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Alternative High School Schedules

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ALTERNATIVE HIGH SCHOOL SCHEDULES

Technical Report

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September, 1995

The views expressed in MERC publications are those of the authors and not necessarily those of the Consortium or its members



ALTERNATIVE HIGH SCHOOL SCHEDULES

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Preface

The Metropolitan Educational Research Consortium, (MERC) housed at Virginia Commonwealth University, was engaged by the Chesterfield County School Division to provide a report that portrays how students, parents, teachers, and administrators in six schools using different scheduling models perceive the impact of the schedule on school processes and practices especially as they relate to teaching and learning. The Division also requested MERC describe the schedules against results most commonly used to describe school and student performance. This document contains our findings, conclusions, supporting analyses and data.

The study adds to MERC's continuing efforts to conduct research that practitioners think is relevant. With the help of the respondents and the work of Chesterfield central staff, this study reflects the views of over five thousand parents, students, teachers and administrators in the Chesterfield County Public Schools. Since the schools studied have had limited experience with the new scheduling option (one year in most cases), the study's findings should be considered as a status report as opposed to an evaluation of the scheduling models.

The research team of John Pisapia, Amy Westfall, and Tony Hubert were assigned to collect and analyze the data provided by the participants and staff of the Chesterfield County School Division. Susan Williams, Kristin McPeak, and Suzanne Walker assisted in compiling the document. The research team also received full cooperation from the Chesterfield County central staff and school administrators. Their efforts on our behalf are appreciated.

ALTERNATIVE HIGH SCHOOL SCHEDULES: TECHNICAL REPORT

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ALTERNATIVE HIGH SCHOOL SCHEDULES

TECHNICAL REPORT

BACKGROUND

Currently there are four scheduling models being used in Chesterfield County public high schools. Manchester, Midlothian, Thomas Dale and Meadowbrook High Schools use the traditional six period day which evenly divides the school day into six periods of approximately 51 minutes in length that meet for the full year. Matoaca High School uses a seven period schedule which divides the school day into seven periods of approximately 45 minutes in length that meet for the full year. Clover Hill and L.C. Bird High Schools use a seven period alternating block schedule which divides the school day into three periods of approximately 88 minutes which meet every other day (for a total of six alternating classes) for the full year and one period of 55 minutes that meets every day for the full year. Monacan and James River High Schools use a semester block schedule which divides the school day into four periods of approximately 90 minutes which meet every day for one semester. Students take a new set of four courses in the second semester.

As indicated in the Preface, the Metropolitan Educational Research Consortium, (MERC) housed at Virginia Commonwealth University was engaged by the Chesterfield County School Division to provide a report that portrays how the perceptions of students, parents and teachers in six schools using different scheduling models are impacted by the schedule. The perceptions of interest in the present study include school processes and

practices especially as they relate to teaching and learning. The schedules are also described against results most commonly used to characterize school and student performance. As noted, the study's findings should be considered as a status report as opposed to an evaluation of the scheduling models, since the schools that were studied have had limited experience with the new scheduling option (one year in most cases).

Purpose

The purpose of this study was to determine the impact of the scheduling model utilized at each school on: (1) the satisfaction levels of parents, students, and teachers, (2) teaching, (3) relationships among students, teachers, and parents, (4) student performance, and (5) the costs and benefits associated with each scheduling model.

Research Questions

The following research questions guided the inquiry:

1. In schools that have changed their schedules recently, are parents, students, and teachers satisfied with the changes?
2. What impact do the scheduling models have on teaching? Are parents, students and teachers satisfied with instructional practices used by teachers? Have instructional practices changed in schools using different scheduling models? If so, how have they changed? Specifically, do the scheduling models affect the delivery of curricular content and teaching strategies?

3. What impact do the scheduling models have on student/teacher/parent relationships? Are there differences in how teachers relate to teachers that can be attributed to the scheduling model? Are there differences in how teachers relate to students that can be attributed to the scheduling model? Specifically, do longer classes decrease student interest in classes, and increase student boredom?
4. How do the scheduling models impact student performance? What is the level of satisfaction of parents, students, and teachers on student performance? What is the level of student performance on commonly accepted measures of student and school performance such as grades, attendance, and standardized achievement measures?
5. What are the costs and benefits of each scheduling model? First, what impact does the schedule have on student opportunity to learn -- are parents, students and teachers satisfied with the curricular options available to students? Second, what impact does the scheduling model have on professional issues of planning, professional development, class size and workload? Finally, what are the perceived and real advantages of each scheduling model?

PARTICIPATING SCHOOLS

After consultation with the research team, the Chesterfield County School Division selected six high schools representing four scheduling models to participate in this study. Midlothian High School was selected to represent the traditional six period day schedule. The remaining five schools utilize scheduling models which are considered as alternatives to the traditional model. Matoaca High School was selected to represent the seven period day schedule. Clover Hill and Lloyd C. Bird High Schools were selected to represent the alternating block schedule. James River High School and Monacan High School were selected to represent the semester block schedule.

Midlothian High School has utilized the six period day schedule for at least ten years. The other five schools have adopted new scheduling models within the last one or two years. Four schools have moved from the traditional six period day schedule to either a seven period day (Matoaca High School), an alternating block schedule (Lloyd C. Bird High School), or a semester block schedule (Monacan High School and James River High School) during the school year 1994-1995. One school (Clover Hill High School) moved to an alternating block schedule two years ago during the school year 1993-1994.

All five schools adopting an alternative schedule model did so primarily to provide students with more opportunities to broaden their educational experiences. Graduation requirements account for at least twenty three of the twenty four credits the traditional schedule can accommodate. This forces many students to either not take electives or

to seek them in summer school activities. Based on student and parent requests, these schools sought ways to provide more course opportunities during the normal school day. The Midlothian school community also recognized the need to provide more educational opportunities for its students and developed a proposal to implement an alternative schedule. Action on the proposal, however, was deferred until the school division could assess the impact of scheduling changes on teaching, learning and budgets.

In addition to providing more student course opportunities, at least two of the five schools also wanted the schedule change to relieve overcrowding and/or perceived attendance/disciplinary concerns. One of these schools chose an alternating block schedule and the other a seven period day schedule. The three other schools also saw the longer blocks of classroom time as a way to provide opportunities for teachers to explore a wider variety of teaching strategies.

The perceptions of the participants from these six schools are viewed in relation to school performance indicators painting a full, though still incomplete, picture of the impact of the scheduling models on teaching and learning. The picture is incomplete primarily because four of the six schools studied have only been utilizing a new schedule for one year. Therefore, while some of the findings are encouraging, they must still be considered as early evidence. It will take at least three years to fully evaluate the effects of the different scheduling models. However, since Clover Hill High School implemented

its alternative schedule two years ago, some effects of implementation time are evident by viewing their results.

METHODOLOGY

Data Sources

Three sources of information were used to collect the data to answer the research questions. First, MERC survey instruments were designed to collect data on the perceptions of students, parents, teachers and administrators at the six schools. Secondly, statistical data from the school division's data bases providing school and student performance information was reviewed and analyzed. Finally, a series of focus group interviews with teachers, students and parents were conducted.

Surveys

One method of investigation utilized in this study was the descriptive non-experimental design survey method. This was accomplished through the use of a survey instrument and through the use of demographic information collected on the institution and on the respondents. Four surveys were developed to collect the data to answer the research questions. The MERC survey instruments were designed to collect data on the practices and perceptions of 1) students, 2) teachers, 3) parents, and 4) administrators/counselors/librarians at the six high schools in the MERC Consortium that participated in this study.

The four surveys were primarily designed to assess 1) *levels of satisfaction* with student achievement, course opportunities, instructional strategies, student/teacher/parent relationships, professional concerns, and 2) *changes in* instructional practices and student/teacher/parent relationships at each school. These four surveys, entitled "Student Survey", "Teacher Survey", "Parent Survey", and "Administrator, Counselor, Librarian Survey" are found in the Appendices of this report.

Item Selection

The items on the surveys were developed by the Alternative Scheduling Study Group to assess school-related perceptions, behaviors, practices and levels of satisfaction with scheduling options. The items were initially developed by the Study Group to reflect respondents' perceptions regarding four general areas of inquiry. The four areas of inquiry were grouped under the general headings of: Organizational Profile, Curriculum and Instruction Profile, Student Achievement and Behavior Profile, and the Satisfaction Profile. The content of the survey instrument was based on information about scheduling issues collected during a review of the scheduling literature prepared by one of the MERC researchers (Westfall, 1994). Most items on the surveys were adapted (most with little or no alteration) from the items used in published articles on the evaluation of secondary school scheduling. Additional survey items were developed by the study group on consultation with instructional specialists in various subjects to address specific concerns in their field. Further, several items were developed by the

study group to address specific concerns of Chesterfield County students, parents, teachers, administrators, and various other members of the school community.

Since many of the concerns regarding curriculum, classroom activities, instructional practices, scheduling, and demographics can be addressed by students, teachers, parents, administrators, counselors, and librarians alike, an attempt was made to have all participants in the study respond to as many of the same survey items as possible. The similarity of the surveys also allows for comparisons to be made between the groups on perceptions of the same school-related practices and issues. Therefore, most of the items on the four surveys are almost identical. For the most part, only minor wording changes were made between surveys. For example, item number 1 on Section 1 of the Student survey reads "My teachers use group activities in my classes", whereas the same item on the Teacher survey reads, "I use group activities in my classes", and the Parent survey reads, "My child's teachers use group activities in his/her classes". Additional differences include the deletion or addition of a small number of items in each of the sections (see Survey Design section), based on the appropriateness of the item for the respondent group.

Pilot Survey

Following the initial selection of items, the survey was piloted with students, teachers, and parents. A pilot test was conducted to assist in the reduction of the threat to internal validity based on instrumentation. The pilot study participants were not affiliated with the

sample population of schools participating in the research study. A group of thirty five students, teachers, and parents from a Chesterfield County high school that was not participating in the actual study served as the pilot panel. The school was chosen because of its similarity in demographic characteristics to the six high schools participating in the study. The pilot participants were seated together in an auditorium room and a draft of the survey was distributed to them by a team of researchers. Responses were received from 100% of the pilot study participants for a total of ten student, thirteen teacher, and twelve parent responses. Participants in the pilot school were asked to respond to the survey itself and also to note on the top of the survey the time they began the survey and the time they completed it. They were instructed to write their opinions on item clarity, including any items that were unclear or otherwise difficult to answer, and general comments directly on the survey. After completing the survey, the pilot respondents were also encouraged to address comments to the research team as well.

Based in part of the comments of those students, parents, and teachers who completed the pilot surveys, several items were dropped, and several others revised in minor ways in order to decrease ambiguity. The comments formed the basis for a modest revision of the survey, in which problematic items, including several apparently redundant items, were deleted or reworded for greater clarity. In such instances, an effort to make the intended distinctions more obvious. The vocabulary utilized in the statements was modified to ensure readability and the appropriateness of terminology. In addition,

changes were made in the survey format in order to simplify the response task. The revisions resulted a final total of 80 items on the parent survey, 86 items on the student survey, and 99 items on the teacher survey. Based on item content, the items on all three surveys were divided into five sections (see Survey Design).

Unlike the student, parent, and teacher surveys, the administrator/counselor/librarian survey* (*henceforth referred to as the *a/c/l* survey) was not formally piloted. However, since the Scheduling Alternatives Study Group consisted of administrators, a counselor, and administrators aware of librarian concerns, this group was responsible for reviewing, analyzing, modifying, and evaluating the items for the *a/c/l* survey. The comments from the study group formed the basis for a few minor revisions and one significant change of the survey. The significant change that was made to the *a/c/l* survey involved the deletion of an entire section from the *a/c/l* survey. The deleted section was the section that, on the other three surveys, asked respondents to indicate the frequency with which certain activities or practices occurred at the high school. This section was deleted because the administrators, counselors, and librarians from the study group indicated that their school duties and positions prevented routine and thorough observation of such specific classroom-related occurrences. These deletions and revisions resulted in a 53-item *a/c/l* survey with four sections.

Survey Design

As mentioned above, the final student, parent, and teacher survey items were organized into five major sections (the a/c/l survey had four sections and will be discussed in a following section). The following item counts are for the final versions of the surveys, and some vary slightly from each other due to the deletion and/or addition of appropriate items: SECTION 1: Frequencies of Classroom Practices (28 items - Student; 28 items - Parent; 35 items - Teacher); SECTION 2: Satisfaction (29 - Student; 29 - Parent; 34 - Teacher); SECTION 3: Scheduling (10 - Student; 9 - Parent; 7 - Teacher); SECTION 4: Demographics (14 - Student; 9 - Parent; 17 - Teacher); SECTION 5: Advantages/Disadvantages (5 - Student; 5 - Parent; 6 - Teacher).

The first section was composed of items that were aimed at identifying the frequency with which certain activities and practices occurred at their school this year compared to last year, and was considered a **process change scale**. Section 2 assessed respondents' **level of satisfaction** with school-related activities and practices. For questions in the first two sections, forced choice Likert-type scales were developed. Section 1 response options numbered from 1 to 5; 1 indicated Always, 2 Most of the Time, 3 Some of the Time, 4 Seldom, and 5 indicated Never. Since it is possible that some respondents might not have enough information to answer each question, a sixth response option was included that was labelled 8 and called "Don't Know". Response options in Section 2 also numbered from 1 to 5; 1 indicated Strongly Agree, 2 Agree,

3 Neutral, 4 Disagree, and 5 indicated Strongly Disagree. Again, an additional response option was included that was labelled "Don't Know".

It should be noted that teachers were asked to answer five more items in Sections 1 and 2 to elicit teacher views of the nature of their work with their colleagues. The responses to changes in processes enable us to answer questions such as how often is a particular instructional practice occurring. The other groups (students, parents, administrators, counselors, and librarians) were not asked to respond to these statements. Their views on these statements, where appropriate, were collected through open ended questions and individual interviews.

Section 3 assessed perceptions of their current high school schedule and alternative schedules and Section 4 contained demographic questions. Both sections 3 and 4 contained various forced choice response modes appropriate for each question. In Section 5, all four surveys provided respondents the opportunity to give short answers to specific prompts. The student and parent surveys contained five open-ended questions, the teacher survey six questions, and the administrator surveys contained twenty two open-ended questions. The open-ended questions were reviewed and responses were coded to enable the researchers to determine the perceived advantages and disadvantages of the scheduling models. In addition, the administrator, counselor, and librarian open ended questions sought information on implementation concerns.

The final a/c/l survey items were grouped according to their content into 4 sections. The following item counts are for the final versions of the survey: SECTION 1: Satisfaction (14 items); SECTION 2: Scheduling (8 items); SECTION 3: Demographics (9 items); SECTION 4: Advantages/Disadvantages (22 items). The items in each section of the a/c/l surveys were aimed at the same type of information as the corresponding sections in the Student, Teacher, and Parent surveys and used the same response modes described for those surveys. As noted above, in addition to the deletion of the Frequencies of Classroom Practices section, a main difference in the a/c/l survey is that it contains significantly more open-ended questions than the other surveys. The open ended questions for the a/c/l survey are grouped into 7 categories: Schedule (5 items--the same items as the Student and Parent open-ended items); Contextual Factors (1 item); Implementation (5 items); Management and Coordination (3 items); Vocational Education (4 items); Special Education (3 items); and University Admissions (1 item).

Survey Distribution and Collection

For students, data was collected by surveying students at their high school. Based on the number of students enrolled at each school, surveys were distributed to all six Chesterfield County High Schools participating in the study. Surveys were distributed by MERC to school offices via the internal mail system in the Chesterfield County school division. School administrators then distributed packets of student surveys to teachers. Each packet contained enough surveys for the students in their class(es) and a set of instructions for survey distribution, asking that teachers distribute the surveys to their

students. Each student survey contained a cover memo from the division superintendent explaining the purpose of the survey and requesting participation. Students were assured that their responses would be anonymous.

Each school had the responsibility of deciding the manner in which its student surveys were distributed by teachers. Two options for survey distribution were suggested to school administrators, but neither was required. One option was for all teachers to give surveys to students in their second period classes on a specified day. The second recommendation was that all English teachers give surveys to their English classes in a specified day. Both methods were suggested to help ensure that all students were given the opportunity to participate in the study. The method chosen varied across schools and was not recorded by the researchers.

For all schools, students were asked to complete the surveys in class. Students were able to mark their responses directly on the survey pages, and return the entire completed survey to their teachers. The teachers then returned the completed surveys from their classes to a central collection point in their schools. Packets of completed surveys were then returned to the central office for pick-up by the research team.

Like the student surveys, the final version of the Teacher survey was distributed to the six high schools in the selected MERC school division via this divisions' internal mail services. Teachers received a copy of the survey and a memo from their

superintendent's office explaining the purpose of the survey and assuring them of the confidentiality of their responses. Teachers had approximately one week in which to complete the survey. Completed surveys were returned to the school principal's office, then sent back to the district central office for pick-up by the survey team.

Unlike the collection of student and teacher data, the method for parent data collection was a mail survey. Based on the number of student households from each school, copies of the final version of the survey were first distributed to the school division's central office via the county's internal mail services. The central office staff was responsible for mailing the surveys to each of the parents from the six high schools. Surveys for each school were printed on a different color paper for the purpose of follow up and identification of school representation. The color-coding served the additional purpose of reducing that concern by some school officials that surveys may be photocopied by parents and duplicates sent in. The distribution of the surveys was timed so that the surveys could be attached to a school division newsletter that parents regularly receive. The newsletter, survey, and cover letter from their superintendent's office were sent directly to parents' homes. The cover letter explained the purpose of the survey and assured them of the confidentiality of their responses. Instructions at the top of on the survey asked parents to respond to their children, generally, if they had more than one student attending the high school. The instructions also asked parents to mail the postage-paid surveys back to the Survey Research Laboratory at Virginia Commonwealth University at no charge. A follow up card was sent several weeks

following the initial survey mailing. The purpose of this card was to thank the respondents for their participation in the research, and to encourage and remind those individuals who have not yet responded to return the instrument.

