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AUTHOR Fallon, Karin
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ABSTRACT

This paper is a literature review of intensive education, or "macro block-scheduling." Intensive education is a change in the structure of secondary school organization. It involves organizing the school's schedule for efficiency and effectiveness so students study and teachers teach one subject for 30 days. Students stay with one teacher 4 hours a day, and teachers teach just one 4-hour academic class daily. Teachers and students work with one small group intensively for 30 days, or 120 hours, the equivalent of a Carnegie unit. This review focuses on the following relationships to determine whether they are valid and accurate: (1) intensive education reduces class size, lengthens class periods, and reduces the number of subjects that students take and teachers teach daily; (2) these changes in conditions facilitate the development of changes in the following processes--interactions, teaching methods, involvement with the subject matter, and teacher professionalism; and (3) these processes, made possible by the conditions created, provide opportunities for increases in academic achievement, better relationships, better attendance, and increased satisfaction. The literature appears to validate these relationships through the use of intensive education in private high schools, public summer school programs, block-scheduling in public high schools, and intensive education in colleges. However, to date, the literature reveals no study of intensive education in a public high school during the regular school year. (Contains 28 references.) (ND)

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Intensive Education

Karin Fallon

Department of Education

University of California, Riverside

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Abstract

Intensive Education: A Literature Review

This is a literature review of intensive education, or "macro block-scheduling" The school's schedule is organized so students study and teachers teach one subject for 30 days. Students stay with one teacher four hours a day, and teachers teach just the one four hour academic class daily. Teachers and students work with one small group intensively for 30 days, or 120 hours, the equivalent of a Carnegie unit.

This review focuses on the following relationships to determine whether they are valid and accurate:

1. Intensive education: (a) reduces class size, (b) lengthens class periods, and (c) reduces the number of subjects that students take and teachers teach daily.

2. These changes in conditions facilitate the development of changes in the following processes. (a) interactions, (b) teaching methods, (c) involvement with the subject matter, and (d) teacher professionalism.

3. These processes made possible by the conditions created provide opportunities for increases in: (a) academic achievement, (b) better relationships, (c) attendance, and (d) satisfaction

Intensive Education

The Problem - Low Achievement

In the United States, each state's compulsory education act guarantees its children the right to a free public education. The quality and effectiveness of this education has been the subject of recent concern. Major reports documenting poor achievement in public schools include: A Nation at Risk (National Commission on Excellence in Education, 1983), Making the Grade (Twentieth Century Fund, 1983) and High School: A Report on Secondary Education (Carnegie Foundation, 1983). These reports documented poor student achievement scores on tests compared to the test scores of other industrialized nations. They also showed declining SAT scores and achievement tests scores of American students. Thirteen percent of all 17 year olds were said to be functionally illiterate, with percentages up to 40 percent for minority youth. Thinking and writing skills were also shown to be at low levels. Finally, colleges, businesses and military organizations were complaining about having to spend time and money on remedial training in the basic skills such as reading, writing, spelling, and math.

Current statistics reveal high drop-out rates, high

illiteracy rates, low test scores, high unemployment rates, high percentages of incarcerated minorities, and an increasing number of teenage pregnancies (Clark & Astuto, 1990). They further suggest that schools are not producing informed and effective citizens that can function effectively in the world of work and realize personal fulfillment.

What Has Been Done About The Problem: Intensification & Restructuring

The need for public school improvement is widely acknowledged and has resulted in two "waves" of reform: intensification and restructuring (Fullan, 1991). Intensification reforms focused on curriculum and higher standards. Shanker (1990), explaining this first wave, said that an attempt to improve achievement was made by "enacting a regimen of central regulations. The reforms this perspective produced are by now familiar: teacher testing and tougher inservice evaluation, higher teacher salaries, career ladders or merit pay, stiffer academic requirements for students, no more social promotion, more frequent standardized testing and so forth" (p.347).

Restructuring, on the other hand, "focuses on fundamental changes in expectations for student learning, in the practice of teaching, and in the organization and management of public schools" (Elmore, 1990). Discussing this second wave, Elmore (1990) said that restructuring is focused on one, two, or three of the following areas: teaching and learning in schools, conditions of teachers' work in schools, and the governance and incentive structures under which schools operate.

This paper is about intensive education which is a change in the structure of secondary school organization. Ideally a school is an organization that is structured in such a way that it will optimize the teaching and learning process since the central work of the school is teaching and learning. The products of the school are students who graduate with skills, knowledge, and attitudes. When schools produce students with low skills, little knowledge, and poor attitudes, the public expresses concern that the schools are not doing their job correctly. Intensive education involves organizing the school's schedule so that the day is more effectively and efficiently utilized: students study and teachers teach one subject for a period of 30 days. Students stay with one teacher four hours a

day, and teachers teach just the one four hour academic class each day. Teachers and students are able to concentrate on the one subject and work with one small group of people intensively for a period of 30 days, or 120 hours, the equivalent of a Carnegie unit of credit.

While reading the following literature review on intensive education it is important to keep the following questions in mind: 1) Is this a better way to organize schools, a way that would enhance teaching and learning? 2) Does intensive education create the best workplace conditions for teachers and students? 3) How should a good school be structured? and 4) What are the best conditions for teaching and learning?

Recent reports on the public high schools in the U.S., such as Theodore Sizer's Horace's Compromise , illustrate ways that the current structure of high schools hinders the teaching and learning processes. They show how learning is fragmented, time is wasted, and that teachers have too many students so they are not able to get to know them, their needs, and interests. Sizer's report shows how teachers are forced to make compromises in teaching because of time and number of students limitations. Philip Cusick (1973) states similar concerns after completing his participant

observation study, Inside High School: The Students' World. Both studies record how students move each 40-50 minutes to a different activity in a different location, with a different teacher. They record how much time is spent in the classrooms on maintenance activities such as attendance, announcements, settling into, and getting ready to leave classes. Students spend a lot of time in transition between classes and waiting during classes. Cusick reported a total of 200 minutes a day that students typically spend on procedural and maintenance details or wait time while others tie up the class with their own concerns. According to Cusick's study teachers spend an average of 200 minutes a day in maintenance activities; rather than teaching. This estimate (which he says is conservative) "assumes only ten minutes of the class time will be lost, that there will be no major interruptions, that the teacher will be well prepared, that there will be no discipline problems, no assemblies, no fire drills, no special events or activities, and no one interrupting the class once it begins"(p.48).

An article, "The Copernican Plan" by Joseph Carroll (1989), spoke of an alternative way to schedule a public high school that could automatically reduce class size and

extend class length, thereby reducing the average teacher's daily student load from 150-200 down to 20-30. This was simply a scheduling change that could affect the teaching and learning process. Teachers and students would have one class from 8:00AM to 12:00PM (4 hours) for a period of 30 days. There would be six of these sessions per year and students could take art, music, and physical education in the afternoon.

