, (519)-364-5820, www.bgcdsb.org	2	2
Catholic District School Board of Eastern Ontario, (613)-258-7757, www.cdsbeo.on.ca	6	6
Conseil des écoles publiques de l'Est de l'Ontario, (613)-742-8960, www.cepeo.on.ca	11	11
Conseil scolaire de district catholique Centre-Sud, (416)-397-6564, www.csdcscs.edu.on.ca	8	8
Conseil scolaire de district catholique Franco-Nord, (705)-472-1702, www.franco-nord.edu.on.ca	3	3
Conseil scolaire de district catholique de l'Est Ontarien, (613)-675-4691, www.csdceo.on.ca	7	5
Conseil scolaire de district catholique des Aurores boréales, (807)-344-2266	1	1
Conseil scolaire de district catholique des Grandes Rivières, (705)-267-1421, www.csdgr.on.ca	8	8
Conseil scolaire de district catholique du Centre-Est de l'Ontario, (613)-744-2555, 1-800-407-2338, www.csd66.edu.on.ca	9	8
Conseil scolaire de district catholique du Nouvel-Ontario, (705)-673-5626, www.nouvelon.edu.on.ca	8	7
Conseil scolaire de district des écoles catholique de Sud-Ouest, (519)-948-9227	6	6
Conseil scolaire de district du Centre Sud-Ouest, (416)-614-0844, www.csdcso.on.ca	8	7
Conseil scolaire de district du Grand Nord de l'Ontario, (705)-671-1533, www.gno.edu.on.ca	8	8 (1 grade 9)
Conseil scolaire de district du Nord-Est de l'Ontario, (705)-472-3443	3	3
District School Board Ontario North East, (705)-360-1151, www.dsbl.edu.on.ca	10	10
District School Board of Niagara, (905)-641-1550, www.vaxixne.com/dsbn	22	22
Dufferin-Peel Catholic District School Board, (905)-890-1221, 1-800-387-9501, www.dpcdsb.org	19	18
Durham Catholic District School Board, (905)-576-6150, www.durhamrc.edu.on.ca	7	7
Durham District School Board, (905)-666-5500, www.durham.edu.on.ca	24	22
English-language #38 Catholic District School Board, (519)-663-2088, www.ldcsb.on.ca	8	8
Grand Erie District School Board, (519)-756-6301, 1-888-621-3778, www.gedsb.on.ca	17	17
Greater Essex County District School Board, (519)-255-3200, www.gecdsb.on.ca	16	13
Halton Catholic District School Board, (905)-632-6300, 1-800-741-8382, www.haltonrc.edu.on.ca	7	7