The final version of the a/c/l survey was distributed to administrators, counselors and librarians in six high schools in one of the MERC school divisions via this divisions' internal mail services. Administrators, counselors and librarians received a copy of the survey and a memo from their superintendent's office explaining the purpose of the survey and assuring them that all responses are given anonymously. Completed surveys were returned to the school principal's office, then sent back to the district central office for pick-up by the survey team.

To enhance the reliability of the survey instruments, standard conditions of data collection were established as much as possible. All of the surveyed respondents received the same written instructions regarding completion of the survey instrument. A time line for responding was also consistent for all of the participants. And, as mentioned above, to ensure that the instrument's reading level and the language utilized in the survey were appropriate, the instrument was pilot-tested on the respondent's peer groups.

Missing Data

Out of the 6,839 student surveys that were returned, a total of 1,655 student surveys (24.20% of all surveys received) contained important missing data. A survey was considered to be missing important data if a response to one or more critical items (an explanation of critical items follows) was incomplete or unclear. Such surveys were excluded from data entry. With the exclusion of surveys with missing data, 5,184 Student surveys (75.80% of all Student surveys received) were considered "good" surveys whose data was usable. A description of the procedures for determining the inclusion or exclusion of each Student survey follows.

A team of three MERC research assistants was responsible for examining each returned student survey individually prior to data entry. The purpose of the examination was to sort the student surveys into the critical categories used in subsequent analyses and to withdraw surveys that appeared incomplete or that contained a significant amount of unclear responses. Because school, grade level, and general academic level were criteria for dividing respondents into groups for comparison purposes, students who failed to answer the items reflecting this information (and/or failed to respond to a significantly large number of items generally) were excluded from the analysis. Surveys which contained only several, seemingly random, missing data points were retained for analyses.

The student surveys were first sorted by the high school the child attended. That is, sorting took place by the students' self-report response to item number 10 in Section 3 of the Student Survey, "What high school do you attend currently?" A blank line was provided for students to write in their school name. A small number students did not answer this question. However, it was clear to the sorters which school the student attended, since all surveys from a particular school were delivered together in the same box and surveys were sorted one school at a time. For surveys whose response to number 10 in Section 3 was left blank, sorters categorized the survey according to the box the survey came from. Because the students' school could be easily determined for each survey, no surveys were excluded due to incomplete or unclear responses to this question.

Second, within each of the six schools, student surveys were sorted by grade. For grade information, sorters looked at the students' responses to item number 2 on Section 4 of the Student Survey, "What is your current grade level?" The four response options for this item were 9th, 10th, 11th, or 12th grade. The surveys were divided into the four grade categories for each school. Surveys in which item 2 on Section 4 was not completed were excluded from the analyses (73 surveys total, or 1.01% of all surveys received were excluded for this reason).

Third, within each of the four grades, student surveys were sorted according to the students' responses to item number 9 on Section 4 of the Student Survey. The question

read, "If you are currently taking any of the following classes, please indicate the class level (e.g., AP, H, C, Z) and your expected grade (e.g., A, B, C, D) in that class. For those that do not apply to you, please leave blank." The subjects listed were: English, Math, Music (vocal/instrumental), Science, Social Studies, Foreign Language, and Special Education. Spaces were provided for subjects to fill in level and grade to the right of each class name. Students who indicated that they were in at least one Advanced Placement or Honors class (by placing either an AP or H in the "level" column) were put in a category called "Honors/AP". Students who indicated that they were in Special Education (by filling in a level and grade for Special Education) were placed in the "Special Education" category. All other students were placed in a category called "Other". Surveys of students who either did not attempt to complete question 9 on Section 4 or whose responses were unclear were excluded from the analyses (1,582 surveys, or 23.13% of the total surveys received). The high number of surveys that were excluded from analyses for reasons pertaining to item 9 on Section 4 indicates that the question may have been worded poorly or difficult to understand.

Unlike the Student surveys, the Teacher, Parent, and a/c/l surveys were not examined individually prior to data entry. The data from all returned Teacher and a/c/l surveys was entered.

Respondents

Of the total 8,295 student surveys distributed, 6,839 **student** surveys were returned (as mentioned above) for a total return rate of 82%. Bird High School returned 1,429 student surveys for a return rate of 76%. Clover Hill High School returned 1,288 surveys for a return rate of 87%. James River High School returned 1,104 surveys for a return rate of 87%. Matoaca returned 558 surveys for a return rate of 82%. Midlothian High School returned 1,214 surveys for a return rate of 89%. Monacan returned 1,246 surveys for a return rate of 78%. The above response rates were based on the school division's September 30 membership projections report (issued 1/4/95).

After excluding the surveys with missing or incomplete data, there were 5,184 usable student surveys that were appropriate for inclusion in the study (see Missing Data section above for inclusion criteria). From this, an approximately 50% stratified random sample of surveys was chosen for data entry. The stratified sample was chosen such that proportionate numbers of students from several critical categories were included. To achieve this sample, the 5,184 good surveys were sorted (see Missing Data section for sorting procedures) into the following categories: 1) school, 2) grade level, and 3) academic level (e.g., Honors/Advanced Placement, Special Education, and Other). Then, *for each school*, 50% of the surveys from the 9th Grade Honors/AP group were randomly chosen, 50% of its 9th grade Special Ed. surveys were chosen, 50% of the 9th grade "Other" students were chosen, etc. This process continued for the 10th, 11th, and

12th graders for each school and ensured that appropriate numbers of students from each category of the six schools were used.

The stratified random sampling resulted in the entering of data from 2,432 student surveys. Of the 2,432 surveys, the following numbers of surveys were from each school (i.e., the following numbers represent approximately 50%, or half, of the usable surveys returned from each school): Monacan - 425, Clover Hill - 497, Bird - 474, Matoaca - 172, James River - 398, and Midlothian - 466. The majority (52.91%) of the 2,432 student respondents were female. 27.23% of the 5,184 students were 9th graders, 25.59 % were in the 10th grade, 23.82% were 11th graders, and 23.36% were in the 12th grade. Again, these numbers were based on the information contained in the student surveys used for the final analyses.

Responses were received from four hundred and forty six (446) **teachers** at the six Chesterfield County high schools participating in the study for an overall eighty nine percent (89%) return rate. Ninety six (96) teacher surveys (87% return rate) of all teacher surveys returned were received from Bird High School; 91 surveys (100% return rate) were received from Clover Hill High School; 67 surveys (89% return rate) were received from James River High School; 52 surveys (95% return rate) were received from Matoaca High School; 62 surveys (78% return rate) were received from Midlothian High School; and 76 surveys (84% return rate) were received from Monacan High School. Two teacher surveys did not contain an answer to the item asking the school at which they teach. Because it was necessary to make comparisons based on school,

these two surveys were excluded from further analyses, leaving a total of 444 teacher surveys for analysis.

The majority (68%) of the 444 teacher respondents were female and were in the 40-49 age range (40%). Additionally, most of the respondents (36%) reported that they had been teaching for more than 20 years, and most taught in the following areas: English/Language Arts/Reading (17%); Science (14%); Social Studies (13%); Math (13%); and Foreign Language (10%). The other 33% of the teachers taught in subjects that ranged across the other 16 subject areas listed on the survey. None of these other 16 subjects were claimed by more than 8% of the teachers.

Responses were received from 1,121 **parents** from six Chesterfield County high schools participating in the study for an overall sixteen percent (16%) response rate.

Fourteen percent (14%) of the parents (208) at Lloyd C. Bird High School. Two hundred and twenty Clover Hill High School parents responded to the survey for a eighteen percent (18%) response rate. Three hundred and twelve parents responded from James River High School for a response rate of twenty nine percent (29%). One hundred and forty five Monacan High School parents returned surveys for a eleven percent (11%) return rate. Sixty six parents from Matoaca High School returned surveys for a twelve percent (12%) return rate. One hundred and seventy five parents from Midlothian High School returned surveys for a fifteen (15%) response rate. Of these parent protocols,

the majority (83%) of the respondents were mothers and most respondents (61%) reported living in the Chesterfield County School district for over 10 years.

Of the fifty three *a/c/l* surveys returned from the six Chesterfield County high schools, approximately thirty eight percent (37.7%) of the surveys were received from principals or assistant principals, 41.5% of the *a/c/l* surveys were completed by counselors, and 17% of the surveys came from librarians. Eleven (20.8%) *a/c/l* surveys were received from Bird High School; 8 (15.1%) *a/c/l* surveys were received from Clover Hill High School; 9 (17%) surveys were received from James River High School; 8 (15.1%) surveys were received from Matoaca High School; 8 (15.1%) surveys were received from Midlothian High School; and 8 (15.1%) surveys were received from Monacan High School. Additionally, a majority (71.7%) of the *a/c/l* surveys were returned by females, and most (50.9%) of the surveys were completed by respondents in the 40-49 year age range. A majority (41.5%) of the survey respondents reported that they had been in their current profession for over 20 years.

The *A/C/L* data was received from all persons in those categories at each school. However, the data is not included in the descriptive analyses due to the small number of respondents from each school (less than 4) and our concerns for confidentiality. Their responses were included as part of the significance testing conducted in this study. Where their results were significant, they are reported for the appropriate sections of this

report. The A/C/L open ended responses were also reviewed and used in appropriate sections.

Table I

Survey Response Rates

	Student	Parent	Teacher
	Rate	Rate	Rate
Bird	76%	14%	87%
Clover Hill	87%	18%	100%
James River	87%	29%	89%
Monacan	78%	11%	84%
Matoaca	82%	12%	95%
Midlothian	89%	15%	78%
Totals	82%	16%	89%

Rate = Percentage Returned

Statistical Data

In addition to survey data, three types of statistical information were reviewed to examine student and school performance measures. The first type of information was extracted by the research team from Chesterfield County. These data on student attendance, grades, and course selections were provided on disk for analysis by the research team. These data allowed the research team to examine the impact on students in different grades and achievement levels over time. These analyses are not routinely conducted by school division personnel. However, these analyses provide insights into important trends.

The second type of statistical data provided by the school division was information maintained for accountability and reporting purposes. These data have been reported publicly in other forums to the school board, community and department of education. Data kept at the school level, such as the SAT scores, and AP Test scores were requested by the central staff and furnished to the research team. These data were provided in summary form to the research team.

Additionally, the team was provided with the results of an Algebra I test specifically constructed to determine if students in schools with alternative schedules learned similar content as those in traditionally scheduled schools. The test was constructed, administered and tabulated by the school division and provided in summary form to the research team. The research team reviewed the procedures utilized in the construction,

administration, and analysis of the test and found them appropriate and useful to include in this report.

Interview Data

While the survey and statistical information provided quantifiable information to answer the research questions regarding the satisfaction levels, and process changes, further verification was sought through site visits and interviews. The focus group and individual interviews were designed to elicit information that provided: (1) guidance to the research team as it reviewed the survey and statistical information, (2) insights into the interpretation of the those sources of information, and (3) examples, and illustrations to explain the statistical information.

A protocol for interview activities was developed that sought insights related to the participant's experiences with the schedule being employed at each school. The protocol (found in the appendices of this report) contains a set of focus questions that guided the discussion and note taking with each focus and individual interview. The protocol grouped guiding questions in four categories of inquiry: organizational, curriculum and instruction, student achievement and behavior, and teacher, student, and parent satisfaction.

Site Visits. Two members of the research team visited each school. At each school three focus group interviews (one with students, one with teachers, and one with

parents) and individual interviews with counselors and administrators were conducted. No attempt was made to request that information be especially prepared for the site visit. Each visit was coordinated by the school principal, or a designated administrator, and the principal investigator.

Twelve parents, twelve students and twelve teachers were invited to participate in three focus groups. The invitees were selected from certain categories to help ensure the representation of various populations in the focus group interviews. Based on these categories, focus group participants were randomly selected from data bases housed on computers found in the school division central offices. The categories included the following groups: 1) *Teachers*, including advanced placement, foreign language, special education, performing arts, science, math, and social studies teachers; 2) *Administrators*, usually including the principal, assistant principal, and a guidance counselor; 3) *Students*, including students enrolled in at least one advanced placement, foreign language, special education, and/or performing arts class; and a student who transferred into the school; and 4) *Parents* - parents of students enrolled in advanced placement, foreign language, special education, regular education and performing arts classes.

The lists of selected student and teacher participants were sent to the principal investigator who distributed them to the site coordinator along with a suggested time schedule for the visit. Individual and group interviews were scheduled by the site coordinator with individuals in each of several selected categories. The site coordinator

was responsible for establishing the final schedule for the meetings and to assure that proper school procedures were followed. The parents selected were each invited to participate with a letter from the research team's principal investigator (see site visit protocol for sample letter). Focus group sessions were scheduled with students during the school day, immediately after school for teachers and at 7:00 p.m. for parents.

No substitutions were allowed for individuals who could not attend the focus group sessions. Therefore, actual numbers of focus group participants varied across schools. The focus group sessions at James River High School resulted in eight students, seven teachers, one parent, one administrator and one counselor participating. Twelve students, eleven teachers, two administrators and one counselor participated at Lloyd C. Bird High School. Four students, eleven teachers, and three parents, three administrators and two counselors participated at Monacan. Seven students, eight teachers, two administrators, and one counselor participated from Matoaca. Nine students, ten teachers, three parents, two administrators and two counselors participated at Clover Hill. Three students (two by telephone) and ten teachers, two administrators and one counselor participated at Midlothian High School.

Each focus group interview was tape recorded and members of the team also took appropriate notes related to the interview protocol. Participants were assured that their responses would be confidential and the tape would only be referred to by the researchers when drawing their conclusions and writing the final report. They were

further assured that if the researchers used quotes in the report to illustrate a point they would be made anonymously.

The site visit team debriefed following each visit. Each member submitted a brief summary of the vignettes, special testimonials, and examples that illustrated the findings from the survey and statistical data.

DATA ANALYSIS

Survey Analyses

The survey responses were first analyzed with descriptive statistics to determine the perceived occurrence of the behaviors in the section one items. They were then analyzed to determine how satisfied respondents were regarding the statements found in section two of the surveys. Tables displaying percentages of respondents were prepared for each survey statement and are found throughout the report or in the Appendices. In each of these tables the number of respondents who answered "don't know" was removed from the calculation. The percentages were derived from the responses of those who responded in one of the other five response modes on the survey.

On satisfaction tables, the responses are displayed as the percent of the respondents in each category agreeing or disagreeing with a statement. These percentages were calculated by adding the number of individuals who responded strongly agree or agree

and dividing that number by the total respondents on the statement. This calculation provided the percentage of respondents who agreed with the statement. The same calculation was conducted for those who disagreed or strongly disagreed.

On process change tables, the responses are displayed as the percent of the respondents in each category who believe that an instructional process occurs always/most of the time, some of the time, or seldom/never. These percentages were calculated by adding the number of individuals who responded always or most of the time and dividing that number of the total respondents on the statement. This calculation provided the percentage of respondents who believed that the practice occurred always/most of the time. The same calculation was conducted for those who answered seldom or never, and for those who answered some of the time.

The satisfaction and process change tables enable us quickly to determine how particular respondents feel about the statement and how often the practice occurs. For example, what percentage of the respondents agree or disagree with a statement? Or, what percentage of the respondents believe that a practice happens most of the time, some of the time or seldom? If all we want to know is how the teachers at School A feel about a particular statement then descriptive statistics are useful, interesting, informative and easily communicated. But, since we also wanted to know, for example, if the way teachers at School A answered was significantly different than the way teachers at School B answered, we conducted an analysis using inferential statistics. Inferential

statistics enable us to answer the statement "Do responses from study participants at Matoaca differ from the responses from study participants at Clover Hill, Midlothian, Bird, James River and Monacan by more than would be expected from sampling error (chance)?"

For these analyses, the number of respondents who answered "don't know" were extracted from the calculation and the original responses were weighted to produce a mean which could be tested for significant differences. In the case of the satisfaction calculations, if a respondent answered "strongly agreed" the response was recorded as a plus two. Agreed responses were recorded a plus one, undecided were recorded a zero, disagreed were recorded a minus one and strongly disagreed recorded a minus two. The totals were summed and a mean for the item was calculated for each response. The process change calculations were conducted similarly: the "always" response mode was recorded a four, the most of the time response was recorded a three, the some of the time response was recorded a two, the seldom response was recorded a one, and the never response was recorded as a zero. The mean was then calculated for each survey item in sections 1 and 2 of the student, parent, and teacher surveys; and for each survey item in section 1 of the a/c/l surveys.

Considering the large number of respondents it was necessary to conduct three tests for statistical significance. First, the analysis of variance test (ANOVA) was employed to determine if there was a statistical difference between respondents from different schools

at the standard probability (p , or alpha) level of .05. A probability level of .05 means that the odds of getting this result by chance are less than one in twenty. While this a normally accepted level in behavioral science and education research, the large sample sizes led us to conduct two other tests to ensure that findings reported in the study were not only statistically significant but also practically significant (Tabachnick & Fidell, 1989).

For statements that were identified as significant through the ANOVA procedure, a second test, the Tukey test of multiple regressions, was applied to determine which schools differed from each other not only numerically but statistically. As preliminary steps in the analysis, significance testing through the ANOVA and multiple comparisons through the Tukey test helped illuminate the nature of group differences and gives us confidence that there is a relationship between the schools and the responses to the statements.

The size of the relationship ("effect size") was employed as the third criterion for reporting a relationship as significant to insure that the results of the analysis had practical utility. The effect sizes were calculated and examined to determine the strength of the association. The effect size measure used here is called Eta squared (Tabachnick & Fidell, 1989). To declare a statistical effect 'real' we required it to be statistically significant (at the conventional $p < .05$ level) and also to exceed an effect size criterion of Eta squared of .05 (5%) or higher. That is, if 5% or more of the variance in a survey

item could be accounted for by the school, the relationship was considered empirically meaningful, and is documented in this report. If the relationship does not meet this criterion it is not referred to as a significant finding in this report. Effect size cutoffs (.05) employed in this study are generally considered moderate relationships among variables in the social sciences. It indicates that knowledge of the value of one of the two variables (e.g., school) moderately increases our ability to predict the value of the other (e.g., the frequency of group activities used in the classroom).