Intensive Education; Perhaps A Way To Improve Student Achievement

Changing a traditional school schedule to an intensive education schedule is a restructuring reform that may affect teaching and learning and the conditions of teachers' work in schools. The school schedule itself is restructured and this may affect the way all members of the organization spend their time doing their work: teaching and learning. Teachers and students will spend their time with a smaller number of students and concentrate on one subject without distractions from a variety of other factors that are a result of the traditional way classes are scheduled in a traditionally organized school. The

current school year is at least 180 days long, therefore teachers would teach, and students would enroll in, six morning classes each year (6 classes X 30 days = 180 days). Using this schedule, the students would take one more academic class than in the traditional schedule, and the teachers would also teach an additional class. To illustrate this further, in a traditional six period a day schedule students generally take four or five academic classes and a physical education class. Teachers generally teach five of the six periods in a traditional schedule with the extra period used for teacher preparation time. The intensive education schedule allows for an extra academic class for both teachers and students. Overall, class sizes can be lowered almost 20% assuming current staff and student enrollment are kept at existing levels. This is a result of the fact that no teachers are taking the traditional preparation period in the morning when the academic classes are being taught. The student body is divided among the total number of teachers who teach the academic subjects. (See Appendices A and B)

Assumptions

Proponents of intensive education assume the following

relationships between variables. This review of literature will focus on these relationships to help us determine whether they are valid and will prove accurate.

Assumption #1.

Intensive education affects the following resources which alter the basic conditions of education:

A) It reduces class size.

B) It lengthens class periods.

C) It reduces the number of subjects that students take and teachers teach each day.

Assumption #2.

These changes in conditions can facilitate the development of changes in the following processes:

A) Increased interactions between students and teachers.

1) Teachers through increased interactions can focus on the needs and interests of the students.

2) Teachers can provide students with immediate feedback on class assignments because there are a limited number of assignments to grade.

3) Increased interactions help students understand that teachers care about them.

4) Increased interactions allow teachers to help students who need special help.

B) More teaching methods and learning activities.

C) Deeper student and teacher involvement with the subject matter.

D) More opportunities for teacher development and professionalism.

E) Increased interactions between students which foster greater liking and empathy toward one another and skills in working together.

Assumption #3.

These processes made possible by the conditions created by the intensive education provide opportunities for increases in the following areas:

A) Academic achievement.

B) Better relationships between teachers and students.

C) More positive relationships between students

D) Increased attendance and fewer dropouts, fewer suspensions and academic warnings, and higher graduation rates.

E) Greater teacher satisfaction.

F) Greater student satisfaction and enjoyment of learning

G) Students better self-concept.

Literature Review

The literature review is divided into the three sections. First is a discussion and description of the different categories of studies about intensive education and their limitations. Second is a section reviewing the research that bears on each assumption and its corollaries. It concludes with a summary of the overall findings of the literature review and their implications for further research.

Characterizing the literature.

Studies on the intensive education concept were found in the following areas: macro-block scheduling at the high school level, macro-block scheduling at the college level, intensive education at the high school level at private schools and summer schools, intensive education at the college level, and theoretical papers. The ideal study for the purposes of this paper would have been the study of

intensive education during the regular school year at a public high school, but no such studies exist. Instead studies that do exist will be used and their limitations recognized.

Block scheduling, generally refers to longer than normal classes:classes hel for longer blocks of time than the traditional 45-50 minute classes. Most block scheduling includes fairly short blocks of time (1-2 hours) which is too much of a departure from the structural elements that give insight into intensive education to be used in this study. However, there are some macro-block scheduling studies which do give us some insight. This literature review only includes the studies that entailed classes at least 3 hours long (macro-block scheduling) because if students and teachers are concentrating on more than 2 academic classes a day and preparing for more than two classes the students and teachers are not intensely studying any one class. Since macro-scheduled classes are not purely intensive education they have limitations in this study. First of all, they are, a compromise. Although they allow more time for more in-depth coverage of curriculum and more time for different teaching and learning activities, they do not allow students to

concentrate on one subject in depth. Teachers must compromise also because they have larger loads of students which creates time limitations that in turn affect the ability to individualize and give feedback since they must prepare for and teach several classes of students. Field trips and other projects may disrupt other academic school activities because not a large enough block of time is devoted to each class for a meaningful trip. For example if a history class took a field trip the students and teacher might not return to the school in time for the next academic class that day. In intensive education the history class would be the only academic class scheduled for these students and teacher that day and both would be free to take the field trip. The macro-scheduling studies included in this paper were conducted by Whitla (1992), Munroe (1989), Steagall (1968) and Baylis (1983).

There are many college level studies about intensive education, but these also have limitations. They may not apply completely to more conventional public school settings for the following reasons. Students may have more motivation to learn by the time they reach the college level since it may have been their own choice to be in college. They may also be more focused on learning with a

specific career in mind and may even have more choice in selecting their classes. The student population is likely to be biased toward successful learners which may affect the results of the studies when one compares them with a school that requires mandatory attendance for the general population. Studies in this category are Bevan (1973), Brown (1940), Christy (1993), Deveny & Bookout (1976), Hefferlin (1972), Heist (1979), Kuhns (1974), Mims (1980), Wallace (1972), and Wishard (1971).

Studies of private schools that have used intensive education scheduling also have limitations since students may place more value on an education they are paying for. Students may also be from a higher social economic status (SES) than public school students and SES level is often related to higher achievement. Another limitation is that private schools generally are not obligated to teach students with special needs, and we need to consider whether this is a factor that enters into the conclusions drawn about intensive education. Powell (1976) and Maul (1978) conducted studies of intensive education in private high schools.

The studies of intensive education in summer programs also have limitations. There may be more high or low

achievers in summer sessions than in a regular school session. The teachers or students may be more or less motivated than in a regular school session and it is possible that some students may be repeating the class. Carroll's(1989) studies cover summer programs in intensive education at the high school level, while Wallace (1972), Bevan (1973),and Deveny & Bookout (1976) study summer intensive education programs at the college level.

Review Of Research That Bears On Each Assumption And Its Corollaries

Assumption #1: Intensive education affects the following resources which alter the basic conditions of education: It reduces class size, lengthens class periods, and reduces the number of subjects that students take and teachers teach each day.

One of the main benefits of incorporating intensive education into a secondary school is the potential class size reduction. Canady (1989) and Carroll (1989) have worked extensively with student/teacher ratios in initiating macro block-scheduling and have shown that longer, smaller classes can be scheduled at no additional

cost to the schools. They simply illustrate mathematically that each teacher who now teaches five concurrent classes will teach six intensive classes and each student will have an additional class available since teachers would teach six classes a year instead of five. All academic teachers will be teaching at the same time which eliminates the traditional morning preparation periods and in turn lowers class size. In addition to reducing class size, the teachers' daily student load is also lowered. Teachers may teach 24-30 students a day instead of the traditional 150-200; a reduction of 84 percent.