Halton District School Board, (905)-335-3663, www.haltontdsb.on.ca	17	15
Hamilton-Wentworth Catholic District School Board, (905)-525-2930, www.hwcdsb.edu.on.ca	6	6
Hamilton-Wentworth District School Board, (905)-527-5092, www.hwdsb.on.ca	18	18
Hastings and Prince Edward District School Board, (613)-966-1170, 1-800-267-4350, www.hpedsb.on.ca	8	8
Huron Perth Catholic District School Board, (519)-345-2440, www.hpcdsb.edu.on.ca	2	2
Huron-Superior Catholic District School Board, (705)-945-5400, 1-800-267-0754, www.hscdsb.on.ca	3	3
Kawartha Pine Ridge District School Board, (705)-742-9773, 1-877-741-4577, www.kpr.edu.on.ca	15	15
Keewatin-Patricia District School Board, (807)-468-5571, 1-866-889-8880, www.kpdsb.on.ca	6	6
Kenora Catholic District School Board, (807)-468-9851	1	1
Lakehead District School Board, (807)-625-5100, www.lhbe.edu.on.ca	6	6
Lambton Kent District School Board, (519)-336-1500, www.lkdsb.net	14	14
Limestone District School Board, (613)-544-6920, www.limestone.on.ca	12	12
Near North District School Board, (705)-472-8170, 1-877-543-0433, www.nearnorth.edu.on.ca	7	7 (1 grade 9)
Niagara Catholic District School Board, (905)-735-0240, (905)-382-3150, www.niagararc.com	8	8
Nipissing-Parry Sound Catholic District School Board, (705)-472-1201, www.npsc.edu.on.ca	1	1
Northeastern Catholic District School Board, (705)-268-7443, www.ncdsb.on.ca	1	1
Northwest Catholic District School Board, (807)-274-2931, www.tncdsb.on.ca	0	-
Ottawa-Carleton Catholic District School Board, (613)-224-2222, www.occdsb.on.ca	14	14
Ottawa-Carleton District School Board, (613)-721-1820, www.ocdsb.edu.on.ca	27	19
Peel District School Board, (905)-890-1099, 1-800- 668-1146 www.peelschools.org	30	27
Peterborough Victoria Northumberland and Clarington Catholic District School Board, (705)-748-4861, www.pvnccdsb.on.ca	5	5
Rainbow District School Board, (705)-674-3171, www.rainbow.edu.on.ca	10	10
Rainy River District School Board, (807)-274-9855, www.rrdsb.com	3	3
Renfrew County Catholic District School Board, (613) 735-1031, www.rccdsb.edu.on.ca	2	2
Renfrew County District School Board, (613)-735-0151, www.renfrew.edu.on.ca	6	6
Simcoe County District School Board, (705)-728-7570, www.scdsb.on.ca	18	18
Simcoe Muskoka Catholic District School Board, (705)-722-3555, www.smcdsb.edu.on.ca	9	9
St. Clair Catholic District School Board, (519)-627-6762, www.st-clair.net	3	3
Sudbury Catholic District School Board, (705)-673-5620, www.scdsb.edu.on.ca	5	5
Superior North Catholic District School Board, (807)-825-3209, www.superiornorthcatholicdsb.on.ca	0	-
Superior-Greenstone District School Board, (807)-229-0436, www.s-gdsb.on.ca	5	5
Thames Valley District School Board, (519)452-2000, www.tvdsb.on.ca	30	28
Thunder Bay Catholic District School Board, (807)-625-1555, www.tbcdsb.on.ca	2	2
Toronto Catholic District School Board, (416)-222-8282, www.tcdsb.on.ca	35	29
Toronto District School Board, (416)-397-3000, www.tdsb.on.ca	104	70
Trillium Lakelands District School Board, (705)-324-6776,	7	7

www.tldsb.on.ca		
Upper Canada District School Board, (613)-342-0371, www.ucdsb.on.ca	22	22
Upper Grand District School Board, (519)-822-4420, www.ugdsb.on.ca	12	12
Waterloo Catholic District School Board, (519)-578-3660, www.wcdsb.edu.on.ca	5	5
Waterloo Region District School Board, (519)-570-0300, www.wrdsb.on.ca	15	8
Wellington Catholic District School Board, (519)-821-4600	2	2
Windsor-Essex Catholic District School Board, (519)-253-2481, www.wecdsb.on.ca	9	9
York Catholic District School Board, (905)-713-2711, www.ycdsb.edu.on.ca	12	12
York Region District School Board, (416)-969-7170, www.yrbe.edu.on.ca	26	16 2 partly

Total 804 709

% Ontario High Schools semestered = 88 % Catholic High Schools semestered = 95
% Non-Catholic High Schools semestered = 85

Research Chart

	1 st interview completed	1 st interview transcribed	1 st interview field notes completed	1 st interview synopsis completed	1 st interview transcript and synopsis mailed	1 st interview transcript and synopsis returned	2 nd interview completed	2 nd interview transcribed	2 nd interview field notes completed	2 nd interview synopsis completed	2 nd interview transcript and synopsis mailed	2 nd interview transcript and synopsis returned	Follow up and thank you letter sent
Terri	X	X	X	X	X	X	X	X	X	X	X	X	X
Brian	X	X	X	X	X	X	X	X	X	X	X	X	X
Siona	X	X	X	X	X	X	X	X	X	X	X	X	X
Cory	X	X	X	X	X	X	X	X	X	X	X	X	X
David	X	X	X	X	X	X	X	X	X	X	X	X	X
Peter	X	X	X	X	X	X	X	X	X	X	X	X	X