Using these inferential techniques, the responses from each of the six schools were analyzed by comparing all teachers and teachers by subject (8 subjects); all students and students by grade level (4 grades); and all parents to make certain determinations. For example, do teachers at School A differ significantly from teachers at the one or more of the other five schools in general? And, in particular, do English teachers at School A differ significantly from English teachers at any of the other five schools? The same comparisons were made for students at School A and students at the other five schools in general. And for ninth, tenth, eleventh, and twelfth graders at each school. Parents at each school were also compared with parents at the five other schools. The comparisons conducted inferentially are illustrated on the next page.

<u>Teachers (69 items)</u>	<u>Students (57 items)</u>	<u>Parents (57 items)</u>
All teachers	All students	All parents
English teachers	9th graders	
Math teachers	10th graders	
Science teachers	11th graders	<u>Administrators (14 items)</u>
Social Studies tchrs.	12th graders	All administrators
Special Education tchrs.		
Foreign Language tchrs.		
Practical Arts teachers		<u>Cnslrs./Librar. (14 items)</u>
Performing Arts teachers		All counselors & librarians

Additionally, for the a/c/l survey data, administrator and counselor/librarian responses were separated from each other in order to distinguish their answers. So, administrator answers to the fourteen items in section 1 of the a/c/l survey were analyzed inferentially, as was the counselor/librarian answers to the same fourteen items. In total, 865 comparisons were made (69 items x 8 subjects, plus 57 items x 4 grades, plus 57 items, plus 14 items, plus 14 items). 165 of those comparisons resulted in differences which were significant and could be attributed to the schedule of the school, whereas 700 of the comparisons revealed no significant findings. The inferentially significant findings (165) are used in this study to determine the impact of the school on the way the respondents answered the survey items.

The 165 significant findings can be broken down into the number of significant findings for teachers, students, parents, administrators, and counselors/librarians. First, an ANOVA on each of the 69 Teacher items (in sections 1 and 2) revealed 13 items that contained significant results for Science teachers, 28 for English teachers, 7 for Social Studies, 14 for Math, 8 for Practical Arts, 9 for Performing Arts, 6 for Special Education, and 17 significant results for Foreign Language teachers. That is, for example, out of the 69 questions answered by Science teachers, the answers to 13 of the 69 items depended on the school -- or varied according to the school. For the remaining questions, the school did not make a difference, that is, school did not significantly affect responses to those items. When an item fails to yield significant results, the conclusion can be drawn that teachers feel the same way on this issue (i.e., that the mean response on that item was not significantly different for [subject] teachers from different schools - - statistically, they all answered the same).

Second, for 9th grade students, ANOVAs conducted on the 57 items in sections 1 and 2 revealed twelve significant items; nineteen for 10th graders, eight for 11th graders, and eight for 12th graders. Third, parents also had 57 items, and eleven of these items were significantly affected by the school. Fourth, for a/c/l responses, all 14 items in Section 1 were used as the dependent variables. Comparisons were made for administrators (principals and assistant principals), and counselors and librarians. For administrators, five of their 14 items varied according to the school, whereas none of the 14 items were significant for counselors and librarians.

Statistical Data Analyses

The statistical data were analyzed for trends as opposed to statistical significance. While it is possible to conduct an inferential analysis of these data, the time frames of receiving information and reporting required by this study did not allow that procedure to be employed. The statistical data were analyzed by first establishing overall means on an item. For example, what was the mean number of days missed by a student for each of three school years? These data were then desegregated to find how different groups of students were affected over a three year period. For example, what are the percentages of tenth grade students who missed zero to four days of school prior to the adoption of the schedule as compared to the percentage after the schedule adoption? What is the percentage of honors students who missed zero to four days of school prior to the adoption of the schedule as compared to the percentage after the schedule adoption? Where the data allowed, we also followed a cohort of students from the ninth grade to the eleventh grade to determine if their average days missed changed before and after the change of schedules. The data from these disaggregations was reviewed for trends by displaying them over a three year period. These trends are presented in the exhibits related to student and school performance.

Caveats

A comparative study such as this presents several problems. The most difficult problem is answering the question "How do you know the results are the effect of the schedule?"

There are many other differences between schools that might account for some of the differences found in social science research. For example:

- Are the results from Midlothian High School influenced by the fact that the school community had proposed a schedule change to provide more opportunities for their students, but had been asked to wait until the results from the schools piloting different scheduling models could be assessed?
- Are the results from Lloyd C. Bird High School influenced by stress caused by an overcrowded school facility?
- Are the results from James River High School respondents influenced because they opened a new facility with a new staff and few established routines?
- Are the results from James River High School respondents and those at Monacan High School attributed to the lengths they exerted to involve their communities in the process of recommending the adoption of the semester block schedule as documented in this study?
- Are the results from Clover Hill High School influenced by the fact that they were in their second year of implementation of a significantly different way of arranging school time?

- Are the results from Matoaca, James River, Monacan and Lloyd C. Bird High School influenced by the fact that they are in their first year of implementation of a significantly different way of arranging school time?
- Are the results from English teachers at James River and Monacan High School being influenced by the fact that their planning periods were reduced from two to one?

To overcome these perceived influences, and to isolate the effects of the schedule, the researchers considered not only what was different about the high schools in this study but also what was similar. For example, the schools operate from a common grading system, a common curriculum, and a common attendance and discipline policy. Secondly, the study utilized more rigorous statistical controls than normally used in descriptive studies to produce reliable results and isolate the effect of the schedule as much as possible, and as a last step each documented observation was judged against the criteria: "Is this finding related to the "bell schedule" or some other factor(s)?" As an example, when reviewing of the results of the technology statements on the survey and combining with them the results of the school visitations, the research team determined that differences in the use of technology was not impacted by the schedule primarily. The availability of technology and interested trained teachers appeared to impact the use of technology. Survey items dealing with teacher, student, and parent relationships that were not related to the school schedule were also determined not to

be primarily a function of the schedule and were similarly treated. Therefore, those survey statements were not considered in our findings even though several of them were statistically significant. The "bell" test was similarly employed on each observation. Those findings that met this final hurdle are reported in this document as our best estimate of the impact of the differing scheduling models on teaching and learning at the six high schools in Chesterfield County.

FINDINGS

OVERALL SATISFACTION

The following research question guided the inquiry: In schools that have changed their schedules recently, are parents, students, and teachers satisfied with the changes?

Students, parents, and teachers at each of the six high schools were asked to respond to five questions related to their satisfaction with their schools, the schedules their schools employ, and the course opportunities available at their school. The schools were first compared to determine if there were any significant differences in how respondents responded from each school.

Significant Findings. The significant findings are useful in answering questions about the comparative strength of one schedule over another on the survey statements to which the participants responded. This analysis of the significant findings however, does not say that one school is better than another school, it simply says that the mean responses are significantly higher or lower on the five point scale (never-always or disagree-agree). Our interpretation of these mean differences is that respondents were significantly more satisfied or less satisfied than the respondents from another school. However, only by looking at the mean responses can their level of satisfaction be determined. Therefore, when significant findings are presented in this technical report, the mean (m) responses are provided in parentheses. The F-value (F) and its associated degrees of freedom (d.f.) from the ANOVA (analysis of variance) and the

effect size (e.s.) are given for each set of comparisons (see Methodology - Survey Analyses for descriptions of ANOVA and effect size).

For example, the finding that teachers at Monacan ($m=3.2838$), Matoaca ($m=3.2500$) and James River ($m= 3.1940$) report significantly higher degrees of enthusiasm for their school than teachers at Clover Hill ($m = 2.7912$) illustrates the notion of significant difference. In this case Clover Hill teachers were enthusiastic about their school, but teachers at Monacan, Matoaca and James River were significantly more enthusiastic ($F=5.01614$; $d.f.=5, 438$; $e.s.=.0552$). These significant findings for the questions related to overall satisfaction are displayed in Graph one, Significant Findings: Overall Satisfaction of Participants with their School.

The Graphs dealing with significant findings were prepared by the following method. The responses on each question were tested (see Methodology - Survey Analysis section) to determine if any one group is more satisfied than another similar group of respondents. Using the significant finding noted above as an example, Monacan, Matoaca and James River were each significantly more enthusiastic than Clover Hill, therefore each of them received a favorable mark on the graph. Clover Hill on the other hand was significantly different than three other schools and received three favorable marks on this finding. In the body of the report, the statements favoring one school over another were similarly recorded and are displayed in Graphs to display a pattern of significant findings. The graphs allow us to grasp the pattern of significant findings and

does not overly focus our comparisons on one single finding. Through this type of analysis, it is the weight of the findings in total that are important; not a single significant finding.

The significant findings on the questions for overall satisfaction are displayed in Graph one, Significant Findings: Satisfaction of Participants with School. The findings indicate that there were twenty seven significant comparisons related to overall satisfaction.

Graph 1 about here

The James River school community (students, teachers and parents) was more satisfied with their school on a comparative basis than their peer groups at the other five schools. For instance, James River received 8 more satisfied comparisons and no less satisfied comparisons. Midlothian received 6 more satisfied comparisons, and no less satisfied comparisons. The results for Clover Hill (4 more satisfied, and 5 less satisfied), Monacan (6 more satisfied, and 5 less satisfied), and Matoaca (7 more satisfied, and 4 less satisfied) were inconsistent. Bird received 2 more satisfied, and 7 less satisfied comparisons in regard to overall satisfaction.

GRAPH 1 | REPORT ON SIGNIFICANT FINDINGS: SATISFACTION OF PARTICIPANTS WITH SCHOOL

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN	
	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS
STUDENTS ATTITUDE TOWARDS SCHOOL	●	∅ ∅ ∅ ∅	● ● ●		● ● ●		● ● ● ●		●			∅ ∅ ∅ ∅
PARENTS ENTHUSIASM FOR SCHOOL		∅		∅	● ● ● ●					∅		∅
TEACHERS ATTITUDE TOWARDS SCHOOL	●		●				∅ ∅ ∅ ∅		● ●			
ENTHUSIASM FOR SCHOOL		∅ ∅		∅ ∅ ∅ ∅	●		● ●	∅	● ● ● ●			
SCHOOL TOTAL	2	7	4	5	8	0	6	5	7	4	0	6
	7 PERIOD ALTERNATING BLOCK				SEMESTER BLOCK				7 PERIOD SCHEDULE 6 PERIOD SCHEDULE			

MORE = MORE SATISFIED
 LESS = LESS SATISFIED
 P < .05 & ETA 2 > .05

In particular, students at Monacan, James River, and Clover Hill were significantly more satisfied than students at Bird, Matoaca and Midlothian. Of the twelve (12) significant comparisons on these items, Monacan received four (4) more satisfied comparisons, James River received four (4) more satisfied comparisons, and Clover Hill received three (3) more satisfied comparisons. They received no less satisfied comparisons. On the other hand, of the twelve less satisfied comparisons, Bird students received one more satisfied and four less satisfied comparisons. Matoaca students received one more satisfied and three less satisfied comparisons. Midlothian students received five less satisfied comparisons. The significant comparisons which support this analysis are listed below for your review.

- Tenth grade students at Monacan ($m=.7103$), Clover Hill ($m=.5781$) and James River ($m=.5652$) express more positive attitudes toward school than tenth grade students at Matoaca ($m= -.2353$). Monacan tenth grade students also express more positive attitudes towards school than tenth grade students at Midlothian ($m=.2577$) and Bird ($m=.2586$) ($F=6.4645$; $d.f.=5, 619$; $e.s.=.0500$).
- Ninth grade students at James River ($m=.9635$), Bird ($m=.8629$), Clover Hill ($m=.8077$) and Monacan ($m=.8036$) express more positive attitudes towards their teachers than ninth grade students at Midlothian ($m=.2301$) ($F=8.2027$; $d.f.=5, 656$; $e.s.=.0593$).

Teachers at Matoaca were more satisfied with their school than teachers at other schools. There were eleven significant comparisons for teachers. Teachers at Matoaca received six of the eleven more satisfied comparisons on overall satisfaction. Monacan teachers received two of the eleven more satisfied comparisons on overall satisfaction. No other schools teachers received more than one more satisfied comparison. On the other hand, teachers at Clover Hill and Monacan received nine of the eleven less satisfied significant findings. The significant comparisons which support this analysis are listed below for your review.

- Teachers at Monacan ($m=3.2838$), Matoaca ($m=3.2500$) and James River ($m=3.1940$) report significantly higher degrees of enthusiasm for their school than teachers at Clover Hill ($m=2.7912$) ($F=5.0614$; $d.f.=5, 438$; $e.s.=.0552$).
- In particular, English teachers at Matoaca ($m=3.5714$) and Monacan ($m=3.2727$) report higher levels of enthusiasm for their school than English teachers at Bird ($m=2.1579$). Matoaca English teachers also report higher degrees of enthusiasm for their school than English teachers at Clover Hill ($m=2.3571$) ($F=4.5485$; $d.f.=5, 71$; $e.s.=.2563$). Foreign Language teachers at Matoaca ($m=3.7500$) report higher degrees of enthusiasm for their school than Foreign Language teachers at Monacan ($m=2.4000$) ($F=2.3158$; $d.f.=5, 41$; $e.s.=.2434$). Science teachers at James River ($m=3.6250$) and Monacan ($m=3.6000$) report a significantly higher

degree of enthusiasm for their school than Science teachers at Clover Hill ($m=2.6667$) ($F=3.0823$; $d.f.=5, 56$; $e.s.=.2321$).

- English teachers at Matoaca ($m=1.7143$) express a more positive attitude towards their school than English teachers at Monacan ($m=.2632$) ($F=2.7313$; $d.f.=5, 72$; $e.s.=.1693$). Foreign Language teachers at Matoaca ($m=1.7500$), Bird ($m=1.5000$), and Clover Hill ($m=1.2727$) express a more positive attitude towards their school than Foreign Language teachers at Monacan ($m=.2000$) ($F=3.4884$; $d.f.=5, 40$; $e.s.=.3326$). Science teachers at James River ($m=2.0000$) report a more positive attitude towards their school than science teachers at Clover Hill ($m=.9167$) ($F=2.5910$; $d.f.=5, 56$; $e.s.=.2026$).

Parents at James River report higher degrees of **enthusiasm for their school** than parents at Matoaca, Bird, Clover Hill and Midlothian. Of the four significant findings in this area, James River parents received four more satisfied comparisons. The significant comparisons which support this analysis are as follows.

- Parents at James River ($m=2.9010$) were significantly more satisfied with their schools ($F=15.1798$; $d.f.=5, 1083$; $e.s.=.0658$) than parents at four of the other schools (Matoaca $m=2.1905$; Bird $m=2.3054$; Clover Hill $m=2.3585$; Midlothian $m=2.3964$).

Descriptive Findings. Table 2A: Report on Participant's Satisfaction with their School, and Table 2B: Report on Perceptions of the Degree of Enthusiasm About School displays the percent of each respondent group that is satisfied or dissatisfied relative to the survey item. Those respondents that were undecided on the item are not reported, but compose the percentage of responses not accounted for in the satisfied or unsatisfied counts found in the tables.

Positive Attitudes. The percentage responses found in Table two indicate that most respondents were enthusiastic and have positive attitudes towards their school about their school. For example, over fifty percent of the respondents at each school report positive attitudes towards their school with the exception of students at Midlothian High School. At that school, while parents (65%) and teachers (63%) report positive attitudes, only forty three percent (43%) of the students responded that their attitude towards their school was positive. While it was not the intention of this report to review differences within schools between parent, teacher, and student perceptions, in several cases they will be described. These within school differences should be assessed by staffs at individual schools.

Table 2A & B about here

TABLE 2A | REPORT ON PARTICIPANT'S SATISFACTION WITH THEIR SCHOOL

SATISFACTION	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1 My general attitude towards school is positive..																		
STUDENTS	470	47%	21%	493	51%	17%	396	54%	14%	421	58%	14%	172	44%	22%	464	42%	24%
PARENTS	207	65%	15%	215	72%	14%	304	84%	6%	134	75%	11%	63	71%	6%	173	76%	11%
TEACHERS	94	85%	11%	91	81%	8%	67	90%	4%	75	91%	3%	52	92%	4%	61	92%	3%
2 Student attitude toward school is positive.																		
STUDENTS	472	51%	41%	495	51%	17%	395	58%	15%	423	62%	16%	170	54%	19%	463	43%	27%
PARENTS	202	67%	24%	217	68%	21%	309	80%	11%	140	77%	16%	66	67%	18%	171	65%	23%
TEACHERS	93	56%	37%	91	62%	13%	66	65%	17%	74	64%	8%	52	52%	25%	62	63%	15%
3 Generally, I am satisfied with the amount of input I have in school decisions.																		
STUDENTS	453	20%	48%	488	22%	48%	378	25%	45%	413	27%	41%	169	30%	38%	458	15%	59%
PARENTS	199	26%	47%	211	33%	35%	302	45%	26%	137	40%	29%	63	33%	30%	167	29%	41%
TEACHERS	93	38%	44%	90	19%	48%	65	34%	34%	73	26%	38%	52	37%	38%	62	18%	44%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

TABLE 2B | **REPORT ON PERCEPTIONS OF THE DEGREE OF ENTHUSIASM ABOUT SCHOOL**

INSTRUCTION	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN								
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %				
1 Generally, I am enthusiastic about my school.																								
STUDENTS	467	26%	37%	36%	482	29%	38%	32%	392	39%	33%	27%	417	38%	32%	30%	169	28%	34%	37%	458	20%	34%	45%
PARENTS	203	45%	34%	21%	212	49%	32%	19%	303	71%	22%	7%	134	60%	31%	10%	63	40%	37%	24%	169	54%	26%	20%
TEACHERS	93	80%	16%	4%	91	75%	18%	8%	67	87%	10%	3%	74	89%	9%	1%	52	90%	8%	2%	62	92%	6%	2%

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Students at each school responded with lower levels of satisfaction than parents and teachers. The highest percent of positive student responses were found at James River (58%) and Monacan (62%). Parents seem particularly disposed to positive attitudes towards their child's school, particularly at James River High School (80%) and Monacan (77%) of those responding to this survey. Teachers at James River (65%), Monacan (64%), Midlothian (63%), and Clover Hill (62%) each responded higher than teachers at Bird (56%) and Matoaca (52%) high schools.

Decision Input. At the semester block schools, parents at James River (45%) and Monacan (40%) report greater satisfaction with the amount of input into school decisions, than parents at each of the other schools.