In Hefferlin's (1972) historical review of intensive programs, current intensive programs, and review of research on intensive and concurrent courses, he wrote that when Martin College in Pulaski, Tennessee started intensive education in 1970 they found that average class size was automatically reduced. Hefferlin describes how the traditional schedule was reorganized into courses six-weeks in length and a one-course rule was adopted. Though his study says class size was automatically reduced he does not go into further detail. Hefferlin also noted that at Colorado College reduced its average class size almost to its student-faculty ratio of fourteen to one. They did this by establishing equity between the number of courses

professors teach and the number students take, in other words, students took one class a term and teachers taught one class a term. While he does not tell us the prior class sizes, we do know that teachers were complaining about "large" class sizes before the initiation of intensive education. He reported that when Colorado College conducted a study of problems of academic and institutional effectiveness in 1969 (this is before the implementation of the intensive education schedule) the major complaints were:the fragmentation of time and effort both for the students and the faculty and, that student/faculty relations and student/student relations needed to be improved. The complaints were that the size of the courses kept classroom interaction on a formal basis and that student friendships were typically restricted to living units. When the Colorado College faculty approved the intensive education plan, it was in order to reduce class size and increase student-faculty interaction. (Hefferlin, 1972)

Another study (Brown, 1940) showed how a college adopted the intensive education approach in order to give students and teachers the opportunity to concentrate on one subject in small, long classes. Brown (1940), the

president of Hiram college from 1930-1940, conducted a descriptive survey research study of the intensive education program. At Hiram college, the faculty became pleased with the results of the summer intensive classes during 1930-33 so they decided to try intensive scheduling for the normal academic school year. Brown's longitudinal trend study (from 1930 to 1940) encompassed: (1) pre- and post- tests of the Remmer's Attitude toward subjects scale (students were found to generally like most of their subjects increasingly better under intensive education), (2) surveys, questionnaires, and interviews (given to faculty and students asking questions like: What do you think of the plan? What are the advantages and disadvantages of intensive education?), (3) comparisons of incoming students (intelligence level of students, number of students enrolled, percentages of male/female, where students were from), and (4) observations (of classroom activities). Results from faculty evaluation interviews in this study indicated that the faculty liked the opportunity to arrange class trips and the smallness of the classes which encouraged group discussion and daily participation of every member in the group. A faculty member at Hiram reported on a survey that he and other faculty members "saw

at once and grasped for the opportunities for enriching their courses. The additional time at their disposal and the necessity of varying the classroom procedure worked together for the introduction of new teaching methods and additional materials. Some included student projects, motion pictures, trips to factories, social projects, art galleries, etc..." Faculty said they appreciated the fact that the intensive schedule made it possible for them to concentrate on one subject. One faculty member said, "I welcome the opportunity to direct the student's entire work."(pg.64) Another said, "One of the largest advantages is the teacher's opportunity to concentrate on one subject at a time. This is particularly important to me because of the wide range of historical areas with which I have to deal." (pg.64) In the student survey when students were asked to name the strengths and weaknesses of the plan, students mentioned most often their appreciation of the opportunity to concentrate their effort, and the opportunity to do extra work and more research on courses of their special interest.

Canady (1989) and Carroll (1989) show mathematically how class size is reduced, class periods lengthened, and number of subjects that students take and teachers teach

each day is reduced with the implementation of intensive education in high schools, while Hefferlin (1972) and Brown (1940) give several examples of this actually happening at the college level. Whether one schedules a public high school intensively or a college intensively, the number, time, and subject ratios will be affected similarly so none of the limitations mentioned for college level studies should affect this change. Therefore we can conclude that intensive education may indeed lower class size, increase class length, and reduce the number of subjects that students take and teachers teach each day. The class size reductions are based on former teacher to student ratios in the schools and if these ratio were changed with the implementation of intensive education then class size would be increased or decreased depending on the change in the number of teachers to students. If there was a reduction in the number of teachers per student the class sizes would increase.

ASSUMPTION #2: These changes in conditions (studying one subject, small, and long classes) can facilitate the development of changes in the following processes:increased interactions between students and teachers, more teaching

methods and learning activities, deeper student involvement with the subject matter, more opportunities for teacher development and professionalism, and increased interactions between students.

Increased interactions.

Intensive education creates conditions that promote increased interactions between students and teachers. Teachers, through increased interactions, can focus on the needs and interests of the students. Also, they can more quickly provide students with feedback on class assignments because there are a limited number of assignments to grade. Increased interactions also help students understand that teachers care about them and teachers are able to help students who need special help.

Powell's (1976, study included an extensive literature review and history of intensive education. She used a descriptive survey research design to study current intensive education in 8 U.S. high schools and 1 U.S. college. Methods of data collection included interviews and questionnaires given to teachers, students, and administrators, and site visits and class observations of schools using intensive education. Students and faculty interviewed and surveyed in Powell's (1976) study maintained that rapport between students and faculty was much better, that student morale and effort were enhanced,

and that closer relationships developed between faculty and students and among students in intensive classes. Many practitioners in her study "drew a direct connection between a closer faculty/student relationship and improved academic learning"(p.19).

According to Powell's study, students felt increased student/teacher interactions made it more difficult to waste time in intensive format as opposed to the traditional schedule. Students who had experienced schooling both under the intensive and concurrent (traditional) scheduling said they felt they "had to learn" under the intensive format --they could not just "sit there, fall asleep, or doodle and still get A's". The intensive schedule provided teachers with a small number of students and time enough to notice the needs and activities of the students and to structure the learning experiences based on these. As noted by the student quote above, students felt they could not hide in the crowd because the crowd is smaller and the teacher has more time to find them.

Student surveys in Brown's (1990) study at Hiram College also indicated that one important feature in the intensive education format was the increased personal

contact with the faculty. Faculty surveyed also said they appreciated the increased opportunity for student conferences and closer faculty student relations.

Deveny and Bookout (1976) conducted a small descriptive survey study of the Oklahoma State University foreign language intensive summer study program. Students studied intensively for eight weeks. Data were collected from exams, grades, and questionnaires. Students in this study said they were pleased that the rapport between students and the instructors was superb(pg.63). Deveny and Bookout do not give any data to explain this further. Unfortunately the study did not have a control group so we can not tell if the rapport was significantly different than it might have been under a traditional schedule.