Appendix C

Ethics Board Approval

Brock University

Senate Research Ethics Board

Room AS 302

Extensions 3943/3035,

DATE: February 10, 2003

FROM: Joe Engemann, Chair
Senate Research Ethics Board (REB)

TO: Susan Tilley, Education
Lynn Lingard

FILE: 02-179, Lingard

**TITLE: The Impact of Scheduling on the Implementation of the New
Ontario Curriculum: Teachers' Perceptions**

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: Accepted as is.

This project has been approved for the period of **February 10, 2003 to December 30, 2003** subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The approval may be extended upon request. ***The study may now proceed.***

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and approved by the REB. The Board must approve any modifications before they can be implemented. If you wish to modify your research project, please refer to www.BrockU.CA/researchservices/forms.html to complete the appropriate form ***REB-03 (2001) Request for Clearance of a Revision or Modification to an Ongoing Application.***

Appendix D

BROCK UNIVERSITY DEPARTMENT OF EDUCATION

Interview Protocol for the First Interview

Title of Interview: "Teachers' Perceptions of the Impact of Scheduling on their Implementation of the New Ontario Curriculum"

Note: The interviewer will be using active listening techniques as well as asking for elaboration (such **Demographics** as "can you give me an example" or "can you explain that further") on any/all questions.

1. How long have you been a secondary school teacher?
2. What has been your teaching experience (ie. subjects, grade levels, and streams taught)?
3. Under what scheduling systems have you conducted your classes?

Focal Questions for Participants Teaching under a Semestered Timetable

1. Please describe the semestered timetable that you work under.
2. What challenges do you have trying to implement the new Ontario curriculum within a semestered timetable?
3. What do you perceive as being the benefits of using a semestered timetable?
4. What types of instructional strategies do you use in your classes?
5. Do you think that you could use these same strategies if you were teaching 50 minute classes that lasted the entire school year? Please elaborate.
6. How would you describe the new four year Ontario curriculum compared to the old five year curriculum?
7. Are there particular difficulties related to semestered scheduling that you perceive students are encountering while learning the new curriculum.
8. What other issues would you suggest arise from the use of semester scheduling?
9. Are there any questions I could have asked which would help me better understand how semestering impacts on your implementation of the new Ontario curriculum?

Focal Questions for Participants Teaching under a Traditional Timetable

1. Please describe the traditional timetable that you work under.
2. What challenges do you have trying to implement the new Ontario curriculum within a traditional timetable?
3. What do you perceive as being the benefits of using a traditional timetable?
4. What types of instructional strategies do you use in your classes? Please elaborate.
5. Do you think you could use these same strategies if you were teaching 80 minute classes that lasted only half of the school year? Please elaborate.
6. How would you describe the new four year Ontario curriculum compared to the old five year curriculum?
7. Are there particular difficulties related to traditional scheduling that you perceive students are encountering while learning the new curriculum?
8. What other issues would you suggest arise from the use of traditional scheduling?
9. Are there any questions I could have asked which would help me better understand how the traditional timetable impacts on your implementation of the new Ontario curriculum?

Focal Questions for Participants who have Taught under both Semestered and Traditional Timetables

1. Please describe the timetables that you have worked under.
2. What challenges do you or did you have trying to implement the new Ontario curriculum within a traditional timetable?
3. What do you perceive as being the benefits of using a traditional timetable?
4. What challenges do you or did you have trying to implement the new Ontario curriculum within a semestered timetable?
5. What do you perceive as being the benefits of using a semestered timetable?
6. Which timetable method do you prefer and why?
7. Which timetable method are you currently teach under?
8. What types of instructional strategies do you now use in your classes? Please elaborate.
9. Did you use these same strategies under your previous timetable schedule? Please explain.
10. Can you cover all your coursework under your current timetable? Please explain.
11. How would you describe the new four year Ontario curriculum compared to the old five year curriculum?
12. Are there particular difficulties students are encountering with learning the new curriculum?
13. Are there any questions I could have asked which would help me better understand how semestering or how the traditional timetable impacts on your implementation of the new Ontario curriculum?