Retention of Schedule. One question, "Did participants wish to retain or change the current schedule," seemed particularly relevant to satisfaction, and was individually analyzed. On the survey item related to the retention of the schedule, the data reported in Table three, Report on the Retention of the Current Schedule by School, suggest that a clear majority (over 60% in all cases) of the students, parents, and teachers at James River, Monacan, and Clover Hill wish to retain their current schedules.

Table 3 about here

TABLE 3 REPORT ON THE RETENTION OF THE CURRENT SCHEDULE BY SCHOOL

Considering all your impressions about the current schedule at your high school would you like to remain on the current schedule?

SCHOOL	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN												
	#	Y	%	#	Y	%	#	Y	%	#	Y	%	#	Y	%	#	Y	%										
STUDENTS	473	227	48%	143	30%	21%	83	17%	397	282	71%	57	14%	423	282	67%	59	14%	171	83	49%	43	25%	466	181	39%	166	36%
PARENTS	206	115	56%	47	23%	49%	25	12%	309	213	68%	63	20%	140	94	67%	30	21%	65	34	52%	14	22%	168	52	31%	79	47%
TEACHERS	94	59	63%	26	28%	77%	12	13%	66	42	64%	9	14%	73	47	64%	13	18%	52	33	63%	10	19%	61	35	57%	13	21%
SUBJECT ENGLISH	19	8	42%	9	47%	86%	14	12	14	12	86%	2	14%	10	3	30%	3	30%	11	4	100%	0	0%	11	9	82%	1	9%
MATH	9	5	56%	3	33%	55%	11	6	7	5	71%	0	0%	10	5	50%	1	10%	8	4	50%	2	25%	10	4	40%	2	20%
SCIENCE	12	6	50%	4	33%	75%	12	9	8	7	88%	1	13%	10	8	80%	1	10%	5	3	60%	1	20%	9	6	67%	0	0%
SOCIAL STUDIES	11	6	55%	3	27%	91%	11	10	7	5	71%	0	0%	11	9	82%	0	0%	5	4	80%	0	0%	6	4	67%	2	33%
FOREIGN LANGUAGE	6	5	83%	1	17%	73%	11	8	9	4	44%	2	22%	6	1	17%	2	33%	4	2	50%	0	0%	6	6	100%	0	0%
SPECIAL EDUCATION	6	2	33%	3	50%	100%	4	4	4	3	60%	0	0%	5	5	100%	0	0%	4	3	75%	1	25%	5	0	0%	3	60%
PHYSICAL EDUCATION	2	2	100%	0	0%	75%	4	3	4	3	75%	0	0%	2	2	100%	0	0%	3	3	100%	0	0%	1	1	100%	0	0%
HEALTH	2	2	100%	0	0%	0%	0	0	0	0	0%	0	0%	0	0	0%	0	0%	2	0	0%	0	0%	3	0	0%	1	33%
MUSIC	3	3	100%	0	0%	100%	3	3	3	3	100%	0	0%	3	3	100%	0	0%	1	1	100%	0	0%	1	0	0%	1	100%
DRAMA	2	2	100%	0	0%	0%	1	0	1	0	0%	0	0%	1	1	100%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%
ART	3	3	100%	0	0%	100%	2	2	2	1	50%	1	50%	2	2	100%	0	0%	2	2	100%	0	0%	1	0	0%	1	100%
COMPUTER EDUCATION	2	0	0%	1	50%	80%	5	4	5	4	80%	0	0%	2	2	100%	0	0%	1	1	100%	0	0%	1	0	0%	1	100%
OTHER	13	11	85%	2	15%	75%	12	9	7	6	86%	0	0%	12	9	75%	1	8%	9	4	44%	4	44%	8	6	75%	1	13%
99	4	4	100%	0	0%	0%	0	0	0	0	0%	0	0%	0	0	0%	0	0%	7	4	57%	1	14%	1	0	0%	1	100%
STUDENTS 9TH GRADE	124	74	60%	29	23%	77%	132	102	137	107	78%	16	12%	115	94	82%	6	5%	41	25	61%	12	29%	113	42	37%	50	44%
10TH GRADE	116	51	44%	40	34%	71%	129	92	138	101	73%	16	12%	106	76	72%	14	13%	34	12	35%	11	32%	98	26	27%	49	50%
11TH GRADE	108	52	48%	40	37%	61%	108	66	122	74	61%	25	20%	89	51	57%	22	25%	55	30	55%	9	16%	96	47	49%	26	27%
12TH GRADE	124	50	40%	34	27%	50%	127	64	113	61	54%	17	15%	113	61	54%	17	15%	41	16	39%	11	27%	159	66	42%	41	26%

N = number, Y = number and % of respondents agreeing with the statement, N = number and % of respondents disagreeing with the statement. Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

The responses at Bird, Matoaca and Midlothian are inconsistent. Teachers generally tend to favor the current schedule. Parent and student responses generally prefer a change in the schedule. At Midlothian, the data indicates that many parents, students, and teachers desire a schedule that will provide students with more course opportunities. In particular, forty seven percent (47%) of the parents, and thirty six percent (36%) of the students at Midlothian reported that they desired a change in their current schedule. Thirty one percent (31%) of the parents and thirty nine percent (39%) of the students wish to retain the current schedule.

As indicated above, the data suggests that a majority of teacher responses at all six schools were more satisfied towards retaining their current schedule. However, differences by subject area were expressed. For example:

- At the **Semester Block schools**, the responses of Science (over 80%), Social Studies (over 70%), Special Education (over 60%) and performing and practical arts teachers indicate a desire to retain the schedule. On the other hand, the responses of Math, English and Foreign Language teachers were inconclusive, depending upon the school.
- At James River seventy one percent (71%) of the Math teachers favored retention of the schedule. At Monacan fifty percent (50%) favored retention of the schedule. At James River thirty percent (30%) of the English teachers favored

retention of the schedule and thirty percent (30%) wished to teach under a different schedule. Forty percent (40%) of the English teachers at James River were undecided on the matter.

- At Monacan, fifty five percent (55%) of the English teachers wished to teach under a different schedule, thirty six percent (36%) wished to retain the current schedule, and eight percent (8%) of the teachers had no opinion on the matter. The responses of Foreign Language teachers at James River were also inconclusive. For example, forty four percent (44%) favored retention, twenty two percent (22%) wished to teach under a different schedule, and thirty four percent (34%) were undecided. Foreign Language teachers at Monacan responded similarly. One teacher wished to retain the current schedule, two teachers wished to teach under a different schedule and three teachers were undecided on the matter.
- At the **Alternating Block schools**, most Foreign Language teachers (over 70%) wish to retain the schedule. However, English, Science, Social Studies, Special Education, and Performing and Practical Arts teachers at Bird view the issue of retention of the schedule differently from their colleagues at Clover Hill High School. For example, English teachers responded in an inconclusive fashion to the question of retention of the current schedule.

- At Bird, forty two percent (42%) of the English teachers favored retaining the current schedule, forty seven percent (47%) wished to teach under a different schedule, and eleven percent (11%) were undecided on the matter. At Clover Hill, eighty six percent (86%) favored retaining the schedule. At Bird, fifty percent (50%) of the Science teachers and at Clover Hill seventy five percent (75%) favored retaining the schedule. At Bird, fifty five percent (55%) and at Clover Hill ninety one percent (91%) of the Social Studies teachers favored retaining the schedule. At Bird, thirty three percent (33%) and at Clover Hill one hundred percent (100%) of the Special Education teachers favored retaining the schedule.
- At the **Seven Period Day school**, the responses of English, Social Studies, Science, and Special Education teachers (over 60%) indicate a desire to retain the current schedule. However, Math (50%) and Foreign Language (50%) teacher responses are unclear as to whether they wish to retain the schedule. Other teachers, such as Business and Art seem to desire a change in schedules.
- At the **Six Period Day school**, for example, many English (82%), Foreign Language (100%), Social Studies (67%), and Science (67%) teachers wish to retain the schedule, while fewer Math (40%) teachers wish to retain the schedule.

Desegregating the students responses by grade level revealed that Clover Hill, James River, and Monacan favored retention of the current schedule at each grade level. However, the message is mixed at Bird and Matoaca.

- At Bird, ninth graders (60%) were more satisfied to retaining the current schedule. Each of the other three grade levels were less favorable. At Matoaca, ninth grade students (61%) and eleventh grade students (55%) supported the retention of the schedule as opposed to less favorable results at the other two grade levels. The message is clear at Midlothian: students at all grade levels were not favorable towards retention of the current schedule.

IMPACT OF THE SCHEDULE ON TEACHING

The following research questions guided the examination of the impact of the scheduling models on teaching. Are parents, students and teachers satisfied with instructional practices used by teachers? Have instructional practices changed in schools using different scheduling models? If so, how have they changed? Specifically, do the scheduling models affect the delivery of curricular content and teaching strategies? To answer these questions, the survey inquired into respondents perceptions of changes in teaching and learning, content coverage, instructional delivery, and assessment practices.

Changes in Instructional Approaches

Significant Findings. As in previous sections of this report, the schools were compared statistically to determine if there were any significant differences in how respondents responded from each school. There were eighty (80) significant findings when responses were inferentially compared on the achievement related questions described above. Graph 2, Significant Findings: Positive Instructional Changes exhibits the significant comparisons. Of the eighty significant findings, sixteen (16) were attributed to teachers, fifty one (51) were attributed to students, and thirteen (13) were attributed to parents.

Graph 2 about here

The semester block schools received the most (47 of the 80) more satisfied comparisons on the statements regarding new instructional approaches and if these approaches were seen as positive. James River received twenty seven (27) more satisfied comparisons and Monacan twenty (20) more satisfied comparisons. Neither school received a less satisfied comparison. The alternating block schools received twenty nine (29) of the more satisfied comparisons and twenty (20) of the less satisfied comparisons. The seven period day school received 4 more satisfied comparisons and fifteen (15) less satisfied comparisons. The six period school received forty five (45) of the less satisfied comparisons and no more satisfied comparisons.

The responses of students at the Semester Block schools received thirty of the fifty one significant comparisons among their peers at other schools. The responses of students at James River received fourteen (14) more satisfied comparisons, and those at Monacan received sixteen (16) more satisfied comparisons with those of their peers at other schools. The responses of students at neither school received a less satisfied comparison. The responses of students at the Alternating Block schools were inconsistent. For example, the responses of students at Clover Hill received fourteen (14) more satisfied comparisons and 1 less satisfied comparisons with those of their peers at other schools. Whereas, the responses of students at Bird received 3 more satisfied comparisons and thirteen (13) less satisfied comparisons with those of their peers at other schools. At the Seven Period Day school the responses of the students at Matoaca were also inconsistent with 4 more satisfied and 5 less satisfied comparisons with those of their peers at other schools. At the Six Period Day school, the responses of students at Midlothian received thirty two (32) less satisfied comparisons with those of their peers at other schools and no more satisfied comparisons. The significant comparisons that support this analysis are listed below for your review.

- Students at James River ($m=.3307$), Monacan ($m=.2444$), and Clover Hill ($m=.1525$) believe that there have been greater **positive changes in the teaching and learning** processes in their classes than students at Midlothian ($m=-.4577$) and Bird ($m=-.1814$). James River students also report more positive

changes than Matoaca ($m=.0062$). And Matoaca students report more positive changes than Midlothian students ($F=34.5578$; $d.f.=5, 2314$; $e.s.=.0696$).

- Ninth grade students at Monacan ($m=.5333$), Clover Hill ($m=.4016$) and James River ($m=.3788$) report that there has been a positive change in the teaching and learning processes this year than do ninth grade students at Midlothian ($m= -.2212$). Monacan ninth graders also report more positive changes than Bird ($m=.0678$) ninth graders ($F=7.5767$; $d.f.=5, 619$; $e.s.=.0581$).
- At the tenth grade, James River ($m=.4444$), Monacan ($m=.3398$) and Clover Hill ($m=.2381$) students all report more positive changes than tenth graders at Midlothian ($m= -.5222$). James River and Monacan tenth graders also report more positive changes than tenth graders at Bird ($m= -.1316$) ($F=12.2966$; $d.f.=5, 597$; $e.s.=.0941$).
- Twelfth grade students at Monacan ($m=.1261$), Matoaca ($m=.0000$) and Clover Hill ($m= -.0082$) report more positive changes than Midlothian ($m= -.5695$) twelfth graders. Monacan and Clover Hill also report more positive changes than Bird ($m= -.4188$) twelfth graders ($F=11.7586$; $d.f.=4, 540$; $e.s.=.0807$).
- Students at James River ($m=2.1576$), Clover Hill ($m=1.9752$), and Monacan (2.0057), each report that their teachers use **new instructional approaches** to

significantly higher degrees than teachers at Midlothian ($m=1.2549$) and Bird ($m=1.7116$). Students at Bird and Matoaca ($m=1.8168$) report significantly higher use than students at Midlothian ($F=39.2429$; $d.f.=5, 1925$; $e.s.=.0927$). Ninth grade students at Clover Hill ($m=2.3738$), Monacan ($m=2.3333$), James River ($m=2.1354$) and Bird ($m=1.9302$) report higher uses of new instructional approaches this year than do ninth grade students at Midlothian ($m=1.3165$).

- Clover Hill and Monacan ninth graders also report higher incidents of new instructional approaches than ninth graders at Matoaca ($m=1.6800$). Clover Hill ninth graders also report higher incidents of new instructional approaches than ninth graders at Bird ($F=13.1613$; $d.f.=5, 473$; $e.s.=.1233$).
- Tenth grade students at James River ($m=2.3279$), Monacan ($m=1.9684$), and Clover Hill ($m=1.8857$) report higher incidents of new instructional approaches than tenth grade students at Midlothian ($m=1.4286$). Tenth grade students at James River also report higher incidents of new instructional approaches than tenth grade students at Bird ($m=1.7604$) and Clover Hill ($F=9.2917$; $d.f.=5, 511$; $e.s.=.0841$).
- Eleventh grade students at Monacan ($m=2.0390$), James River ($m=7.9570$), Matoaca ($m=1.8298$) and Clover Hill ($m=1.7841$) report higher incidents of new

instructional approaches than eleventh grade students at Midlothian ($m=1.2394$) ($F=7.2691$; $d.f.=5, 464$; $e.s.=.0734$).

- Twelfth grade students at Clover Hill ($m=1.8173$), Matoaca ($m=1.7714$), Monacan ($m=1.7475$) and Bird ($m=1.5400$) report higher incidents of new instructional approaches than twelfth grade students at Midlothian ($m=1.1387$) ($F=11.3806$; $d.f.=4, 474$; $e.s.=.0883$).

The responses of parents at the Semester Block schools mirrored those of their children. Their responses received 9 of the thirteen (13) more satisfied comparisons and no less satisfied comparisons. James River parent responses received 7 of the more satisfied comparisons and Monacan responses received 2 more satisfied comparisons. At the Alternating Block schools, the responses of parents at Clover Hill received 3 of the more satisfied comparisons, and 1 less satisfied comparison with their peers at other schools. On the other hand, the responses of parents at Bird received 1 more satisfied comparisons and 3 less satisfied comparisons. At the Seven Period Day school, parent responses at Matoaca received 2 less satisfied comparisons and no more satisfied comparisons with those of their peers at other schools. At the Six Period Day school, parent responses at Midlothian received seven less satisfied comparisons with those of their peers at other schools and no more satisfied comparisons. The significant comparisons that support this analysis are listed below for your review.

- Parents at James River ($m=.4982$), Monacan ($m=.3760$), Clover Hill ($m=.0313$), and Bird ($m= -.0795$) believe their have been greater **positive changes in the teaching and learning** processes in their child's classes this year than parents at Midlothian ($m= -.5071$). Parents at James River also believe that there have been greater positive changes than parents at Matoaca ($m= -.1154$), Bird and Clover Hill ($F=19.0004$; $d.f.=5, 965$; $e.s.=.0900$).
- Parents at James River ($m=2.1635$), Clover Hill ($m=1.9862$), and Monacan ($m=1.9195$) report significantly higher use of **new instructional practices** than parents at Midlothian ($m=1.5376$). James River is significantly higher than Bird ($m=1.6475$) and Matoaca ($m=1.6857$). Clover Hill is significantly higher than Bird ($F=10.1719$; $d.f.=5, 689$; $e.s.=.0692$).

The responses of teachers at the Semester Block schools received 8 of the sixteen more satisfied comparisons and no less satisfied comparisons. Teacher responses at James River received 6 more satisfied comparisons, and Monacan teacher responses received 2 more satisfied comparisons. At the Alternating Block schools, the responses of teachers at Clover Hill received 6 more satisfied comparisons and no less satisfied comparisons with those of their peers at other schools. Whereas, teacher responses at Bird received 2 more satisfied comparisons and 2 less satisfied comparisons. At the Seven Period day school, the responses of teachers at Matoaca received 8 less satisfied comparisons and no more satisfied comparisons with those of the peers at other

schools. At the Six Period Day school, the responses of teachers at Midlothian received 6 less satisfied comparisons with those of their peers at other schools and no more satisfied comparisons. The significant comparisons that support this analysis are listed below for your review.

- Teachers at James River ($m=2.4154$), Monacan ($m=2.2877$), Bird ($m=2.2581$), and Clover Hill ($m=2.2333$) report that they are using **new instructional approaches** at a higher rate than those at Matoaca ($m=1.7255$). James River teachers also report significantly higher use of new instructional approaches than teachers at Midlothian ($m=2.0161$) ($F=6.0816$; $d.f.=5, 433$; $e.s.=.0663$).
- In particular, math teachers at James River ($m=2.2857$) report higher uses of new instructional approaches than math teachers at Matoaca ($m=1.3750$) ($F=2.6438$; $d.f.=5, 55$; $e.s.=.2085$).
- Science teachers at Bird ($m=2.3077$) and Monacan ($m=2.3000$) report higher uses of new instructional approaches than science teachers at Matoaca ($m=1.2000$) ($F=3.0969$; $d.f.=5, 55$; $e.s.=.2365$).
- On the other hand, math teachers at Matoaca ($m=.3750$) and Bird ($.3333$) report that their teaching methods are the same as they always have been to a higher degree than math teachers at James River ($m= -1.0000$) and Clover Hill ($m= -.9091$) ($F=3.9757$; $d.f.=5, 55$; $e.s.=.2845$).