According to Maul's(1978) study of Gill/St. Bernards High School in New Jersey, intensive education provides more opportunities for social experiences. This was a descriptive survey research study using James Rest's Defining Issues Test and the Moral Atmosphere Interview Questionnaire (developed by members of Harvard's Center for Moral Education) to examine the level of moral or social reasoning as a function of the number of years that the students were a part of the intensive high school

community. James Rest's Defining Issues Test was designed to examine social reasoning on six moral judgment stories Maul explains that the development of social and moral reasoning require time for students to become involved, to sit and to think, to interact with others, and finally to reason. She says that intensive education may be more appropriate to these aims. Results of the Defining Issues Test showed higher levels of moral reasoning corresponded to the number of years spent in intensive education. For example the D.I.T. scores of students in the 12th grade with one year of intensive education were compared to those in the 12th grade with two, three years of intensive education. The same comparisons were made for each grade level 9th through 12th. The D.I.T. scores showed no increase with maturation from 9th to 12th grade when students had no experience in intensive education However the 12th graders with three years of intensive education had D.I.T. scores three times as large as the 12th graders with no intensive education experience.

The Moral Atmosphere Questionnaire results indicated that students felt the "most favorable aspects of the school were

1. intensive education as a long structure for

education,

2. a chance to get to know other people and yourself;
the time to talk to others,
3. the teachers caring about you,
4. a chance to concentrate and get involved in what you are learning, working on, or doing, and,
5. being treated as an individual and being respected (Maul, 1978, p 17).

Increased interactions are represented in items 2, 3, and 5 and are made possible by item 1. Students said that these three findings which reflected relationships at the school were benefits that were the result of the small, long classes.

A Harvard research team headed by Whitla (1992) recently completed a quasi-experimental (nonequivalent control group design) study of the block-schedule experiment at Mas onomet Regional High School in Massachusetts. The block-scheduling experiment called the Renaissance Program (Renpro) was organized as a school within-a-school. Students were allowed to choose whether they wanted to be in the "Renpro" or the "Tradpro" (Traditional Program). Eighty students chose the "Renpro"; the remaining 9% chose the "Tradpro". The "Renpro" students

attended two 100 minute classes plus their elective classes each day while the "Tradpro" students attended their traditional seven 46 minute periods a day. This study used pre- and posttests, surveys, videotaped interviews, classroom observations, and "gap tests" of knowledge retention. The results of the study indicated the experimental group students were more satisfied with relationships with teachers and felt small classes fostered better discussions and deeper understandings of course material. The parents of students in the experimental group were pleased with the students' increased motivation, relations with teachers, and academic performance. Counselors and department chairs were pleased with the greater student/teacher interaction. While there seemed to be several benefits from the "Renpro" program the benefit mentioned consistently by each group, the student, parents, and educators was the enhanced relationship between teachers and students.

Increased interactions were documented in Powell's (1976) and Brown's (1940) studies. The opportunities for this increased interaction may have been the reason students reported "superb rapport between students and teachers" in Deveny and Bookout's (1976) study, though

since there was no control group we can not make that inference very strongly. The increased interaction between students and teachers, and the students themselves in Maul's (1978) study may have contributed to high scores on the Moral Atmosphere Questionnaire and James Rest's Defining Issues Test though again, without a control group it is impossible to form any conclusions. The Whitla (1992) study did provide us with a control group, and its results showed students, parents, and educators all pleased with the greater student teacher interaction in the macro-scheduled program.

More teaching methods and learning activities.

Because the intensive education schedule provides teachers with smaller, longer classes, and just one subject a day, they should have time and opportunity to use a variety of teaching methods and learning activities to increase student interest and learning. The following studies included data about the various methods and activities that occur in macro-scheduled classes and in intensive education classes.

Steagall (1968), using the survey research method in

the form of a panel study design, compared a form of block scheduling called block-of-time scheduling (classes met three or more consecutive periods) with traditional scheduling of business education classes in public high schools in Ohio. There were 36 public secondary schools that offered a senior-year stenographic block scheduled program taught by one teacher. A random sample of 18 of these schools was selected for the study, along with a random sample of 18 conventional programs. To control for differences in the two populations information was collected about school enrollment, teacher's educational background, and students' age and I.Q., business subjects taken and typewriting training received before 8th grade. National Business Test scores were used to compare achievement. Teachers and students were also surveyed using questionnaires. Teachers reported being better able to vary instructional methods in block scheduled classes. They also indicated an increased need for more equipment and better facilities than they formerly needed for conventionally scheduled classes which used the traditional teacher centered lecture style of teaching. Block schedule teachers wanted to arrange office-like activities and found they lacked equipment and large enough space. Class sizes in

Steagall's study were not small.

In her quasi-experimental study (nonequivalent control group design) of block-scheduling versus traditional scheduling at Amphitheater High School in Arizona, Munroe (1989)noted an increase in the variety of instructional methods used. This information was gathered from questionnaires given to parents, students, and teachers. Self-reports from Block and non-Block teachers indicated about twice as many strategies were utilized in Block classes than in traditional schedule classes. Whitla's (1992) study of Masconomet High School also reported that classroom observations showed the experimental group teachers more innovative in their pedagogy.

Wishard (1971), in his descriptive study of the intensive program at Colorado College states that with the implementation of the new intensive education schedule "attempts were made to assure that the old curriculum is not simply poured into a new mold. The department utilizes a variety of techniques to teach and stimulate learning and interest." He reported an increased use of films, field trips, and an increase of special guests who were invited to participate in discussions and meet with the students. Wishard, who is a German professor, does not give us

specific numbers, he simply reports that he himself has seen increases in these activities with the implementation of the intensive education schedule.

One student in Powell's (1976) study said, "There is nothing worse than a teacher who teaches like he always did!" The student's comment reflected his comparison of teaching under the intensive educations schedule to the lecturing that characterizes teaching in many traditional classrooms. Powell's classroom observations showed that the classes were characterized by a variety of teaching approaches, provision for spontaneity and active learning modes, close personal relationships among the students, and integration of academic and experiential learning. Faculty, students, and administrators "were in universal agreement that intensive education required a diversity of teaching methods -- variety in presentation and more active learning on the part of the student"(p.22). The majority of administrators in Powell's study also reported observed improvements in the enriched curriculum and improved teaching. Enriched curriculum implies variety in the "extra" things added and improved teaching implies variety in this study because administrators were reported saying, "The intensive schedule demands skill and imagination and

effort from teachers and allows more innovative planning for presentation of course material" (p.17). This is based on observations of administrators, teachers and students. One teacher described the situation like this; "You can be dull for 40 minutes and the kids accept it, but not for four and one-half hours a day -- it demands of teachers variety"(p.22). Over half of the administrators mentioned the increased opportunities for off-campus field experiences as a major advantage of the intensive schedule.

Three studies mentioned that intensive education students used the library much more than students involved in traditional scheduling. This additional library use may be a result of the more active learning activities reported above. Library usage also takes time and, perhaps by taking one subject at a time, students can spend their time concentrating of that subject. The studies below report this increased library usage associated with the intensive education schedule.