APPENDIX E

Code Chart for First Set of Interviews

New Curriculum

TAP	
Deleting material	
Time challenge	EQAO results/ Board wide comparisons
Time management	No time for review
Review time	Remedial
Teacher's expertise ignored	Course difficulty
Government control	Streaming
Class size	Depth of coverage
Time loss	Not many failures
Marks	Students returning after graduation
Time urgency	Fair course
Time/frustration	Streaming earlier
Student maturity	Ignoring government mandate
Student concerns	Tutors
Reality	Fewer options
Frustration	Separate system/ religion course
Stated objectives	EQAO teacher accountability concerns
Student readiness	Less difficult content wise for languages
Independent Study	Satisfaction with content
University readiness	Assessment problems
Community service	Just adopting this September
Literacy test	Easing change
Literacy test prep time/school disruptions	prepared French course
Career studies	Decisions on what or what not to keep
Student maturity	Integration
Student exploration	No language crunch
Life skills	Full disclosure
No challenge in Sciences to deliver	Time/ way course material covered
Shuffle topics from one grade to another	Freedom of choice
No Biology crunch	Social sciences: large amount to cover
Crunch in math, languages, English	Puts student under pressure
Curriculum choice problems	No basic stream when introduced
Christmas exam	Essential courses not in all schools
Arts surge	Essential level students poorly handled
Concern for marks	No gov testing in social sciences
Media induced stress	Does not address social issues
Driving students away from science	Not difficult for social science students
EQAO	Resistance by school Boards
Teacher cooperation	Skimming vs. depth of knowledge
Covering material	Student discouragement
Fairness to students	Students forgetting
Adding material	Math: more difficult
Pace challenge	Math: application driven
EQAO results/ not known	Higher level math/ more modeling
Weak students flounder	Strong students excel
Problem solving in every unit	spiral curriculum-review
Math frustration: weak students	
full disclosure-cost cutting measure	
getting comfortable now	
Increases speed of delivery	

Collapsed Codes for New Curriculum

Old versus new curriculum similarities

Time

Time challenge

Time management

Review time

No time for review

Time loss

Time urgency

Time/frustration

Literacy test prep time/school disruptions

Crunch in math, languages, English

Pace challenge

Time/ way course material covered

Program decisions

Time management- integrate multiple curriculum objectives into projects- need Ministry help to develop these projects

Students need time to make mistakes- culture of instant answers/ reluctance to experiment and make mistakes

Class interruptions

Computers increase class time outside of class time

Missing in New Curriculum

No basic courses when introduced

Essential courses not in all schools

Essential level students poorly handled

Does not address social issues

Spiral curriculum- chance for review

What's Different in New Curriculum

TAP

Community Service

Career Studies

EQAO

Literacy Test

Independent Study Adding to course material

Deleting course materials for gov. testing

Shuffling Course Material

Streaming

Streaming earlier

Full Disclosure

Problem solving in every unit

Fewer options

Stated Objectives

Control Issues

Teacher's expertise ignored

Government control

Class size

Literacy Test

Christmas exam/summative exam

EQAO results/Board wide comparisons

Government agenda

Fewer options

No government testing in French and Social sciences

Independent study

EQAO teacher accountability concerns

Full disclosure

Streaming

Gov. testing-. testing- teach to test

Gov. testing-sustains level of pressure

Full disclosure- cost cutting measure
 Teacher massaging curriculum
 Instructional change
 Computers increase class time outside of class time/ virtual language lab

Concern about students

University readiness
 Student maturity
 Fairness to students
 Marks
 Not many failures
 Tutors
 Puts students under pressure
 Student discouragement
 Media induced stress
 Concern for marks
 Students forgetting
 Strong students excel
 Weak students flounder
 Math frustration for weak students
 Student readiness
 Student exploration
 Pressure-concern for students socially and personally
 Students returning after graduation
 Achievement concern
 Family pressure to succeed
 Students electing to do 5 years
 Double cohort
 Student attitudes
 Remediation necessary for students who cannot learn curriculum/ not summer school or drop out
 Assessment/ meaningful marks