- English teachers at Midlothian ($m=.3636$) report that their teaching methods are the same as they always have been to a higher degree than English teachers at Clover Hill ($m= -1.0000$) ($F=3.0351$; $d.f.=5, 72$; $e.s.=.1847$).
- Administrators at Midlothian ($m=1.0000$) and Matoaca (.6667) report that **teaching methods** are the same as they always have been to a greater extent than administrators at Monacan ($m= -1.0000$) and Clover Hill ($m= -1.0000$). Midlothian administrators also report similar teaching methods to a greater extent than James River ($m= -.6667$) and Bird ($m= -.5000$) ($F=7.6677$; $d.f.=5, 19$; $e.s.=.7325$).

Descriptive Findings. Items found on Table four: Report on Perceptions of Instructional Practices: Changes in Instruction inquiry into respondent perceptions of changes in teaching methods, and whether such changes are regarded as positive. The surveys asked for views on two subjects in this area. "Generally, I believe there has been a positive change in the teaching and learning processes in classes this year." And, "teaching methods are the same as they always have been." A third item regarding perceptions of teacher use of new instructional approaches was also used in the analysis of changes in instruction and is reported on Table 6: Report on Perceptions of Instructional Practices: Teaching Strategies.

Table 4 About Here

TABLE 4

**REPORT ON PERCEPTIONS OF INSTRUCTIONAL PRACTICES:
CHANGES IN INSTRUCTION**

INSTRUCTION: CHANGES	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1	<div style="border: 1px solid black; padding: 2px;"> Generally, I believe there has been a positive change in the teaching and learning processes in my classes this year. </div>																	
STUDENTS	452	26%	37%	472	38%	25%	387	45%	25%	405	42%	24%	162	31%	36%	437	13%	49%
PARENTS	176	33%	38%	192	31%	30%	281	59%	23%	125	51%	25%	52	27%	40%	140	14%	54%
TEACHERS	93	54%	18%	89	65%	7%	63	63%	11%	73	62%	12%	52	56%	4%	61	46%	10%
2	<div style="border: 1px solid black; padding: 2px;"> My teaching methods are the same as they always have been. </div>																	
STUDENTS	445	54%	23%	470	41%	29%	377	44%	31%	392	47%	27%	157	49%	23%	446	63%	13%
PARENTS	157	48%	24%	179	45%	32%	239	43%	35%	109	58%	28%	51	65%	35%	131	73%	11%
TEACHERS	93	35%	55%	91	20%	66%	64	20%	59%	71	31%	55%	51	37%	31%	62	39%	47%
ADMINISTRATORS	3	0%	67%	4	0%	100%	3	0%	33%	3	0%	100%	3	67%	0%	3	67%	0%
COUNSELORS/LIBRARIANS	4	0%	0%	3	0%	100%	4	25%	0%	4	0%	75%	4	50%	25%	5	20%	20%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

New instructional approaches. In general, the responses indicate that students at the schools which changed their schedule perceived greater changes in teachers' instructional strategies than students at the school which did not change its schedule. Yet, students at Bird and Matoaca perceive fewer changes in teaching methods than students at James River, Clover Hill and Monacan. James River teachers perceive themselves as changing more than their colleagues at other schools. Parents at schools that have changed their schedule appear observe more changes in teacher approaches than parents at other schools.

The data also suggest that students, teachers, and parents at **Semester Block schools** report significantly more positive changes occurred in teaching and learning processes and teaching methods this past year than their peers in schools that use shorter class times. In the semester block schools, there is also a general perception that positive changes occurred in teaching and learning processes this past year. For example, over sixty percent of the teachers at James River (63%) and Monacan (62%) perceived such changes. Over fifty percent of the parents at James River (59%) and Monacan (51%) concur with teacher perceptions. Although student's agreement percentages are in the mid forties: James River, (45%) and Monacan (42%), their percentage agreement is higher than that of their student peers at other schools.

In the **Alternating Block schools**, the results are inconsistent. On the one hand, students, teachers, and parents at Clover Hill report significantly more positive changes

occurred in teaching and learning processes, and teaching methods this past year, as compared to their peers in schools using shorter class times. On the other hand, perceptions are inconsistent. For example, at Clover Hill teacher agreement is at sixty five percent (65%). Student (38%) is supportive of changes, but at a much lower level than teachers. Parent (31%) agreement is less supportive of positive changes in teaching in learning than their peers in the Semester Block schools. Care must be employed in interpreting these data since this is the second year of the change in schedules at Clover Hill. The more prominent changes may have occurred last year. However, it is encouraging that positive changes continue to be made in the second year of implementation.

On the other hand, at Bird, teachers (54%) report the use of new instructional approaches and positive changes in teaching and learning, but they are not validated by student (26%) and parent (33%) responses. At the Alternating Block schools, percentage agreement falls into the thirty percent agreement for students and parents.

At the schools using **shorter class times**, Teachers, (Midlothian (47%) and Matoaca (31%)), perceive changes in teaching methods. However, these perceptions are not supported by students at these schools. For example, thirteen percent (13%) of the students at Midlothian and twenty three percent (23%) of the students at Matoaca perceive positive changes in teaching methods. Parent perceptions on teaching methods mirror those of their children at Midlothian, and are higher than teacher perceptions at

Matoaca. Administrator perceptions, agreeing with student responses, report fewer occurrence of changes in teaching methods than teachers..

Content Coverage

There has been considerable debate concerning the effect of changing time allocations in classrooms and changing the time classes meet on the ability of teachers to deliver their course content is explored in this section. Three pieces of information were reviewed to provide information on this concern. First, the surveys inquired into teacher, student and parent perceptions on the amount of content covered, the depth of the coverage, the level of academic challenge provided to students, and the teachers ability to cover the material in the amount of time available. Second, teachers were also asked to indicate if they were able to cover the approved county curriculum. Finally, a test was designed and administered to determine if whether or not a common body of content was covered and whether or not students were learning this common body of content.

Significant Findings. As in previous sections of this report, the schools were compared statistically to determine if there were any significant differences in how respondents responded from each school. In the body of the report, the statements favoring one school over another are simply listed and compiled in Graphs to display a pattern of significant findings. There were twenty eight (28) significant findings when responses were inferentially compared on the achievement related questions described above. Graph 3, Significant Findings: Coverage exhibits the significant comparisons.

Of the twenty eight significant findings nineteen (19) of them were attributed to teachers, and 9 were attributed to students. There were no significant differences among the perceptions provided by parents on these questions.

Graph 3 about here

The significant findings indicate that Semester Block schools were experiencing difficulty with covering content. For example, James River recorded 1 more satisfied comparison with other schools, and 7 less satisfied comparisons. Similarly, Monacan was favored in 2 more satisfied comparisons with other schools and in 5 comparisons was less satisfied. The responses of students at both Semester Block schools were more satisfied in one comparison with their peers in other schools and less satisfied in one comparison. Similarly, teachers in the Semester Block schools were less satisfied than teachers in other schools. For example, at James River, teachers were less satisfied in 6 comparisons. Monacan teachers were more satisfied in one comparison and less satisfied in 4 comparisons.

GRAPH 3 | REPORT ON SIGNIFICANT FINDINGS: COVERAGE

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN	
	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS
STUDENTS COVERAGE	●	○	●●●●●		●	○				○		○
PARENTS COVERAGE												
TEACHERS COVERAGE												
COUNTY CURRICULUM	●●	○	●	○	●	○	○	○	●●●●●	○	●●●●●	○
SCHOOL TOTAL	3	6	8	1	1	7	2	5	9	3	5	6

MORE = MORE SATISFIED
 LESS = LESS SATISFIED
 P < .05 & E.T.A.² > .05

7 PERIOD ALTERNATING BLOCK | SEMESTER BLOCK | 7 PERIOD SCHEDULE | 6 PERIOD SCHEDULE

The results for the Alternating Block schools were inconsistent. For example, Clover Hill was more satisfied in 8 comparisons with other schools and less satisfied in 1 comparisons. The responses of students at Clover Hill were more favored in 6 comparisons with their peers in other schools and received no less more satisfied comparisons. The responses of teachers at Clover Hill were more satisfied in 2 comparisons with their peers in other schools and less satisfied in 1 comparisons. Whereas, Bird was more satisfied in 3 comparisons and less satisfied in 6 comparisons. The responses of students at Bird were more satisfied in 1 comparison with their peers in other schools and less satisfied in 1 comparison. And, the responses of teachers at Bird were more satisfied in 2 comparisons with their peers at other schools and less satisfied in 5 comparisons.

The results for the Seven Period Day school indicate that teachers believe they can cover the curriculum to a greater extent than teachers at either of the schools with alternative schedules and at the same level as teachers at the traditional Six Period Day school. For example, teachers at Matoaca were more satisfied in 9 comparisons with those of their peers at other schools, and less satisfied in 2 comparisons. The responses of students at Matoaca were less satisfied in one comparisons with their peers in other schools.

The results for the Six Period Day school were inconsistent due to the different perceptions of teachers and students. For example, the school was favored in 5

comparisons with other schools and less favored in 6 comparisons. Students at Midlothian were less satisfied in 5 comparisons with their peers at other schools. Teachers, on the other hand, were more satisfied in 5 comparisons with their peers in other schools and less satisfied on 1 comparison. The significant comparisons that support the above analyses are listed for your review.

- Ninth grade students at Clover Hill ($m=3.0692$), James River ($m=3.0296$), Monacan ($m=3.0000$), and Bird ($m=2.9508$) report that their teachers are able to cover course content in the amount of time available to a significantly higher degree than ninth grade students at Midlothian ($m=2.5310$) ($F=1.7104$; $d.f.=5, 654$; $e.s.=.0561$).
- Eleventh grade students at Clover Hill ($m=3.0571$) report that their teachers are able to cover course content in the amount of time available to a significantly higher degree than eleventh graders at Monacan ($m=2.4235$), James River ($m=2.4959$), Matoaca ($m=2.5273$), Midlothian, ($m=2.5938$) and Bird ($m=2.6000$) ($F=6.8363$; $d.f.=5, 566$; $e.s.=.0574$).
- Social studies teachers at Matoaca ($m=1.4000$) report greater levels of satisfaction with the amount of content covered this school year than social studies teachers at Bird ($m= -.3333$) ($F=3.0244$; $d.f.=5, 50$; $e.s.=.2515$).

- Performing Arts teachers at Matoaca ($m=.5000$) report greater levels of satisfaction with the amount of content covered this school year than performing arts teachers at Monacan, Clover Hill, James River, Midlothian and Bird (all five means = $.0000$) ($F=4.0609$; $d.f.=5, 24$; $e.s.=.5166$). Performing arts teachers at Bird ($m=1.3750$) and Monacan ($m=1.2500$) agree to a higher level that they can cover the approved county curriculum than Performing Arts teachers at Matoaca ($m= -.5000$) ($F=4.0080$; $d.f.=5, 24$; $e.s.=.5133$).
- English teachers at Matoaca ($m=1.1429$) and Midlothian ($m=1.0906$) report greater levels of satisfaction with the amount of content covered this school year than english teachers at Monacan ($m= -.9167$), James River ($m= -.5000$), and Bird ($m= -.3158$). English teachers at Clover Hill ($m=.4286$) report greater levels of satisfaction with the amount of content covered this school year than english teachers at Monacan ($F=7.4022$; $d.f.=5, 72$; $e.s.=.3558$).
- Foreign Language teachers at Midlothian ($m=1.5000$), Clover Hill ($m=.5455$) and Bird ($m=.5000$) agree to a higher level that they can cover the approved county curriculum than Foreign Language teachers at James River ($m= -1.0000$) ($F=5.9223$; $d.f.=5, 40$; $e.s.=.4583$). Performing arts teachers at Bird ($m=1.3750$) and Monacan ($m=1.2500$) agree to a higher level that they can cover the approved county curriculum than Performing Arts teachers at Matoaca ($m= -.5000$) ($F=4.0080$; $d.f.=5, 24$; $e.s.=.5133$).

Descriptive Findings. The perceptions provided by the respondents to the survey are displayed in Table 5A: Report on Perceptions on Instructional Practices: Content Coverage.

Table 5A about here

In most schools, respondents indicate that they were satisfied with the **amount of coverage** provided during the school year. However, there were some variations on the level of satisfaction. For example, eighty four percent (84%) of the Midlothian teachers reported they were satisfied with the amount of content covered whereas fifty six percent (56%) of the teachers were satisfied at Bird and Monacan. Parents at all schools reported satisfaction levels over sixty percent (60%) except at Bird (56%). Parents at Clover Hill and Matoaca reported the highest satisfaction levels at seventy percent (70%). Students at Bird and Midlothian satisfaction levels with the amount of content covered reached only forty eight percent (48%) whereas satisfaction for students at the other four schools was reported around or above the sixty percent (60%) levels. James River students reported the highest satisfaction levels at sixty five percent (65%).

TABLE 5A

**A REPORT ON PERCEPTIONS ON INSTRUCTIONAL PRACTICES:
CONTENT COVERAGE**

INSTRUCTION: COVERAGE		BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
		N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1	<div style="border: 1px solid black; padding: 2px;"> Generally, I am satisfied with the amount of content covered this school year. </div> STUDENTS PARENTS TEACHERS	463	48%	15%	485	61%	10%	393	65%	15%	420	59%	15%	167	61%	16%	458	48%	13%
		192	56%	19%	196	70%	15%	277	67%	21%	128	63%	22%	60	70%	15%	157	68%	15%
		94	56%	30%	90	63%	37%	67	60%	22%	73	56%	33%	51	65%	24%	62	84%	8%
2	<div style="border: 1px solid black; padding: 2px;"> Generally, I am satisfied with the depth of coverage of material in my child's classes. </div> STUDENTS PARENTS TEACHERS	469	42%	21%	485	51%	12%	392	56%	15%	417	51%	17%	169	51%	18%	454	43%	17%
		184	51%	17%	198	55%	17%	287	61%	21%	125	54%	23%	59	54%	24%	157	58%	18%
		92	62%	25%	91	67%	16%	67	57%	22%	74	68%	20%	51	63%	24%	62	79%	10%
3	<div style="border: 1px solid black; padding: 2px;"> Generally, I am satisfied with the level of academic challenge students are provided. </div> STUDENTS PARENTS TEACHERS	466	54%	14%	490	63%	14%	397	73%	8%	421	66%	11%	171	60%	15%	460	58%	14%
		198	58%	27%	213	63%	21%	299	73%	16%	134	66%	21%	62	65%	19%	168	62%	22%
		94	83%	7%	91	81%	9%	67	85%	9%	75	91%	9%	52	81%	19%	62	89%	2%
4	<div style="border: 1px solid black; padding: 2px;"> I am able to cover the approved county curriculum. </div> TEACHERS	92	52%	33%	89	58%	24%	63	60%	24%	72	68%	19%	52	67%	21%	62	81%	18%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

TABLE 5A
continued

REPORT ON PERCEPTIONS ON INSTRUCTIONAL PRACTICES: CONTENT COVERAGE

INSTRUCTION: COVERAGE	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN								
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %				
STUDENTS	464	68%	22%	10%	489	81%	16%	4%	390	75%	16%	9%	413	68%	21%	11%	171	57%	28%	15%	463	64%	24%	11%
PARENTS	158	68%	18%	14%	170	82%	12%	5%	266	69%	15%	16%	123	67%	23%	11%	52	62%	29%	10%	129	73%	19%	9%
TEACHERS	93	66%	13%	22%	90	66%	12%	22%	66	64%	18%	18%	74	73%	9%	16%	52	73%	13%	13%	62	79%	13%	8%

1
Teachers are able to cover the material for my classes in the amount of time provided.

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

There were significant differences in perception among respondents within in particular schools. For example, while eighty four percent (84%) of the teachers at Midlothian reported satisfaction with the amount of content covered, only forty eight percent (48%) of the students responded in the same manner. On the other hand, the lower satisfaction with content covered recorded by Monacan teachers (56%) was closely matched by their students (59%). Bird results were similar to Monacan's. At the other four schools the perceptions were similar among teachers and students but at a much higher level of satisfaction.

On the **depth of coverage** item, the results were similar to the answers to the amount of content covered with some exceptions. For example, the disparity between teacher (79%) views and student (43%) views continued at Midlothian. However on this question Bird students (42%) and teachers (62%) mirrored those at Midlothian. On the other hand, satisfaction levels were lower at James River for teachers (57%) than teachers at other schools. Yet, James River students (56%) reported the highest satisfaction levels among students.

Teachers across all six schools indicated that they were highly satisfied with the **level of academic challenge students are provided**. Monacan's teachers were the most satisfied (91%). Student satisfaction levels at James River (73%) and Monacan (66%) are the highest reported. Bird (54%) and Midlothian (58%) students report the lowest satisfaction levels in this area. Parent perceptions on academic challenge are lower than

teachers and similar to their children. The perceptions of parents at James River (73%), Monacan (66%), and Clover Hill (63%) are exactly the same as the perceptions of their children. At Matoaca (65%), Midlothian ((62%), and Bird (58%) parent satisfaction levels are similar to those of their children.

Coverage was further explored by asking respondents how often teachers were able to **cover the material in their classes in the amount of time provided**. The responses displayed on Table 5B, Report on Perceptions of Instructional Practices: Content Coverage, indicate that eighty one percent (81%) of the students at Clover Hill, and seventy five percent (75%) of the students at James River believe that their teachers are able to cover the material in their classes in the amount of time provided. The characteristic response of students at the other four schools was that teachers are able to cover the material in the time provided most of the time.

Parents at Clover Hill (82%) and Midlothian (73%) believed that teachers could deliver the content in the time provided most of the time. Parents at other schools (above 60%) perceived that the material could be covered in the time provided most of the time.