Bevan (1973),in his concept paper about intensive education, included a description of results from a survey investigation Eckerd College in Florida conducted about their Intensive Summer Program. Students and professors were asked a variety of questions about the intensive

program. The survey indicated that library circulation had quadrupled during the intensively scheduled period. Brown's(1940) study mentioned students were pleased by the opportunity intensive scheduling provided to do extra work by doing research. Also, as stated earlier under assumption #1, Brown reported how the teachers were using new teaching methods and additional materials -- some included student projects, motion pictures, trips, social projects, art galleries, etc... Heist and Taylor's (1979) descriptive longitudinal survey study of the Colorado College Plan included a subsidiary research project on its library. Comparisons were made of the number of book loans during different periods of the academic year, the use of reserve and reference services and the in-house use of study facilities. Also all graduates were questioned about their use of the library during the previous two years. Results showed that while under a traditional schedule book circulation and library use seemed to cluster around certain time periods, under the intensive education schedule library use had increased with a constant pattern of use.

Steagall (1968), Munroe (1989), Whitla (1992), and Powell (1976) were all studies of high schools that

reported increases in varieties of teaching and learning activities. Three of these were block-scheduling studies at public high schools and Powell's(1976) was a study of intensive education at private high schools. College studies (Brown, 1940; Wishard, 1971; Heist & Taylor, 1979;and Bevan, 1973) also report increases in this area. Some of these changes are simply changes in techniques and can be accomplished with current resources. Other teaching and learning activities may require additional resources, such as money and buses for field trips and perhaps for speakers. Steagall (1968) mentioned an increased need for more equipment and better facilities than they formerly needed for conventionally scheduled classes. At any rate the variety of instructional methods and learning activities has been documented in these situations. We still need a study of intensive education during the regular school year in a public high school. A study also needs to be done to determine if these additional teaching methods and learning activities actually enhance learning.

Deeper student and teacher involvement with the subject matter.

Since students can spend a long period of uninterrupted time on one set of subject matter, they may have more time to think about it in depth and get interested in it. The learning, then may be less superficial than if one had to learn six different subjects each day. The literature mentions the degree of involvement students and teachers have with the subject matter in intensive education.

The majority of teachers and administrators in Powell's (1976) study reported that the intensive study schedule decreased the fragmentation of learning and gave teachers a chance to deal with individual learning needs. When teachers had only one subject to prepare for they could concentrate their energies on that information. One teacher in Powell's study said,

> I can take the time to really look into the subject for myself, which makes it more interesting for me, and more enthusiasm gets carried over in the class, even if we don't touch on that particular deeper subject matter. So it affords me the opportunity to really get familiar and become more comfortable with my subject matter. It allows me to delve deeper into something I enjoy.(p.18)

Student's surveyed in Powell's study also enjoyed

concentrating on one thing at a time and getting involved in their learning. Specific student comments included statements about the frustration of having to stop a good discussion when the bell rang, and finding learning easier because of being able to concentrate on one subject and think about it all the time.

Steagall (1968), again, in his study of block scheduling of business classes in high schools said teachers reported being better able to give more in-depth instruction and become better acquainted with the needs of students in block scheduled classes than in traditionally scheduled classes.

In his study of Hiram College, Brown mentioned a professor of experimental psychology at Johns Hopkins, Dr. Dunlap, whose experiments had shown that "rats in the maze learn best when learning one maze at a time". As far as human academic achievement in the Hiram intensive education program is concerned Brown reports (1) teachers felt that students came to class better prepared, (2) students felt they gained a more thorough comprehension of the subjects. There was no empirical data given on academic achievement.

Mims' (1980) study "The Impact of Time on Art Learning: Intensive and Concurrent Scheduling in Higher Education"

includes a comprehensive literature review of intensive education along with her descriptive survey research. The population of the study included all students who were enrolled in intensive art courses during January 1980 at U.S. colleges and universities. A random cluster sample was drawn and the data collection instrument was a 32-item questionnaire designed to assess student attitudes concerning intensive and concurrent scheduling for visual art courses. The definition of "visual arts courses" in Mim's study included art history and criticism, fine arts, crafts, and interdisciplinary courses which include art. She concentrated specifically on the following six research questions:

1. What are the characteristics of courses in the visual arts offered by various institutions?
2. What are students' perceptions of the effectiveness of time usage in intensive are courses as compared to art courses under the concurrent format?
3. Do art students perceive the intensive format as being more valuable in terms of personal goals, needs, and educational standards than the concurrent format?
4. Is student interest and motivation greater for intensive art courses than it is when art is but one

aspect of a concurrent schedule?

5. Under which format do students perceive their instructors as being more enthusiastic?

6 Is there a relationship between student attitudes concerning intensive education in art and selected student characteristics?(p.107-108)

Results of Mims' study indicated the students' feeling that the opportunity to concentrate in-depth on a particular topic without the distractions and time pressures brought on by other courses pursued concurrently was the greatest advantage of intensive education in the visual arts. This study supports the contention that artists work best under conditions that allow long, uninterrupted periods of intense concentration. If one were to generalize this to the study of conventional high school courses, one might first of all say that instead of having art classes scheduled in the afternoons with music and physical education in the intensive education schedule of a high school, perhaps it should be scheduled intensively like the regular academic classes. Secondly, though not all academic classes are so completely oriented toward active learning, academic classes can benefit from intensive scheduling for the very same reasons students in Mim's study benefited.

Being able to concentrate in-depth on a particular topic without distractions and time pressures brought by other courses pursued concurrently might be the greatest benefit for regular academic classes as well as visual arts classes.

Bevan's (1973) study of Eckherd College reported that students' self-appraisal of their experiences (under intensive education when compared to preceding or succeeding semesters which were traditionally scheduled) pointed to a sense of involvement, personal satisfaction, and excitement.

Deeper student and teacher involvement with the subject matter seems to be well supported in the literature. Brown (1940), Bevan (1973), and Mims (1980) were all studies of colleges and universities, but the Powell's (1976) study of intensive education in private high schools and Steagall (1968) study of block-scheduling in public high schools also reported similar findings.

More opportunities for teacher development and professionlism.

Because the intensive education schedule limits the

number of students a teacher works with daily, teachers [illegible] more time in the afternoons, evenings, and weekends to take classes, read books, work with other professionals, and reflect on the needs of students and plan lessons accordingly.

Lowell's (1976) study mentioned the teachers' appreciation of being able to concentrate on one subject at a time and read material in the evenings on that particular subject. Brown (1940) also noted that the intensive schedule made sabbaticals much easier to schedule since they did not disrupt the school schedule (i.e. professors could teach 1 block class for one month and then take the next 2 months off for sabattical) and that this contributed more to the competency and loyalty of the faculty. Brown studied a university using the intensive education program but perhaps one could anticipate how that high school teachers might also be given more opportunities to pursue certain projects, studies, and take short sabbaticals, though that idea might not be economically viable at least the schedule makes the opportunity more possible.