Teachers thoughts on courses

Increase speed of delivery
 Program decisions
 Reality
 Frustration
 Student readiness
 University readiness
 Life Skills
 No challenge in Science to deliver
 Shuffle topics from one grade to another
 No Biology crunch
 Curriculum choice problems
 Arts surge
 Driving students away from science
 Teacher cooperation
 Covering material
 Fairness to students
 Adding material
 Remedial course difficulty
 Depth of coverage
 Fair course
 Separate system/ religion courses
 Less difficult content wise for languages
 Satisfaction with content
 Assessment problems
 Decisions on what or what not to keep
 Integration
 No language crunch

Social sciences: large amount of material to cover

No gov testing in social sciences

Not difficult for social science students

Math: more difficult

Application driven math courses

Higher level math/ more modeling

Problem solving in every unit

Course difficult

Depth of coverage

Not many failures

Prepared French course

No language crunch

Getting comfortable with new curriculum now

Teachers adaptable

Resist change but ultimately adaptable

Problems with change

Professional development

Comfortable course

Teaching flexibility in languages

Teacher enthusiasm

Little train- I think can

Covering material depends on grade level and number of times teachers teach course

Computer/info technology –facilitating tool

Computer/ Students can visualize what use to be abstract

Computer/ appeals to different learning styles

Resistance

Ignoring Government Mandate

Just adopting this September

Resistance by school Boards

Christmas Exam

Scheduling

Depth of coverage versus total coverage

Semester System

Gap

Skill development problem/gap

Habit development problem/gap

Variety needed

Class length/Student focus problem

Unbalanced workload/ time challenge

Catching up on missed courses

Focus on 4 courses

Class length

Time management

Knowledge crunch

Not in favour

Kids don't like gap

Possibility of students retaining info better in a tighter framework

Accomplish more in longer period→ labs

Seatwork time/ parents can't help

Fewer students for teacher

Knowing students

Fewer reports

Intensified practice

Student effort

4 exams vs. 8

gap/ semester reality

inflexible

teacher friendly

difficult for weak students
 attendance/more difficult to catch up
 some clock watching
 exam scheduling
 student saturation
 teaching rhythm
 longer period/ advantage for investigative learning stressed under new curriculum
 students need mental rests in longer period
 choppy
 broken up at end by Christmas
 attendance/catch up problems
 pace difficult for weak students
 difficult to identify weak students
 time/skill development problems

Traditional all-year system

Continuity
 Flexibility
 Feels like more time to dwell and take side trips
 Student evolution
 Relaxed pace
 More time to think and complete homework
 Variety in schedule
 Sometimes time cut short
 Time perception
 Not having them every day

Collapsed Codes for Scheduling

Scheduling decisions
 Scheduling experiments
 Variety needed
 Time management
 Student organization especially necessary in semester timetable

Semester Scheduling Cons

Class length/Student focus problem
 Unbalanced workload/ time challenge
 Knowledge crunch
 Not in favour
 Inflexible
 difficult for weak students
 attendance/more difficult to catch up
 some clock watching
 student saturation
 teaching rhythm
 choppy
 broken up at end by Christmas/ changing school year-problems
 pace difficult for weak students
 difficult to identify weak students
 time/skill development problems
 students need mental rests in longer period

Gap

Skill development problem/gap
 Habit development problem/gap
 Kids don't like gap
 Semester reality

Semester Scheduling Pros

Possibility of students retaining info better in a tighter framework
 Accomplish more in longer period → labs
 Seatwork time/ parents can't help
 Fewer students for teacher
 Knowing students
 Fewer reports
 Intensified practice
 Student effort
 4 exams vs. 8
 Focus on 4 courses
 Class length
 Teacher friendly
 Exam scheduling
 longer period/ advantage for investigative learning stressed under new curriculum