Table 5B about here

TABLE 5B | **REPORT ON PERCEPTIONS ON INSTRUCTIONAL PRACTICES: CONTENT COVERAGE**

	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
SCHOOL																		
STUDENTS	463	48%	15%	485	61%	10%	393	65%	15%	420	59%	15%	167	61%	16%	458	48%	13%
PARENTS	192	56%	19%	196	70%	15%	277	67%	21%	128	63%	22%	60	70%	15%	157	67%	15%
TEACHERS	94	56%	30%	90	63%	20%	67	60%	22%	73	56%	33%	51	65%	24%	62	84%	8%
SUBJECT																		
ENGLISH	19	26%	53%	14	64%	21%	10	30%	50%	12	17%	75%	7	71%	0%	11	91%	10%
MATH	9	44%	33%	11	46%	46%	7	71%	14%	11	55%	27%	8	63%	38%	10	60%	20%
SCIENCE	13	46%	31%	12	42%	33%	8	75%	0%	9	56%	33%	5	20%	80%	9	78%	11%
SOCIAL STUDIES	12	25%	50%	10	40%	10%	7	86%	0%	11	55%	27%	5	100%	0%	6	83%	17%
FOREIGN LANGUAGE	6	83%	17%	11	64%	27%	10	20%	60%	5	20%	80%	3	67%	33%	6	100%	0%
SPECIAL EDUCATION	6	100%	0%	4	100%	0%	5	60%	0%	5	80%	0%	4	50%	50%	5	80%	0%
PERFORMING ARTS	8	100%	0%	6	100%	0%	3	33%	33%	4	100%	0%	2	50%	0%	2	100%	0%
PRACTICAL ARTS	17	77%	18%	13	85%	8%	10	90%	10%	14	79%	14%	9	67%	11%	10	90%	0%
OTHER	2	50%	50%	4	50%	25%	1	100%	0%	2	100%	0%	1	0%	0%	2	100%	0%
STUDENTS																		
9TH GRADE	122	61%	7%	126	72%	7%	135	69%	8%	112	71%	6%	41	61%	12%	110	53%	14%
10TH GRADE	112	49%	9%	129	65%	10%	136	72%	13%	106	66%	13%	33	64%	9%	96	43%	20%
11TH GRADE	106	43%	21%	107	53%	9%	122	54%	23%	89	51%	24%	54	65%	20%	94	52%	10%
12TH GRADE	122	40%	24%	123	52%	15%	0	0%	0%	113	48%	18%	39	54%	18%	158	45%	11%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement. Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

The characteristic response among all teachers (64%) was that they believed they could deliver the content in the amount of time provide. However, at schools that changed their schedules, the number of teachers responding that they were seldom able to cover the material in their classes was higher than the school that did not change its schedule.

For example,

- In the case of the Alternating Block schools, sixty six percent (66%) of the teachers at both schools who believe they can cover the material in the time allotted. Conversely, only twenty two percent (22%) of the teachers at Bird and Clover Hill responded they seldom are able to cover the curriculum in the time allotted.
- In the case of the Semester Block schools, seventy three percent (73%) of the teachers at Monacan and sixty four percent (64%) at James River who believe they can cover the material in the time allotted. Conversely, only sixteen percent of the teachers (16%) at Monacan and eighteen percent (18%) of the teachers at James River responded that they seldom are able to cover the curriculum in the time allotted.
- In the case of schools using Shorter Class Times, seventy four percent (74%) of the teachers at Matoaca and seventy nine percent (79%) of the teachers at Midlothian believe they can deliver the content in the time allocated. Conversely, only thirteen percent (13%) of the teachers at Matoaca, and 8% of the teachers

a Midlothian indicate they are seldom able to cover the curriculum in the time allotted.

To further probe this area, teachers were also asked to provide their perception regarding their ability to **cover the approved county curriculum**. Specific subject area responses are provided on Table 5C, Report on the Perceptions of Teachers Ability to Deliver the Approved County Curriculum.

Table 5C about here

Teachers at all schools, except the Six Period Day school, express varying degrees of satisfaction with their ability to **deliver the approved county curriculum**. For example, at the Six Period Day school, eighty one percent (81%) of the teachers believe they can deliver the approved county curriculum.

- English (91%), Math (70%), Social Studies (83%), Performing Arts (100%), Practical Arts (80%), Foreign Language (100%), and Special Education (80%) teachers are satisfied they can deliver the approved county curriculum.
- Science (56%) teachers are less satisfied they can deliver the approved county curriculum.

TABLE 5C

REPORT ON THE PERCEPTIONS OF TEACHERS' ABILITY TO DELIVER
THE APPROVED COUNTY CURRICULUM

SUBJECT	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
Generally, I am able to cover the approved county curriculum in my classes																		
ENGLISH	19	42%	47%	14	50%	21%	10	70%	20%	11	46%	46%	7	86%	14%	11	91%	10%
MATHEMATICS	9	56%	33%	11	46%	27%	7	71%	14%	11	55%	27%	8	63%	25%	10	70%	30%
SCIENCE	12	42%	42%	12	58%	33%	7	86%	14%	9	78%	11%	5	80%	20%	9	56%	44%
SOCIAL STUDIES	12	25%	50%	10	30%	70%	7	57%	14%	11	73%	27%	5	60%	20%	6	83%	17%
FOREIGN LANGUAGE	6	67%	17%	11	64%	27%	8	0%	88%	6	50%	33%	4	75%	25%	6	100%	0%
SPECIAL EDUCATION	5	40%	0%	4	75%	0%	4	75%	0%	4	75%	0%	4	75%	0%	5	80%	0%
PERFORMING ARTS	8	100%	0%	6	50%	0%	3	33%	0%	4	100%	0%	2	0%	50%	2	100%	0%
PRACTICAL ARTS	17	65%	24%	12	83%	0%	10	70%	10%	14	86%	0%	9	78%	22%	10	80%	10%
OTHER	2	50%	50%	4	75%	25%	1	100%	0%	2	50%	0%	1	0%	100%	2	100%	0%
TEACHER TOTALS	92	52%	33%	89	58%	24%	63	60%	24%	72	68%	19%	52	67%	21%	62	81%	15%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Semester Block teachers, in general, are more satisfied that they can deliver the approved county curriculum than teachers in Alternating Block schools. For example, Sixty percent (60%) of the teachers at James River, and seventy two percent (72%) of the teachers at Monacan believe they can deliver the approved county curriculum. Whereas, fifty eight percent (58%) of the teachers at Clover Hill, and fifty two percent (52%) of the teachers at Bird believe they are able to deliver the approved county curriculum. There are, however, differences by subject area for instance in Foreign Language, English, Math and Science. These differences are found in Table 5C and are highlighted below.

At the Semester Block schools, Practical Arts (70% and 86%), Science (86% and 78%), and Special Education (75% and 75%) teachers are satisfied they are able to deliver the approved county curriculum. There are inconsistencies between teachers in these schools in other subject areas. For example, Performing Arts (33% and 100%), English (70% and (46%), Math (71%) and (55%), Social Studies (57% and 73%), and Foreign Language (50% and 0%) are satisfied with their ability to deliver the approved county curriculum

At the Alternating Block schools, teachers satisfaction levels with their ability to deliver the approved county curriculum are lower. For example,

- Foreign Language (64% and 67%), and Practical Arts teachers believe they are able to deliver the approved county curriculum,

- English (50% and 42%), Math (46% and 56%), Science (58% and 42%), Performing Arts, and Special Education teachers are relatively unsatisfied with their ability to deliver the approved county curriculum.
- Social Studies teachers (50% and 30%) are unsatisfied with their ability to deliver the approved county curriculum.

Seven Period Day teachers express satisfaction levels relative to their ability to deliver the approved county curriculum exceed sixty percent (60%) with the exception of Performing Arts teachers.

- Sixty seven percent (67%) of the teachers at Matoaca believe they can deliver the approved county curriculum.
- English (86%), Science (80%), Foreign Language (75%), Math (63%), Practical Arts, Social Studies (60%), and Special Education (75%) teachers believe they can deliver the approved county curriculum.

Algebra I Test. The final piece of information that was useful in reviewing this area deals with the results of a test designed to determine if students in each of the schools were learning a common body of content. Algebra I was chosen for this tests because it appears to have a high degree of consistency in curriculum and instruction from classroom to classroom and from school to school. Representative Algebra I teachers from Bird, Clover Hill, James River, Manchester, Midlothian and Monacan were invited to participate in developing a set of forty five (45) multiple choice test questions reflecting

the major concepts in the Algebra I curriculum. The test was administered in conjunction with the Algebra I final examination in three sections of Algebra I in each participating schools. The description of the test is found in the appendices of this report.

The results, displayed on Exhibit two, Report on Student Performance Indicators by School, indicate that students at each of the high schools which participated in this study scored comparably. These results indicate that, no matter which schedule a school utilized, there was a common body of Algebra I content that was covered and learned by students.

Instructional Practices

The survey items referring to instructional practices were analyzed through the process change scale. Survey items asked respondents how often a practice occurred. For example, teachers, students and parents were asked how often teachers employ various instructional strategies such as 1) using a variety of instructional practices, group activities, whole class lecture, whole class instruction, distribution of class time, (2) the use of instructional materials, (3) assessment practices, and (4) the nature of collegial teaching practices. In addition to determining how often a strategy was employed, some items used the satisfaction scale to determine not only how often a practice occurred, but also if respondents were satisfied with the practice. In general, the descriptive statistics indicate that most instructional strategies are used by teachers in all schools. On the other hand, the inferential statistical analyses indicated that teaching in Block

scheduled schools differs significantly from teaching in non Blocked schools. In fact, two teaching profiles were identified that appeared more often in Blocked or non Blocked schools.

Significant Findings. The analyses proceeds as in previous sections of this report. The schools were first compared statistically to determine if there were any significant differences in responses from each school. There were one hundred and eleven (111) significant findings when responses were inferentially compared on the instructional strategies related questions described above. Graph 4, Significant Findings: Instructional Strategies exhibits the significant comparisons. Of the 111 significant findings, sixty two (62) were attributed to teachers, forty nine (49) were attributed to students. No significant differences were found among the responses provided by parents.

Graph 4 about here

The respondents reported how often they perceived instructional strategies occurring in their classrooms. Therefore Graph 4 simply represents their occurrence and does not indicate one strategy is better or worse than another. The significant comparisons that support this analysis are listed below for your review.

REPORT ON SIGNIFICANT FINDINGS: INSTRUCTIONAL STRATEGIES

GRAPH 4

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN	
	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS
STUDENTS												
GROUP ACTIVITIES	●	○	●●●●●	○	●●●●●	○	●●●●●	○	○	○	●●●●●	○
WHOLE CLASS INST	○	○	○	○	○	○	○	○	○	○	○	○
VARIETY	○	○	○	○	○	○	○	○	○	○	○	○
TEXT PRIMARY TOOL	○	○	○	○	○	○	○	○	○	○	○	○
MULTIPLE CHOICE	○	○	○	○	○	○	○	○	○	○	○	○
PORTFOLIOS	○	○	○	○	○	○	○	○	○	○	○	○
PARENTS												
			NO SIGNIFICANT DIFFERENCES									
TEACHERS												
GROUP ACTIVITIES	○	○	○	○	○	○	○	○	○	○	○	○
WHOLE CLASS INST	○	○	○	○	○	○	○	○	○	○	○	○
WHOLE CLASS LECTURE	○	○	○	○	○	○	○	○	○	○	○	○
INDIVIDUAL INST.												
PORTFOLIO												
RUBRICS												
ESSAY QUESTIONS	●				●		●		○		●	
MULTIPLE CHOICE												
TEAM APPROACH	○	○	○	○	○	○	○	○	○	○	○	○
INFORMAL SUPPORT GROUPS	○	○	○	○	○	○	○	○	○	○	○	○
INTEGRATION OF INSTRUCTION	○	○	○	○	○	○	○	○	○	○	○	○
SCHOOL TOTAL	8	21	24	22	21	6	16	18	16	22	26	22

7 PERIOD ALTERNATING BLOCK **SEMESTER BLOCK** **7 PERIOD SCHEDULE** **6 PERIOD SCHEDULE**
 P < .05 & ETA² > .05

Whole Class Instruction. Teachers at Midlothian ($m=2.4355$) report higher use of whole class instruction than teachers at Clover Hill ($m=1.5778$), Monacan ($m=1.7467$), James River ($m=1.7910$), and Bird ($m=1.8022$). Teachers at Matoaca ($m=2.2353$) also report higher use of whole class instruction than teachers at Clover Hill and Monacan ($F=8.5961$; $d.f.=5, 435$; $e.s.=.0909$).

In particular, social studies teachers at Midlothian ($m=3.0000$) reported higher use of whole class instruction than social studies teachers at Clover Hill ($m=1.5455$) ($F=2.9502$; $d.f.=5, 52$; $e.s.=.2389$). Math teachers at Midlothian ($m=2.8000$) and Bird ($m=2.4444$) reported higher uses of whole class instruction than Math teachers at Monacan ($m=1.1818$) ($F=4.5205$; $d.f.=5, 55$; $e.s.=.3133$). English teachers at Matoaca ($m=2.7143$) and Midlothian ($m=2.6364$) reported higher uses of whole class instruction than english teachers at Clover Hill ($m=1.5000$) and Bird ($m=1.5789$) ($F=5.2079$; $d.f.=5, 71$; $e.s.=.2829$).

Tenth grade students at Midlothian ($m=2.8125$) report significantly higher use of whole class instruction than ninth grade students at Clover Hill ($m=2.1811$), Monacan ($m=2.1682$), and James River ($m=2.2206$) ($F=8.8685$; $d.f.=5, 615$; $e.s.=.0678$). Twelfth grade students at Midlothian ($m=2.7436$) report significantly higher use of whole class instruction than Clover Hill ($m=2.2063$), Matoaca ($m=2.2143$) and Bird ($m=2.4463$). Monacan twelfth graders ($m=2.5175$) report significantly higher use of whole class instruction than Clover Hill ($F=8.3511$; $d.f.=4, 558$; $e.s.=.0569$).

Whole Class Lecture. Teachers at Matoaca ($m=2.1569$), Midlothian ($m=1.9677$), and Bird ($m=1.8681$) report significantly higher use of whole class lecture than teachers at Clover Hill ($m=1.5165$). And, teachers at Midlothian and Matoaca report significantly higher use of whole class lecture than those at Monacan ($m=1.5205$). Matoaca also uses more whole class lecture than James River ($m=1.6716$) ($F=6.4498$; $d.f.=5, 434$; $e.s.=.0699$). In particular, math teachers at Midlothian ($m=2.6000$) report higher uses of whole class lecture than math teachers at Clover Hill ($m=1.2727$) ($F=4.9200$; $d.f.=5, 55$; $e.s.=.3298$).

Group Instruction. Ninth grade students at Monacan ($m=2.2348$), Clover Hill ($m=2.0909$) and James River ($m=2.0657$) report that teachers use of group activities at a significantly higher rate than students at Matoaca ($m=1.5854$), Midlothian ($m=1.6786$) and Bird ($m=1.7967$) ($F=12.4765$; $d.f.=5, 659$; $e.s.=.0871$).

Tenth grade students at Bird ($m=1.9741$), Clover Hill ($m=1.9845$), James River ($m=2.2754$), and Monacan ($m=2.0093$) report teacher's use of group activities at a significantly higher rate than students at Midlothian ($m=1.6837$). James River tenth graders also report that their teachers use group activities to a higher degree than those at Matoaca ($m=1.7879$), Bird, Clover Hill and Monacan ($F=10.5741$; $d.f.=5, 620$; $e.s.=.0792$).

Eleventh grade students at Clover Hill ($m=2.0467$) and James River ($m=2.0328$) report higher teacher use of group activities than students at Midlothian ($m=1.4896$), Bird ($m=1.6759$), and Monacan ($m=1.9614$) ($F=11.6605$; $d.f.=5, 574$; $e.s.=.0929$). There were no significant differences at the twelfth grade level.

Math teachers at James River ($m=2.4286$) report higher uses of group activities than math teachers at Midlothian ($m=1.5000$) ($F=3.6500$; $d.f.=5, 55$; $e.s.=.2673$). Science teachers at James River ($m=3.2500$) report higher uses of group activities than Science teachers at Matoaca ($m=2.0000$) ($F=3.1492$; $d.f.=5, 56$; $e.s.=.2342$).

Instructional Materials. Tenth grade students at Matoaca ($m=2.4848$), James River ($m=2.3577$), Monacan ($m=2.2523$), and Clover Hill ($m=2.2143$) report that their teachers use a variety of instructional materials other than textbooks in their classes to a significantly higher degree than tenth grade students at Midlothian ($m=1.8351$). Matoaca and James River also report significantly higher use of a variety of instructional materials than Bird ($m=1.8966$) ($F=6.4310$; $d.f.=5, 615$; $e.s.=.0501$).

Twelfth grade students at Midlothian ($m=2.7821$) report significantly higher use of textbooks as a primary instructional tool than twelfth grade students at Monacan ($m=2.0531$), Bird ($m=2.2742$) and Clover Hill ($m=2.4921$). Twelfth grade students at Matoaca ($m=2.5122$) and Clover Hill report significantly higher use of textbooks as a primary instructional tool than twelfth grade students at Monacan ($F=14.1129$; $d.f.=4,$

559; e.s.=.0923). Special education teachers at Matoaca ($m=3.5000$) report higher dependence on the textbook as the primary instructional tool than special education teachers at James River ($m=1.6000$) and Midlothian ($m=1.6000$) ($F=3.0632$; d.f.=5, 27; e.s.=.4104).

Assessment. Twelfth grade students at Monacan ($m=1.5510$) report that their teachers use of portfolios to assess their performance at a higher rate than twelfth grade students at Midlothian ($m=.9586$) and Clover Hill ($m=1.0333$) ($F=6.8543$; d.f.=4, 507; e.s.=.0517). Science teachers at James River ($m=1.6250$) report that they are using portfolios to assess student performance at a higher rate than science teachers at Midlothian ($m=.1429$) ($F=2.2162$; d.f.=5, 52; e.s.=.1908).

English teachers at Monacan ($m=3.6000$) report higher use of rubrics for scoring student assignments than English teachers at Midlothian ($m=3.3636$) and James River ($m=1.7778$) ($F=4.9227$; d.f.=5, 69; e.s.=.2778). Math teachers at Midlothian ($m=3.5556$) report higher uses of rubrics for scoring student assignments than Math teachers at Matoaca ($m=2.0000$) ($F=3.2344$; d.f.=5, 53; e.s.=.2520).