Most of the studies on intensive education concentrated on student benefits rather than teacher benefits. A study needs to be conducted which measures opportunities for

teacher development and professionalism in schools using intensive education. Are more teachers attending university classes in intensively scheduled schools than in regularly scheduled schools? As far as teacher professionalism is concerned the teachers in studies of intensive education said they were better able to determine the needs and interests of individual students but studies need to be done that determine whether teachers are using this information in their teaching. There was no evidence of teacher collaboration in the intensive education and macro block-scheduling studies though the schedule seems to provide time and opportunity for this collaboration. Teacher development and professionalism is an area not covered well in the literature on intensive education though it is, perhaps, an area of high importance.

Increased interactions between students.

Increased interactions between students should help students understand one another and learn to work together. The small classes and the length of the classes should allow for learning activities in which students work together on projects, participate in in depth discussions,

and become friends.

Maul's (1978) study noted the students' appreciation of the "chance to get to know other people and yourself; the time to talk to others." This was a result of the small, long classes which provided time enough for these interactions.

Several of the other studies already mentioned also stated the increase in number and quality of class discussions. In the faculty evaluation interviews of Hiram College Brown (1940) found that professors appreciated the smallness of the classes which encouraged group discussion and daily participation of every member in the group.

Students in Whitla's (1992) study also mentioned the small, long classes which fostered better discussions and deeper understandings of course material. This study also compared regularly scheduled and block-scheduled students' ability to work cooperatively and found that the block-scheduled students performed significantly higher than did traditional students. This portion of Whitla's study was called "An investigation of students' domain understanding, group collaboration skills and thinking dispositions." A total of twelve groups of approximately three students were videotaped. The groups were given a

problem and each person was to think about the problem for a few minutes, then share the ideas with the others. Then students were to work together to form a final solution and present it to the researchers. The tapes were evaluated on a zero to three scale on depth of understanding, group collaboration skills, and thinking dispositions.

Literature in this area is sparse, though the Maul (1978), Brown (1940), and Whitla (1992) studies do support the conculusion, that there is increased interaction between students.

ASSUMPTION #3: These processes (increased interactions, methods, concentration, and opportunities for professionalism and development) made possible by the conditions created by the intensive education approach, provide opportunities for increases in the following areas: academic achievement, better relationships between teachers and students, more positive relationships between students, increased attendance and higher graduation rates (fewer dropouts, suspensions, and academic warnings) and finally, better student self-concepts. The literature about relationships between teachers and students, and positive relationships between students, has been covered above

under assumption # 2. The literature about increased academic achievement, increased attendance and higher graduation rates (fewer dropouts, suspensions, and academic warnings), and better student self-concepts follows.

I. oved academic achievement.

Some studies report increased academic achievement; others do not. Administrators in Powell's (1976) study said the intensive format "increased student achievement and motivation," and "increased testable knowledge, especially noticeable in languages, math, writing, and reading." One school in the study, St. Scholastica Academy, reported improved grades and achievement but Powell did not report any more specific data about how the other administrators determined that achievement had increased.

Furthermore, Dr. Baylis (1983), the Director of Educational Services of the Community College of Allegheny County conducted a quasi-experimental study of block scheduled students. He used the pretest-posttest control group design to collect data for analysis of the comparative effects on student performance. Measures of attitudes (semantic differential), anxiety (anxiety

survey), and 17 specific learning behaviors (learning behavior inventory) showed statistically significant advantages for the Experimental group on almost all variables observed. The G.P.A. of the experimental group was higher, though there were no significant differences between the groups on the "Iowa Basic Reading" posttest.

In her study of block-scheduling versus traditional scheduling at Amphitheater High School in Arizona, Munroe (1989) indicated the experimental group's G.P.A. improvement was greater than the traditionally scheduled group.

Carroll (1989) includes in his concept paper "The Copernican Plan: Restructuring the American High School" a historical review of intensive education, descriptions of currently operating intensive and block-scheduling programs and several small descriptive studies of intensive education. In the Washington D.C. junior high school where Carroll was a principal, he conducted a quasi-experimental study (quasi-experimental because the group studied was not randomly selected, rather it was an intact group) of intensive education in a six-week summer program where students were pre- and post-tested in reading and math skills. The students, most of whom were doing poorly in

regular class, attended school four hours in the morning to study math or reading in classes of 20 students. In this particular case the average student progressed two to three grade levels.

Carroll mentions a gifted junior high age program at Johns Hopkins University that found students able to complete high school mathematics courses at a high level of mastery in 75 hours by attending class 5 hours per day, 5 days per week, for 3 weeks. This was only 50% of the time allocated to these classes in a traditional high school.

Other reports of simply equivalent achievement include the following study by Carroll (1989) that he conducted when he was principal of a Los Alamos High School summer program which used intensive education for regular and gifted students as well. Students taking math or chemistry learned in six weeks (4 hours a day, 5 days a week, total 120 hours) the same amount they learned in 180 days of 50 minute classes (total 150 hours) during the regular school year. This determination was made based on the amount of material the teacher covered and the work and the test scores of the students.

Whitla (1992) reported superior achievement of the block-scheduled group in the areas of domain understanding,

group collaboration skills, and thinking dispositions, but essentially equivalent achievement in specific subject matter midterms and final examinations. The authors of the study concluded that academic perfomance was essentially equivalent in a shorter period of time (ren-pro classes were held 100 hours per class, while trad-pro classes were held 139 hours per class).

Steagall's (1968) study also reported equivalent achievement. This study compared macro-scheduled classes (classes met three or more consecutive periods) with traditionally scheduled business education classes in public high schools in Ohio. National Business Test scores were used to compare achievement between the two and no significant differences were found over all.

Deveny and Bookout (1976) reported no differences in achievement in their small descriptive survey study of the Oklahoma State University foreign language intensive summer study program. Students studied intensively for 8 weeks, data were collected from exams, grades and questionnaires. Exam success and grades were comparable to grades on foreign language classes during the regularly scheduled school year, and students felt they received a solid knowledge foundation.

In another study of intensive education, Wallace (1972) compares three weeks of intensive language study with 30 weeks of language study traditionally scheduled. Classes in the three week program met six days a week for seven hours daily. His quasi-experimental research incorporated the pretest-posttest, control group design. He used different levels of the Modern Language Aptitude Test according to the incoming levels of the students. Post test results suggest clearly that students are able to make measurable gains in listening, reading, speaking, and writing equivalent to the gains that might have been expected from a year of college study.

One study in the literature reported lower student achievement. This study by Christy (1993) was a descriptive expost-facto survey research study that compared the performance in biochemistry of college students from intensive and traditional organic chemistry backgrounds. He reported there were no significant differences in knowledge retention but that the traditional group was favored with higher achievement in application. Application was measured by performance in biochemistry, for which organic chemistry is considered a prerequisite.