Traditional Scheduling Cons

Not having them every day

Traditional Scheduling Pros

Continuity
 Flexibility
 Feels like more time to dwell and take side trips
 Student evolution
 Relaxed pace
 More time to think and complete homework
 Variety in schedule
 Sometimes time cut short
 Time perception

Instructional Strategies

Lecturing
 Writing/ creative writing
 Reading
 Discussing
 Group work
 Less group work
 Same regardless of period length
 Not same for showing movies
 On-line activities
 Computer communicating
 Think pair share
 Project based learning
 Building web sites
 On-line testing
 e-mail communicating with students
 contract learning/ time management
 student-teacher interaction
 exploring
 peer teaching
 student enthusiasm
 same regardless of period length except for taking up homework
 traditionalist- resist change
 flexible

skits, plays
 emphasis on oral skills
 fun activities
 motivation
 credit system
 changing strategies to fit class
 lecturing quickest
 inquiry/ difficulty for kids
 factors affecting how you teach
 Text-based assignments
 Debates
 Role playing
 Varied- appealing to different learning styles
 Same for both types of scheduling
 Guided discovery
 Work more meaningful- increased interest
 Presentation of findings- helps communication skills
 Mental math quizzes

Code Chart for Second Set of Interviews

TAP

Continuity/ problem in semester system
 Purpose
 Administrative problem
 Not realistic
 Time impact
 Resistance/ informal
 Gd. 9+ 10 prepare for literacy test
 Full TAP schedule
 Seniors- university application procedures
 Resistance/ junior TAP a waste of time
 No training for teachers
 Gd. 12 TAP effective / pressure relieved
 Mentoring model lifted from private system
 Larger TAP classes
 Mobility/ continuity not realistic
 TAP materials covered in other classes

Gap

Review necessary
 Even more review if student weak
 Big emptiness
 Major impact on learning

Lecturing

Grammar skills
 Other English skills not lecture oriented
 New curriculum- more formal grammar skills
 Prior- grammar taught informally
 Now grammar objectives outlined
 More structured lessons
 Grammar notebook
 Isolated knowledge not incorporated in writing
 Trenches/ resistance- tried it didn't like it- back to incidental grammar lessons
 Pressure to cover large amt of material in short time
 Less gp work/ weak students hide
 Plough through material- if students don't ask questions can lead to misunderstandings

Conscious effort not to

Scheduling

Math priority in schedule
Tumbling timetable

Scheduling Choice within Boards

Administrative problems
Geography/ easy access to both schedules
Other Boards do it

A/B Schedule

Longer periods
More time
Splitting labs not detrimental to student learning, just a logistical problem for teachers
Don't lecture, 80 minutes too boring
Prepares students for long classes in university
Bad for younger students
Vary activities
Continuity
Math practice
Don't like that they need to study for 8 exams
Longer periods- no effect on student learning
Longer period- make teachers aware there's different ways of doing things
Catch up- semester versus all year
Continuity problem
Like longer period
50 minutes sometimes too short
prefers traditional timetable attendance problems
discipline problem

Semestering

Getting caught up
Fewer options in Catholic system –control issue?
Can lose credit twice
More difficult
Time squeeze
Time to consolidate learning
Understand versus memorize
Pace
Fall behind
Tutors
Rote learning
Learning styles
Repeated exposures
let's just get it over with attitude- immature- younger grades
draws students who only need a couple of credits
time to absorb topic
students willing to try in a shorter framework- pro and con
discover solution
social sciences- no problem with comprehension
course not dragged out over a whole year- students more willing to try-teacher motivator of students

Assessment

Slow assessment shift
Rubrics
Rubric philosophy
Teachers changing way they evaluate
Student pre-informed