Foreign Language teachers at Monacan ($m=2.5000$), Bird ($m=2.3333$), James River ($m=2.1111$) and Midlothian ($m=2.0000$) report higher use of essay questions to assess student performance than Foreign Language teachers at Clover Hill ($m=.9000$). Foreign Language teachers at Monacan and Bird report higher use of essay questions to assess

student performance than Foreign Language teachers at Matoaca ($m=1.0000$) ($F=7.8521$; $d.f.=5, 40$; $e.s.=.5287$).

Eleventh grade students at Monacan ($m=2.6824$), Matoaca ($m=2.5741$), and James River ($m=2.4878$) report higher uses of multiple choice and true-false questions to assess student performance than eleventh grade students at Bird ($m=2.1887$) and Clover Hill ($m=2.2000$). Eleventh grade students at Monacan also report higher use of multiple choice and true false questions than Eleventh grade students at Midlothian ($m=2.3077$) ($F=6.9002$; $d.f.=5, 563$; $e.s.=.0582$). Foreign Language teachers at Monacan ($m=2.0000$) report using multiple choice and true-false questions to assess student performance to a higher degree than Foreign language teachers at Matoaca ($m=.6667$) ($F=2.4783$; $d.f.=5, 40$; $e.s.=.2615$).

Collegial Practices. Teachers at Clover Hill ($m=2.0667$) report that they take a team approach to teaching to a significantly greater extent than teachers at Matoaca ($m=1.0600$), Midlothian ($m=1.3000$), Monacan ($m=1.4697$) and Bird ($m=1.6667$). Teachers at James River (1.8254) report that they take a team approach to teaching to a significantly greater extent than teachers at Matoaca and Midlothian. Teachers at Bird report that they take a team approach to teaching to significantly greater extent than teachers at Matoaca ($F=10.3368$; $d.f.=5, 421$; $e.s.=.1105$).

English teachers at Clover Hill ($m=2.0714$) report higher use of taking a team approach to teaching than English teachers at Monacan ($m=.7000$), Matoaca ($m=.8571$), Midlothian ($.9091$), and Bird (1.0526) ($F=4.8397$; $d.f.=5, 70$; $e.s.=.2713$). Social studies teachers at Clover Hill ($m=2.0000$), Monacan ($m=1.8000$) and Bird ($m=1.7500$) report higher use of taking a team approach to teaching than social studies teachers at Matoaca ($m=.6000$) ($F=3.6359$; $d.f.=5, 50$; $e.s.=.2877$). Foreign Language teachers at James River ($m=2.0000$) and Clover Hill ($m=2.0000$) report higher uses of taking a team approach to teaching than Foreign Language teachers at Matoaca ($m=.3333$) ($F=2.8024$; $d.f.=5, 38$; $e.s.=.2980$). Science teachers at Clover Hill ($m=2.4167$) report a higher use of taking a team approach to teaching than science teaches at Midlothian ($m=.8889$) ($F=3.3352$; $d.f.=5, 55$; $e.s.=.2501$).

Informal Discussion Groups. In particular, social studies teachers at Monacan ($m=2.9167$) report higher use of informal support/discussion groups to exchange ideas and resources than social studies teachers at Clover Hill ($m=1.6000$) ($F=2.4129$; $d.f.=5, 50$; $e.s.=.2114$).

Integration of Instruction. Teachers at Clover Hill ($m=2.1011$) report that they work to integrate instruction across subject areas to a significantly higher degree than teachers at Matoaca ($m=1.4286$), Midlothian ($m=1.5862$), Bird ($m=1.5870$) and Monacan ($m=1.6528$) ($F=5.6733$; $d.f.=5, 425$; $e.s.=.0633$).

In particular, English teachers at Clover Hill ($m=2.2143$) report working to integrate instruction across subject areas to a higher degree than English teachers at Bird ($m=.8947$) ($F=4.5235$; $d.f.=5, 69$; $e.s.=.2611$).

Descriptive Findings. The perceptions provided by the respondents to the survey are displayed in four tables in this section of the report. The use of instructional strategies are found on Table six: Report on Perceptions of Instructional Practices: Teaching Strategies

Table 6 about here

Whole class instruction. Teachers in all schools report more use of whole class instruction than students and their parents. The range of teachers using whole class instruction is from eighty percent (80%) at Clover Hill to fifty six percent (56%) at Midlothian. Parents at the block schools see less time spent on whole class instruction with the exception at Bird (63% see whole class instruction most of the time). Parents at Matoaca (60%) and Midlothian (70%) see more use of whole class instruction. Students confirm their teachers views at Bird, Matoaca, Midlothian and Monacan.

TABLE 6 **REPORT ON PERCEPTIONS OF INSTRUCTIONAL PRACTICES: TEACHING STRATEGIES**

INSTRUCTION: METHODS	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN								
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %				
1 Teachers are using new instructional approaches.	371	19%	39%	42%	404	27%	42%	30%	311	36%	38%	26%	352	34%	33%	34%	131	24%	36%	40%	357	6%	32%	62%
STUDENTS	122	16%	41%	43%	145	26%	46%	28%	208	29%	55%	15%	87	29%	37%	34%	35	14%	46%	40%	93	10%	43%	47%
PARENTS	93	31%	57%	12%	90	23%	69%	8%	65	42%	54%	5%	73	29%	63%	8%	51	10%	57%	33%	62	15%	68%	18%
TEACHERS																								
2 Teachers use group activities in their classes.	472	11%	61%	28%	496	20%	61%	19%	397	22%	64%	13%	424	18%	60%	21%	170	9%	53%	38%	465	5%	54%	41%
STUDENTS	167	10%	77%	13%	188	16%	75%	9%	275	25%	71%	4%	114	15%	77%	8%	49	10%	80%	10%	125	8%	73%	19%
PARENTS	94	33%	51%	15%	91	33%	62%	5%	67	40%	52%	7%	76	30%	63%	7%	52	17%	63%	19%	62	16%	71%	13%
TEACHERS																								
3 Teachers use whole class lecture.	469	37%	44%	19%	488	27%	50%	23%	395	36%	40%	25%	420	34%	34%	32%	168	37%	37%	26%	458	49%	43%	8%
STUDENTS	157	40%	46%	13%	176	38%	56%	6%	256	30%	58%	12%	114	35%	53%	12%	50	32%	52%	16%	147	54%	41%	5%
PARENTS	91	22%	46%	32%	91	2%	59%	38%	67	9%	55%	36%	73	8%	51%	41%	51	33%	51%	16%	62	27%	47%	26%
TEACHERS																								
4 Most class time is spent in whole class instruction.	467	58%	27%	15%	491	39%	39%	23%	394	47%	32%	21%	420	48%	28%	24%	172	51%	34%	15%	459	70%	23%	7%
STUDENTS	160	63%	28%	10%	175	46%	38%	15%	249	41%	41%	18%	113	44%	33%	23%	53	60%	28%	11%	135	70%	21%	9%
PARENTS	93	70%	25%	5%	91	80%	16%	3%	66	76%	20%	5%	76	67%	28%	5%	52	60%	29%	12%	62	56%	34%	10%
TEACHERS																								
5 Teachers distribute class time among whole class instruction, small group work, and individual study.	465	38%	35%	28%	487	48%	34%	18%	385	47%	31%	22%	416	39%	35%	26%	168	42%	35%	23%	460	31%	39%	30%
STUDENTS	154	29%	49%	23%	169	46%	40%	14%	245	49%	39%	11%	112	44%	39%	17%	43	26%	60%	14%	113	26%	50%	24%
PARENTS	91	24%	36%	40%	90	16%	37%	48%	67	24%	34%	42%	75	27%	33%	40%	53	42%	32%	23%	62	21%	35%	44%
TEACHERS																								

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Whole class lecture. Judging from the focus group comments, whole class lecturing occurs at each school. However, teachers at schools which utilize block schedules report lower use of whole class lecture with the exception of Bird. For example, only 2% of Clover Hill teachers report using whole class lecture most of the time. Responses from teachers at James River (9%) and Monacan (8%) is similar. On the other hand, thirty three percent (33%) of the teachers at Matoaca, twenty seven percent (27%) of the teachers at Midlothian, and twenty two percent (22%) of the teachers at Bird indicate they use whole class lecture. At all schools, students and parents perceive teachers use more whole class lecture than teachers report.

Group instruction. Teachers in schools which use larger blocks of classroom time report using group activities most of the time (ranging from 40% to 33%) than teachers at schools using shorter class time (17% and 16%). On the other hand, parents at all schools typically perceive teachers using group activities sometimes. Students at Clover Hill and James River see more use of group activities than their peers at other schools.

Instructional materials utilization is reported in Table seven, Report on Perceptions of Instructional Practices: Instructional Materials. Participants were asked to respond to teacher use of worksheets, textbooks, and multiple sources of information.

Table 7 About Here

TABLE 7 | **REPORT ON PERCEPTIONS OF INSTRUCTIONAL PRACTICES: INSTRUCTIONAL MATERIALS**

INSTRUCTION: MATERIALS	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN								
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %				
1 Teachers use worksheets in his/her classes.																								
STUDENTS	473	27%	46%	10%	488	44%	46%	9%	394	55%	35%	10%	416	55%	35%	10%	170	54%	39%	7%	458	36%	51%	13%
PARENTS	174	27%	63%	10%	187	20%	68%	12%	264	22%	68%	10%	114	31%	60%	10%	59	31%	63%	7%	141	21%	67%	11%
TEACHERS	91	19%	66%	15%	91	15%	63%	22%	66	23%	65%	12%	75	15%	63%	23%	52	31%	50%	19%	62	16%	68%	16%
2 Teachers use textbooks as a primary instructional tool.																								
STUDENTS	470	53%	37%	11%	492	54%	37%	8%	394	46%	39%	14%	421	51%	34%	15%	168	56%	31%	7%	462	64%	28%	8%
PARENTS	171	68%	30%	2%	180	64%	33%	2%	265	68%	28%	5%	111	68%	27%	5%	54	67%	33%	0%	148	80%	18%	2%
TEACHERS	93	38%	40%	23%	91	36%	40%	24%	66	45%	32%	23%	76	49%	36%	16%	52	50%	33%	17%	61	57%	31%	11%
3 Teachers use a variety of instructional materials other than textbooks in his/her classes.																								
STUDENTS	471	28%	45%	27%	489	34%	42%	23%	392	41%	39%	20%	421	37%	39%	24%	170	41%	29%	30%	461	19%	44%	37%
PARENTS	158	23%	54%	23%	178	29%	57%	14%	254	30%	61%	8%	110	27%	57%	15%	49	24%	55%	20%	133	14%	65%	21%
TEACHERS	93	60%	34%	6%	91	62%	35%	3%	67	57%	36%	7%	75	61%	35%	4%	50	50%	40%	10%	62	61%	34%	5%
4 Teachers require students to use multiple sources of information to answer project-based problems.																								
STUDENTS	453	51%	30%	19%	488	61%	25%	13%	378	41%	24%	8%	406	55%	27%	18%	167	51%	34%	15%	449	54%	29%	17%
PARENTS	177	51%	33%	15%	190	64%	28%	8%	270	60%	31%	9%	115	65%	29%	6%	50	66%	26%	8%	149	48%	44%	8%
TEACHERS	86	45%	30%	24%	83	46%	35%	19%	64	39%	39%	22%	70	46%	31%	23%	48	52%	25%	23%	60	40%	32%	28%

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Teachers at schools that have changed their schedule rely less on the text book as a primary instruction tool and use more of a variety of instructional materials in their classes. For example, teachers at the Semester Block schools report less reliance on the **textbook** than teachers in the Six Period Day school but greater reliance than teachers at the Alternating Block schools.

Students on the other hand, see the use of textbooks somewhat differently. For example, students at James River (46%) and Monacan (51%) report similar high use of the textbook as students at Bird (53%) and Clover Hill (54%). Students at Midlothian, on the other hand, report (67%) higher use of the textbook than their teachers.

Teachers at all schools report relatively high **use of a variety of instructional materials** other than the textbook in their classes. The percentages range from sixty two percent (62%) at Clover Hill, and sixty one percent (61%) at Midlothian, and Monacan to fifty percent (50%) at Matoaca who use a variety of instructional materials most of the time. On the other hand, parents at all schools indicate they perceive less use of a variety of instructional materials than teachers and students. Student responses indicate that at schools that changed their schedule teachers use more of a variety of instructional materials.

The use of **multiple sources of information** to answer project-based problems was seen as high in all schools. However, students and parents perceive more use of these

sources than teachers. Yet, teacher responses were divergent. For example, teacher responses ranged from an average of forty percent (40%) believing they require multiple sources to an average of twenty five percent (25%) believing they don't require multiple sources.

Assessment Practices. Assessment practices are examined in Table eight, Report on Perceptions of Instructional Practices: Assessment. The Table displays survey participants responses to the use various assessment practices such as the use of essay, multiple choice, true/false, portfolios, and rubrics.

Table 8 about here

Essay questions are used most of the time in about twenty five percent (25%) of the Semester Block schools and Clover Hill. For example, students report greater use of essay questions to assess performance at James River (26%), Monacan (24%), and Clover Hill (23%) than at other schools. Similarly, teachers at Block schools report greater use of essays than teachers at schools using shorter class periods. For example, teacher Matoaca (17%) and Midlothian (22%) used essays to assess student performance most of the time as compared to Monacan (37%), Clover Hill (28%), James River (24%), and Bird (25%).

TABLE 8 | REPORT ON PERCEPTIONS OF INSTRUCTIONAL PRACTICES: ASSESSMENT

INSTRUCTION: ASSESSMENT	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN								
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %				
1 Teachers use essay questions to assess student performance.	458	19%	55%	25%	477	23%	59%	18%	387	26%	51%	23%	412	24%	50%	27%	166	19%	51%	30%	453	15%	60%	24%
PARENTS	164	14%	67%	19%	180	20%	69%	11%	257	15%	75%	11%	118	24%	58%	19%	48	13%	60%	27%	139	13%	71%	16%
TEACHERS	92	25%	40%	35%	90	28%	39%	33%	66	24%	48%	27%	76	37%	41%	22%	52	17%	44%	38%	60	22%	42%	37%
2 Teachers use multiple choice and true-false questions to assess student performance.	464	42%	48%	10%	483	40%	49%	11%	390	49%	45%	6%	412	57%	37%	5%	169	43%	48%	9%	455	52%	40%	8%
PARENTS	175	27%	66%	7%	188	26%	72%	2%	264	26%	68%	6%	119	45%	53%	3%	50	32%	62%	6%	147	34%	64%	2%
TEACHERS	92	23%	54%	23%	91	18%	52%	31%	67	21%	58%	21%	73	25%	51%	25%	50	30%	40%	30%	61	23%	59%	18%
3 Teachers collect samples of student work in portfolios to assess performance.	412	10%	33%	58%	448	13%	30%	57%	329	22%	31%	47%	371	19%	36%	45%	157	18%	25%	57%	423	6%	33%	60%
PARENTS	125	20%	36%	44%	129	28%	35%	37%	198	26%	46%	27%	100	34%	37%	29%	44	41%	39%	20%	116	18%	46%	36%
TEACHERS	91	13%	19%	68%	88	11%	19%	69%	65	20%	17%	63%	75	21%	20%	59%	49	12%	33%	55%	57	19%	7%	74%
4 Use rubrics (specific criteria) for scoring student assignments.	93	57%	27%	16%	89	62%	17%	21%	61	57%	21%	21%	73	62%	22%	16%	47	43%	30%	28%	58	76%	14%	10%
TEACHERS																								

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Teachers report that **Multiple Choice** questions are used most of the time at Matoaca (30%), whereas teachers at other schools report approximately a twenty percent (20%) usage level. However, there are strong perceptual differences between teachers and students on the use of multiple choice, true/false questions at each school. Student responses ranged from highs at Monacan (57%) to Midlothian (52%), and James River (49%) to lows of forty percent (40%) at Clover Hill, indicating teachers use multiple choice and true/false questions most of the time.

The collection of student work samples in **portfolios** to assess performance was consistently reported as seldom and never by all respondents. For example, James River (47%) and Monacan students (45%) were the lowest number of students who responded that teachers seldom use portfolios. Approximately sixty percent (60%) of the students at the other four schools responded that teachers seldom use portfolios.

Teachers were asked to identify the extent they use **Rubrics (specific criteria)** for scoring student assignments. Midlothian teachers (76%) reported the highest use (most of the time) and Matoaca teachers reported the lowest use (40%). Teachers at other schools reported using rubrics most of the time at the sixty percent (60%) level.

The schedule does seem to have some impact on the amount, timing and type of assessments that are being used by teachers. For example, Semester Block teachers commented, "I have to test them every week; otherwise there's too much material." It

seems that "I use scantrons used more often because they are quicker." "Actually, the longer period better for exams because they have longer to take it, and students can ask questions before exam."

The longer class period was also seen as an advantage by some Alternating Block Teachers. For example, "I assess students differently than before...they can take the written part of a test and an application in one period; before it was spread out. They test better." "I can quiz more and that has helped me assess (I call them concept checks, they call them quizzes), but if they don't get the concepts, then we go back and I don't count that concept check so to me, because of the hour and a half, I've got to quiz them more frequently or else there's too much by the time we get to the test. That has worked very, very well for me."

Collegial Practices. Teaching in longer blocks of time is thought to provide opportunities for teachers to work more closely on the coordination and delivery of instruction. Tables nine A & B Report on the Perceptions of Instructional Practices: Teacher Relationships display teacher responses to the use of collegial discussion groups, team approaches to instruction, and integrating instruction across subject areas.