The studies conducted by Powell (1976), Munroe (1989),

Baylis (1983), and Carroll (1989) show increases in achievement relative to traditional classes. While other studies by Carroll (1989), Wallace (1972),, Whitla (1992), Deveny and Bookout (1976) show equivalent achievement. Christy's (1993) study seems to be an anomaly. All of these studies except Christy's use test scores, and/or current class grades to report levels of academic achievement. Christy reported equivalant achievement when reporting knowledge gained in the class as measured by the grades in the class and subject matter tests, but in his test of application skills he decided to use the grades of the same students in the next related class as a determinant of whether these students could apply what they had learned as well as those who had taken the course traditionally. When intensive education students did not receive equivalent or higher grades in this traditionally scheduled biochemistry class he concluded they could not apply knowledge as well. This conclusion seems quite questionable due to the many mediating factors involved. A better test would have judged these students on their application skills in an intensively scheduled biochemistry class. At any rate one might conclude from the literature that intensive education generally provides for at least equivalent achievement if

not increased achievement. This factor alone may not make a conclusive case for implementing intensive education.

Increased attendance and graduation rates, and decreases in dropout rates, suspensions, and academic warnings.

Academic achievement is not the only important estimate of a program's success. Schools have also had problems keeping students in school and helping them learn enough to graduate. This is an area that intensive education studies also covered.

In Heist and Taylor's(1979) study of Colorado College a simple count of suspensions and academic warnings indicated that with the intensive schedule great improvements were made in this area. Suspensions had gone from 53 in 1969 (before intensive education) to 9 in 1979 (after classes were scheduled intensively) and academic warnings which were 270 in 1969 were 34 in 1979. In Wishard's (1971) description of the Colorado College plan he also states that there is little or no absenteeism with class attendance at 90-100%.

Bowan (1973) in his study of Eckherd College reported

significantly lower rates of student failure during intensive education when compared with preceding and succeeding semesters which were traditionally scheduled.

Baylis (1983) in his study of the Community College of Allegheny County showed dropout rates and absentee rates for block scheduled students were lower than for non-block scheduled students.

At Mount Vernon College in Washington D.C. the faculty changed from the traditional to the intensive education approach in response to a report that 33 percent of their freshmen were on academic probation. Kuhns (1974) in her descriptive survey study comparing the two groups of freshmen, found the academic probation rate of the control group still at 33 percent, but the academic probation rate of the experimental intensive education group to be 7 percent.

Munroe's (1989) study of block-scheduling compared to traditional scheduling at Ampitheater High School in Arizona reported higher attendance, and a lower dropout rate in the experimental group.

All of these studies reported improvements in attendance, suspension and academic warning rates, and failure and dropout rates. The majority of the studies in

this section are college studies though Munroe (1989) reports similar findings at the high school level.

Better student self-concepts.

If students have more interactions and help from teachers and more time to concentrate on the subject at hand it seems that they might be more successful in learning and this might create better student self-concepts.

In her study at Amphitheater High School in Arizona, Munroe (1989), used pre- to posttest differences on the Piers-Harris Children's Self-Concept scale to compare the experimental and the traditional groups' changes in self-concept. Greater positive changes in self-concept were noted for the experimental group.

Summary Of The Overall Findings Of The Literature Review And Their Implications For Further Research

Assumption #1 that intensive education lowers class size, lengthens class time, and allows students to concentrate on one subject seems well supported in the

literature for a variety of learning situations. However there is no study specifically on intensive education in a public high school during the regular school year, a study of this nature is needed in order to form more complete conclusions. If public high schools were to adopt the intensive format new computer scheduling programs would be very helpful to aid the change process. Future research is needed in developing these programs.

It should also be noted that some school districts may be more interested in reducing costs than enhancing learning and therefore may view this as a way to reduce teachers while maintaining class size. Therefore if districts are implementing intensive education to enhance teaching and learning, and not to just save money, it is important to maintain current teacher to student ratios. Teachers unions will be very wary of this problem and the ratio of students to teachers needs to be clearly spelled out.

The literature of intensive education in private high schools, public summer school programs, block-scheduling in public high schools and intensive education in colleges strongly supports the assumption of greater interaction between teachers and students, though the increased

interaction among the students themselves is not so strongly supported. More studies could be done in the area of student to student interactions, to determine whether students do work better together, and do like one another better as a result of these concentrated, small, long classes. Also, again, a study needs to be conducted studying the increased interactions in an intensively scheduled public high school during the regular school year.

As far as organized teaching and learning activities are concerned, observations and surveys have also documented an increased use of a variety of teaching methods and learning activities in all the reviewed situations. A limiting factor is, again, that we do not have a study of this increase in a public school using intensive education. Concerning the subject matter, students, teachers and administrators in the reviewed programs cite appreciation for the opportunity created by the schedule to concentrate in depth on the subject matter.

The assumption that intensive education creates conditions which provide more opportunities for teacher development and professionalism is less well documented in the literature. This is an area that needs to be studied

further before conclusions can be drawn. More research also needs to be done to document the effect of an intensive education approach on the teachers' work conditions. If a study were conducted on intensive education during the regular school year in a public high school these conditions should be considered along with the student success variables.

The studies on increased achievement could also be supplemented, though the overall agreement in the literature is that achievement is at least equal, if not better than achievement in a normal schedule. Students and teachers in the studies maintain that the students learn more, but written tests are sometimes only showing equal achievement. When achievement is based on GPA, most of the literature shows increases in achievement but that appears tenuous at best. Some high school studies of intensively scheduled summer programs document increased achievement, as well as do the block-scheduling studies of high schools. A good experimental study is needed using public high school students and measuring their achievement in an intensive program during the regular school year compared to the achievement of a similar control group under the traditional schedule. Such a study would significantly

contribute to this literature.

The literature is quite strong in the area of increased graduation rates and attendance. The high school studies of block-scheduling are among the studies that show the best results in this area. The literature reviewed also supports the statement that dropout rates, academic warnings and suspensions go down. Most studies on intensive education programs will easily document this as "side data" so perhaps no special studies need to be done in this area. The data available appears to be quite unanimous, although we need a study of an intensively scheduled public high school during a regular school year before we can be more sure of this effect. There is also room to look at the cause(s) of these improvements to determine if these successes were a result of increased interactions between teachers and students, limited distractions, increased success in learning, or a combination of other factors.

Intensive education is one way to structure the teaching and learning environment. Though I have not been able to locate a public high school using this format, the idea itself is slowly coming into vogue. The handbook of current suggestions for secondary education, Second to None, from the California State Department of Education

recommends that schools use blocks of time so that students and teachers can take advantage of a variety of different teaching and learning activities. At the same time Ted Sizer, from the Coalition of Essential Schools, is recommending that teachers have a daily workload of no more than 80 students. While intensive education is much more radical than either of these suggestions, they are a step toward providing more time and a lower student/teacher daily workload, which according to the intensive education literature aids the teaching and learning process.