Student feedback
 Rubrics overdone
 Rubrics for vital objectives of course
 Teachers need to identify good practice
 Holistic marking
 Now: identification of components
 Uncertainty about rubric helpfulness
 Independent study/ summative project
 Components of summative project
 Time
 Class and home time
 Streaming- flushing out best students
 University marks
 Fairness to students
 More 90's in old curriculum
 Curriculum debate
 Exemplars
 Full disclosure- students not fully aware- students just do their best
 Final exam –not summative, have Christmas exam- Ministry does not allow this- resistance
 New assessment- forces teachers to think
 Rubrics inform students
 No collegial assessment
 Can't standardize
 Still subjective grading
 Exit exam representative of year
 Flushing out brighter students
 Summative exam/ history- more emphasis on second half of semester- resistance
 Summative exam-no feedback
 New curriculum assessing more for student feedback
 Marks same as old curriculum

EQAO (assessment) (control)

Take more seriously if counted
 Make part of it count
 Stress of having to pass it would focus their efforts
 Review for final exam

Returning Students

Resistance
 70% of graduates returning
 school surprised
 students young
 students unsure
 necessity for mandatory religion courses
 little opportunity to explore
 upgrading marks
 post secondary admissions
 few at C. G's school

Attendance

Poor attendance pattern for some applied students
 Imp. For student success
 Greater impact on success than previous curriculum
 Catch up/ semester vs all year
 Student dedication

Stress

Double cohort stress
 Students struggling to stay in academic stream

Common curriculum- student moving at own pace
 New curriculum –not so much their own pace
 Student perception of applied level
 Literacy test stress
 Students concerned
 Mythology, rumours
 Media
 School sessions
 Principal's session
 Stress of needing to pass
 Admin problems
 Second chance
 Partners in ed concerned
 Portfolio to pass
 Good students have tutors
 Immature students don't care
 Don't measure up
 Plagiarism
 Get good marks
 Concern to do well

Streaming

Initial intent of applied courses
 Schools translation
 Gov. pushing math/science stream (control)

Essential courses

Conscientious teachers
 Failures in applied
 Concern for students- are we getting to weakest
 No hope in applied
 Few course materials available
 Mixed grade levels
 Hard on teacher

Course Coverage/ content difficulty

English flexibility
 Grammar side track
 Pick and choose
 Student readiness
 Skill development
 Math- more difficult for weaker students- gd 10 up
 Pace a killer
 Need to practice problem solving to improve
 Skill development over time
 Distil content
 Pace/ability

Exit Tests (control) (assessment)

Serious
 Teach to test
 Time
 Last straw
 Constraints
 Representative of year

Time Management

Familiarity helps with time management
 For teacher
 For student

Needed to fit in EQAO test
 Little time in class to do homework
 Student time management
 Review as necessary rather than take time at beginning of course
 New curriculum texts good for review
 Project integration- objectives from multiple units

Class Interruptions

People involved in school have agendas
 Many
 Retreats
 Sports
 Take time
 No PA
 PA/ course change PA /lose flow of class
 Timing of PA interruptions
 No PA- use notes, e-mail
 Traditional schedule- no course changes in Jan/Feb.
 Semester schedule/ year starts twice

Homework

Applied level/hands-on learning
 Social factors for not doing
 Lots of material to cover- no time to do it all in class
 Processing time

Gov. Bringing in new curriculum

Achievement compared to other places not good
 Political rather than pedagogical
 Approves of going to 4 year program
 Political mistake
 Long time since revised curriculum
 Test performance compared to other countries
 Caught up in change

Student Resiliency (or compliant)

Resilient
 Weak students resilient too
 Tutorial system
 Confidence in students
 Sense of self
 Resourcefulness of weaker students

Fewer Options

Third language numbers dwindling
 Negative impact on social sciences
 Cuts down on electives
 Breadth of knowledge
 Take it slower
 Better grades, less pressure
 Fewer kids around to take options
 Promote courses
 hurts our students- Arts detriment
 Gov pushing math/science stream
 Remedial package
 Baccalaureate program
 Well rounded student

Outliers

Rearrange material between gd. 11 and 12/ justification (resistance)

Students given rebuilt computers

Not all students have access to computers

Every student has access to computer but not internet

Professional development

Average and below not yet higher level thinkers

Only 4 French courses since early 90's

Transference of knowledge to other problems

Learning how to ask questions

Gd. 9,10 in learning mode

5196-111