Appendix A

Typical Schedule in Traditional High School

Per 1	History	8:00-8:54	54 minutes
Home Room		8:54-9:05	11 minutes
Per 2	Math	9:12-10:06	54 minutes
Per 3	P.Ed.	10:13-11:07	54 minutes
Per 4	Science	11:14-12:08	54 minutes
Lunch		12:08-12:48	40 minutes
Per 5	Health	12:55- 1:49	54 minutes
Per 6	Music	1:56- 2:50	54 minutes

Typical Schedule in a Block Scheduled High School (Carroll, 1989)

Macroclass 7:45- 11:45		240 minutes
Lunch 11:45- 12:50		35 minutes
Prep-Help-Study/Seminar/Music/P.E.	12:50- 2:00	70 minutes
Prep-Help-Study/Seminar/P.E./Music	2:06-3:16	70 minutes
Activities/Sports 3:20-5:00		

(Newspaper/Annual/Choir/Band/P.E. / enior Projects/Vocational Projects etc. are all held in the 70 minute afternoon sections)

Appendix B - 1

Current Muir High School Traditional Schedule (English 46 classes/1440 students) Average Class Size is 32 Students

Teacher	Per1	Per2	Per3	Per4	Per5	Per6
Gilchri		Eng1	Eng1	Journ	Eng1	Journ
Dupree	Eng1		Eng4	Eng1	Eng1	Eng1
Moore	Eng1	ELD4		Eng1	Eng1	Eng1
Cisneros		ESL3Eng2	ESL2Eng1	ESL1Eng2	ESL1Eng1	ESL3Eng1
Ivory	Eng2		Eng2	Eng2	Eng2	Eng1
Mason	Eng3	Eng2		Eng2	Eng3	Eng3
OwensRi	Eng4	Eng4		Eng3	Eng4	Eng3
Stalder	Eng4	Eng4	Eng3	Eng4		Eng4
Toh		Eng3	Eng2	Eng3	Journ	Eng2
Joiner			Eng1	Eng1		

Muir High English With Block Schedule 30 day classes 8:00-12:00, Average Class Size 25 Students (57 classes-1440 students)

Teacher	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Gilchri	Eng1	Eng1	Eng1	Eng1	Eng1	Eng1
Dupree	Eng1	Eng1	Eng1	Eng1	Eng1	Eng1
Moore	Eng1	Eng1	Eng1	Eng1	ELD4	Eng1
Cisneros	ESL	ESL	ESL	ESL	ESL	ESL
Ivory	Eng2	Eng2	Eng2	Eng2	Eng2	Eng2
Mason	Eng2	Eng2	Eng2	Eng3	Eng3	Eng3
OwensRi	Eng3	Eng3	Eng3	Eng3	Eng3	Eng3
Stalder	Eng4	Eng4	Eng4	Eng4	Eng4	Eng4
Toh	Eng4	Eng4	Eng4	Journ	Journ	Eng2
Joiner	Eng?	Eng?	Eng?			

(Yearbook/Newspaper are offered during the afternoon Seminar Blocks.)

Current Traditional Schedule (Creswell High School Approx.300 students))

Teacher	Per 1	Per 2	Per 3	Per 4	Per 5	Per 6	Per 7
Barker		Eng 10	Eng 10	Sen Proj.	Annual	Eng 12	Eng 9
Mulligan	Eng 11	News/Jn	Eng 12	Eng 11		Eng 11	Eng 12
Wilson						Eng 9	Eng 9
MacIntosh							Eng 10
Kenny					Drama	DvRd 1	DvRd 2
White				LC.Eng	LC.Math	LC.Eng	LC.Math
Briggs	Alg 1	Comp 1	Alg/Trg	Alg 1	Alg 1		Comp 1
Bokn	PreAlg		Alg 2	PreAlg	Geom	Alg 2	Geom
Getz	ApplMath	GenMath	GenMath	Sci 1	Chem		Physics
Purcell		Bio 2	Bio 2	Bio 1	Bio 1	Bio 1	Bio 1
Perry	Sci 1	Sci 1	Sci 1				
Stevens	VideoPro	GlobSt	GlobSt		GlobSt	US Hist	Fit/Ga
Morris	US Govt	Econ		Econ	EurHist	Econ	US Govt
Yager	US Hist		Comp	US Hist			
Shinn				Am Ind	US Hist	GlobSt	
Ball	Ag Sci	Int Ag	AniSci	Forestry	AgMech	Ag Proj	GrnHSci
Bauder	Health	Health	Health	Sprt/fit	Fit/Gms	Health	
Conley	Typ 2	Busin	Typ 1	Typ 3/4	Retail	Bkkp 1/2	
Grieg	ConBand	SymBand	IndivMus				
Harrison					Wood 1	MechDrft	AdvWd
McCorn					IndvMus	ConChoir	VocEn
McFadden	Sprt/Fit	Fit/Gms	Fit/Gms		Wgt.Tr	AdvFit	
Villar	Span 1	Span 1	Span 2&3				

Block Schedule (30 days 8:00-12:00A.M. = 1 Term)

Teacher	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Barker	Eng 9	Eng 10	Eng 10	Eng 11	Eng 11	Eng 12
Mulligan	Eng 9	Eng 9	Eng 10	Eng 11	Eng 12	Eng 12
Wilson	Eng 9	Eng 11			Eng 10	Eng 9
Makintosh			Eng 12			
Kenny		DvRd1	DvRd2			
White				LCEng1		LCEng2
Briggs	Alg 2(11)	A/Tri(12)	Geom(11)	Alg1(10)	Comp1	Comp1
Bokn	Alg 2(11)	Alg1(10)	Geom(11)	Alg1(10)	GMath(9)	GMath(9)
Getz				ApplMath	GMath(9)	PreAlg(9)
Yager		Comp 1				
White	LCMath				LCMath	
Getz	Phys(12)	Chem(11)	Sci 1(9)			
Purcell	Bio1(10)	Sci 1(9)	Sci 1(9)	Bio2 (11)	Bio 1(10)	Bio 1(10)
Perry				Sci 1(9)	Sci 1(9)	Bio 1(10)
Stevens	USGvt(11)	GloSt(9)	GloSt(9)	GloSt(9)	GloSt(9)	USGvt(11)
Morris	USHst(11)	USHst(11)	USHst(11)	USHst(11)	EurHst(11)	AmInd
Yager	Econ(10)			Econ(10)		
Shinn					TransEd	Econ(10)
Ball	AgSci	GrHou	IntAgSci	Forestry	Welding	AnimSci
Bauder	Health	Health	Health	Health	Health	Health
Conley	Typ 2	Typ1	Busin	Typ3/4	Retail	BkKp1/2
Grieg	Indiv Mu					
McCorn		IndivMu				
Harrison	MechDrft	AdvWood	Wood			
Villar	Span1	Span1	Span2/3			

P.E. Teacher could become the athletic director and do that job between 8:00 and 12:00 A.M.

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