Table 9A & 9B about here

TABLE 9A **REPORT ON PERCEPTIONS OF TEACHER/TEACHER RELATIONSHIPS**

	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	H %	M %	N #	H %	M %	N #	H %	M %	N #	H %	M %	N #	H %	M %	N #	H %	M %
1 Teachers at my school form informal support/discussion groups. TEACHERS	92	33%	35%	88	26%	45%	67	34%	42%	73	36%	32%	51	29%	27%	61	33%	39%
2 Teachers at my school take a team approach to teaching. TEACHERS	93	20%	34%	90	26%	56%	63	22%	41%	66	11%	36%	50	6%	24%	60	15%	17%
3 Teachers at my school work to integrate instruction across subject areas. TEACHERS	92	10%	48%	89	27%	55%	66	21%	41%	72	10%	51%	49	8%	41%	58	12%	43%
4 Teachers work with students in individual study. STUDENTS	470	8%	27%	491	12%	32%	390	11%	30%	418	11%	34%	169	17%	37%	464	5%	27%
PARENTS	176	7%	26%	195	6%	33%	267	8%	35%	117	11%	37%	59	10%	32%	153	7%	18%
TEACHERS	93	22%	61%	91	23%	60%	66	20%	53%	76	34%	47%	52	31%	46%	62	34%	45%

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)

TABLE 9B **REPORT ON PERCEPTIONS OF TEACHER/TEACHER RELATIONSHIPS**

	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1 Generally, I am satisfied with the amount of interaction I have with my colleagues. TEACHERS	93	62%	22%	91	46%	30%	67	36%	45%	75	44%	35%	52	65%	23%	62	53%	27%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement. Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

The teacher responses indicates that for teachers at three of the four schools employing longer blocks of classroom time stronger collegial relationships are developing. For example, Clover Hill, and James River teachers Bird, report more that collegial practices such as forming informal discussion groups, team approaches to teaching and integrating instruction across subject areas to a higher degree than teachers at other schools. Contrasted to these schools,0 teachers at other schools remain isolated in individual approaches to their work. For example, teachers at Monacan (53%), Midlothian (68%) and Matoaca (70%) report that they seldom for informal support and discussion groups and take a team approach to teaching.

However, the responses for integrating the delivery of instruction are much more similar on this item than other teacher relationships items at all schools. Yet, Clover Hill (27%) and James River (21%) continue to report higher uses of integration of content across subject areas most of the time.

IMPACT OF SCHEDULES ON RELATIONSHIPS

The impact of scheduling models on the relationships of teachers, students and parents are discussed in this section of the report. The notion of relationships are displayed under two topics: 1) teacher - student relationships and 2) teacher - parent relationships.

Student/Teacher Relationships

The impact of scheduling models on the relationship of teachers and students is discussed in this section of the report. The quality of the relationships, teacher helpfulness, homework, attention spans, and knowledge of students are examined through the survey responses.

Significant Findings. Fifty seven significant findings were found related to teacher-student relationships. They are reported on Graph 5, Report on Significant Findings: Student/Teacher Relationships. In forty (40) of the comparisons students and parents in the Block schools were significantly more satisfied with teacher-student relationships than students and parents in schools using shorter class periods. For example,

Graph 5 about here

Feedback on Homework Tenth grade students at James River ($m=.3529$) and Monacan ($m=.3173$) are generally more satisfied with the feedback that teachers provide them on their homework than tenth graders at Midlothian ($m= -.2917$) and Bird ($m= -.0531$). Clover Hill tenth graders ($m=.2047$) are generally more satisfied with the feedback that teachers provide them on their homework than tenth graders at Midlothian ($m= -.2917$) ($F=7.9776$; $d.f.=5.608$; $e.s.=.0620$) ($F=7.9776$; $d.f.=5, 608$; $e.s.=.0620$).

GRAPH 5 | **REPORT ON SIGNIFICANT FINDINGS: STUDENT/TEACHER RELATIONSHIPS**

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN	
	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS
STUDENTS												
QUAL OF RELATIONSHIPS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
TEACHER HELPFULNESS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
HOMEWORK FEEDBACK	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
ATTITUDE TOWARDS TEACHERS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
STUDENT BOREDOM	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
PARENTS												
QUAL OF RELATIONSHIPS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
TEACHER HELPFULNESS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
TEACHERS												
TEACHER HELPFULNESS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
HOMEWORK AMOUNT	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
HOMEWORK FEEDBACK	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
KNOWLEDGE OF STUDENTS	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅	•••••	∅
SCHOOL TOTAL	10	7	5	6	15	13	14	6	5	9	9	16
	7 PERIOD ALTERNATING BLOCK				SEMESTER BLOCK				7 PERIOD SCHEDULE 6 PERIOD SCHEDULE			

MORE = MORE SATISFIED
 LESS = LESS SATISFIED
 P < .05, S.E.T.A. 2 > .05

As contrasted to student and parent satisfaction levels, no discernable advantage was noted for teachers in Block scheduled schools. In fact teachers at the traditional six period day school expressed higher degrees of satisfaction with student-teacher helpfulness than their colleagues at other schools. However, these levels of satisfaction were not validated by students in their school who expressed significantly lower degrees of satisfaction than students at other schools. For example,

Teachers at Midlothian ($m=3.4167$), Monacan ($m=3.2639$), and Matoaca ($m=3.1961$) report higher use of **feedback on student homework** than teachers at James River ($m=3.2639$) ($F=4.5974$; $d.f.=5, 425$; $e.s.=.0519$). English teachers at Monacan ($m=3.4167$), Midlothian ($m=3.2727$), and Bird ($m=3.1579$) report higher provision of feedback on student homework than English teachers at James River ($m=2.0000$) ($F=3.2910$; $d.f.=5, 72$; $e.s.=.1972$). Foreign Language teachers at Midlothian ($m=3.6667$) report providing feedback on their student's homework to a higher degree than Foreign Language teachers at James River ($m=2.5000$) ($F=2.4721$; $d.f.=5, 42$; $e.s.=.2504$). Practical Arts teachers at Midlothian ($m=1.2000$) are more satisfied with the feedback they provide students than Practical Arts teachers at Matoaca ($m=.3750$) ($F=3.1849$; $d.f.=5, 66$; $e.s.=.2070$).

Special education teachers at Bird ($m=2.6000$) report higher incidents of students **completing homework in school** than those at Matoaca ($m=.7500$) ($F=3.4013$; $d.f.=5, 26$; $e.s.=.4250$).

Teacher Effectiveness Math teachers at Matoaca ($m=1.3750$) report greater satisfaction with their **effectiveness as a teacher** than Math teachers at Monacan ($m=.7273$) ($F=2.2135$; $d.f.=5, 55$; $e.s.=.1812$).

Individual Study English teachers at Bird ($m=2.4737$) report working with students in **individual study** more often than English teachers at James River ($m=1.5000$) ($F=3.4692$; $d.f.=5, 72$; $e.s.=.2057$). Special education teachers at Midlothian ($m=3.6000$) and Matoaca ($m=3.5000$) report they work with students individual study more often than special education teachers at Monacan ($m=2.0000$). Midlothian special education teachers also report working with students in individual study more often than special education teachers at Bird ($m=2.3333$) ($F=4.7667$; $d.f.=5, 28$; $e.s.=.5089$).

Attention Spans. Tenth grade students at Bird ($m=2.6379$) and Midlothian ($m=2.6020$) report they are **bored in their classes** more often than tenth grade students at Clover Hill ($m=2.0630$), James River ($m=2.1087$), and Monacan ($m=2.1442$) ($F=9.4046$; $d.f.=5, 615$; $e.s.=.0716$)

Knowledge of Students. Performing Arts teachers at Midlothian ($m=2.0000$) report greater agreement with knowing their students strengths and weaknesses than Performing Arts teachers at James River ($m=.3333$) ($F=2.7072$; $d.f.=5, 24$; $e.s.=.4160$).

Quality of Relationships. Parents at James River ($m=.9318$) and Monacan ($m=.8777$) are more satisfied with the quality of the relationship between their children and their teachers than parents at Midlothian ($m=.4107$), Matoaca ($m=.4545$) and Bird ($m=.4752$). Parents at James River are also more satisfied than parents at Clover Hill ($m=.6143$) ($F=11.4686$; $d.f.=5, 1092$; $e.s.=.0501$).

Tenth graders at James River ($m=.6569$), Monacan ($m=.6168$), and Clover Hill ($m=.5391$) are more satisfied with the quality of relationships with their teachers than tenth graders at Matoaca ($m= -.1471$). James River and Monacan tenth graders are also more satisfied with the quality of their relationship with their teachers than tenth graders at Midlothian ($m=.1856$). Additionally, James River tenth graders are more satisfied with the quality of their relationship with their teachers than tenth graders at Bird ($m=.2845$) ($F=6.8202$; $d.f.=5, 618$; $e.s.=.0527$).

Science teachers at Monacan ($m=1.5000$) are more satisfied with the quality of their relationship with their students than science teachers at Clover Hill ($m=.7500$) ($F=2.2409$; $d.f.=5, 56$; $e.s.=.1801$).

Teacher Helpfulness. Parents at James River ($m=.5017$) and Monacan ($m=.5115$) are more satisfied with the help their children receive from their teachers than parents at Bird ($m= -.0408$) and Midlothian ($m=.0819$). James River is also significantly more satisfied

than and Matoaca ($m=.0952$) and Clover Hill ($m=.2180$) ($F=10.8971$; $d.f.=5, 1064$; $e.s.=.0489$).

Tenth graders at Clover Hill ($m=.5039$), James River ($m=.4818$) and Monacan ($m=.4245$) are generally more satisfied with the help that teachers give them than tenth graders at Bird ($m= -.1552$) and Midlothian ($m= -.0842$) ($F=11.0189$; $d.f.=5, 614$; $e.s.=.0830$).

English teachers at Midlothian ($m=1.3636$) are more satisfied with the help they give their students than English teachers at James River ($m=.1000$) ($F=3.2866$; $d.f.=5, 71$; $e.s.=.1993$).

Descriptive Findings. Homework practices are reported in Tables 10A & B, Report on Perceptions of Instructional Practices: Homework. Survey respondents were asked to report their satisfaction with the amount of homework, feedback on homework provided, and the ability of students to complete homework in school.

Table 10 A & 10B About Here

TABLE 10A | **REPORT ON PERCEPTIONS OF INSTRUCTIONAL PRACTICES: HOMEWORK**

INSTRUCTION: HOMEWORK	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1	Generally, I am satisfied with the amount of homework teachers assign students.																	
STUDENTS	474	36%	35%	493	32%	32%	397	48%	24%	422	50%	26%	170	52%	25%	462	33%	35%
PARENTS	200	54%	23%	206	61%	21%	300	66%	23%	135	67%	21%	63	68%	17%	170	59%	19%
TEACHERS	93	87%	6%	90	83%	17%	66	86%	14%	75	89%	5%	51	78%	10%	62	90%	3%
2	Generally, I am satisfied with the feedback teachers provide on student homework.																	
STUDENTS	466	34%	26%	489	35%	25%	391	44%	19%	417	41%	22%	170	46%	22%	457	23%	40%
PARENTS	193	20%	53%	196	30%	42%	278	40%	35%	128	31%	34%	65	35%	45%	160	26%	54%
TEACHERS	88	78%	22%	89	71%	29%	65	69%	31%	74	80%	20%	50	70%	30%	60	92%	3%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement. Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

TABLE 10B | **REPORT ON PERCEPTIONS OF INSTRUCTIONAL PRACTICES: HOMEWORK**

INSTRUCTION: HOMEWORK	BIRD				CLOVER HILL				JAMES RIVER				MONACAN				MATOACA				MIDLOTHIAN			
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %
1 Students are able to complete their homework in school.	472	20%	33%	47%	493	21%	30%	49%	396	25%	27%	48%	423	31%	30%	39%	172	31%	34%	35%	465	21%	36%	43%
STUDENTS																								
PARENTS	199	24%	37%	39%	215	23%	40%	36%	311	23%	41%	36%	140	30%	40%	30%	65	37%	51%	12%	172	27%	32%	41%
TEACHERS	86	19%	29%	52%	88	15%	26%	59%	63	11%	27%	62%	70	11%	39%	50%	49	10%	33%	57%	59	8%	44%	47%
2 Teachers provide feedback on student homework.																								
STUDENTS	412	10%	33%	58%	486	42%	34%	25%	386	45%	33%	22%	415	44%	30%	26%	168	40%	33%	27%	458	28%	35%	37%
PARENTS	189	19%	31%	50%	190	29%	31%	41%	272	29%	34%	37%	118	25%	39%	36%	60	27%	33%	40%	151	21%	32%	46%
TEACHERS	90	77%	18%	6%	90	78%	20%	2%	63	65%	27%	8%	72	83%	17%	0%	51	82%	12%	6%	60	88%	7%	5%

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

On the one hand, teachers at Midlothian (90%), Bird (87%), and Clover Hill (86%) are highly satisfied with the amount of homework they assign students, while their students are relatively dissatisfied. On the other hand, teachers at James River (86%), Monacan (89%), and Matoaca (78%) are highly satisfied with their homework, and so are their students. Parent satisfaction levels are relatively satisfied at all schools; lower than teacher levels and higher than student levels of satisfaction.

The focus group and written comments indicate that students at Block schools that homework is not any less difficult, but that only having to deal with three classes every day or four classes a semester enables them to have less homework per night than having five classes every day. For example, a Semester Block student relates, "It's a lot easier in one semester, and you get more done in two hours and less homework. It's not less homework in a class, but it's less because you've only got 4 classes." A Alternating Block student related "It feels like you have shorter day. It goes by better. With only four classes to deal with; less homework every night; have a "buffer day"." A Six Period Day student related, "On a regular night, I have 2 to 2 1/2 hours of homework."

For many Block school students, even though there may be less homework on a given night for students there is definitely more responsibility on students to manage their time. Whereas a student in an Alternating Block school related, "they were talking about there being more time to manage things, but for me there's more time to put it off; I mean if

you know you're going to have an odd day to do the homework, you mess yourself up because you learn something on the odd days, but you have to do the homework on the even days instead of the next day..." On the other hand, another student said, "When you have homework, and a job, it's a lot easier to manage your time."

The data indicate that most teachers and students that teachers at all schools believe that students seldom can complete their homework at school. Yet, the practice of at least starting homework in school for some students may have some merit. For example, several teachers pointed out, "I found that with some kids, if they start it in class, the odds of getting it complete are so much greater." On the other hand, as one teacher related, "The issues of students not doing homework were there long before block scheduling."

Homework Feedback. Two questions were asked to elicit respondent views on homework feedback. Respondents were first asked about their satisfaction with the feedback teachers provide on student homework. The responses indicate that student's are relatively satisfied with the feedback they receive on homework at Matoaca (46%), James River (44%), Monacan (41%). Parents, however, are less satisfied with feedback they perceive their children receiving on homework assignments. Student satisfaction is somewhat less at Bird (34%) and Clover Hill (35%). On the other hand, a significant perceptual difference occurs at Midlothian, Forty percent (40%) of the students, and fifty four percent (54%) of the parents are dissatisfied with the amount of feedback they

receive from teachers. Conversely, ninety two percent (92%) of the teachers at Midlothian are satisfied with the amount of homework they provide students.

The second question to respond to how often teachers provide feedback on student homework. Teachers at Bird (77%) and Midlothian (88%) believe they provide feedback on homework most of the time. Conversely, fifty eight percent (58%) of the students at Bird and thirty seven percent (37%) of the students at Midlothian responded that teachers seldom or never provide feedback on homework. Parent responses at these two schools are similar to their children's. On the other hand, while teachers at Clover Hill, James River, Monacan and Matoaca respond that they provide feedback on student homework to a higher degree, students at these schools also report higher feedback on student homework. Parents at these schools report somewhat less often that teachers provide homework most of the time.

Attention Spans. In several of the teacher focus groups at non Blocked schools a concern with the impact of the schedule on student attention spans was expressed. In fact, it was reported by students at the Six Period Day school that some parents were not supportive of their child going to a semester block school because they questioned their child's ability to remain attentive and interested in their classes. While most of these comments came from schools not utilizing one of the block schedules, some schools which recently went to the block also indicate concerns in this area.

Student attention spans were the focus of three statements on the surveys. The responses are found on Table eleven, Report on Perceptions of Student Interest and Attention. The following interpretations were made.

Table 11 about here

In the Semester Block schools, students, teachers, and parents believe student problems with attention and interest in their classes occur sometime or seldom. For example, at James River, eighty two percent (82%) of the students, ninety five percent (95%) of the parents, and ninety six percent (96%) of the teachers responded that students experience problems with attention in class sometime or seldom. The responses for students experiencing problems with interest in class similar for each group (sometime or seldom). At Monacan, seventy eight percent (78%) of the students, ninety percent (90%) of the parents, and one hundred percent (100%) of the teachers responded that students experience problems with attention in class sometime or seldom.

Students believe they are bored in class more often than parents and teachers. For example, at James River, thirty two percent (32%) of the students, seventeen percent (17%) of the parents and 2% of the teachers believe students appear bored in class most of the time. At Monacan, thirty seven percent (37%) of the students, fourteen percent (14%) of the parents, and no teachers believe students appear bored in class most of the time.

TABLE 11

REPORT ON PERCEPTIONS OF STUDENT INTEREST AND ATTENTION

INSTRUCTION:	BIRD				CLOVER HILL				JAMES RIVER				MONACAN				MATOACA				MIDLOTHIAN			
	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %	N #	H %	M %	L %
1	Students experience problems with attention in classes.																							
STUDENTS	470	33%	35%	31%	42%	20%	38%	42%	396	18%	40%	42%	422	23%	42%	36%	170	24%	34%	42%	465	28%	39%	39%
PARENTS	200	17%	34%	50%	50%	12%	38%	50%	301	5%	34%	61%	137	10%	30%	60%	63	11%	44%	44%	170	12%	41%	48%
TEACHERS	93	4%	61%	34%	35%	7%	58%	35%	66	5%	61%	35%	74	0%	57%	43%	52	4%	50%	46%	58	3%	57%	40%
2	Students experience problems with student interest in my classes.																							
STUDENTS	470	31%	40%	29%	34%	20%	47%	34%	395	18%	40%	42%	422	22%	42%	36%	171	30%	37%	32%	461	34%	44%	22%
PARENTS	201	17%	45%	38%	42%	14%	44%	42%	309	6%	41%	53%	134	10%	35%	55%	62	8%	60%	32%	171	16%	50%	34%
TEACHERS	92	2%	55%	42%	41%	3%	56%	41%	67	1%	55%	43%	75	3%	52%	45%	52	8%	44%	48%	60	3%	55%	42%
3	Students appear bored in class.																							
STUDENTS	474	46%	42%	13%	17%	32%	52%	17%	396	33%	48%	19%	419	37%	42%	21%	168	40%	42%	18%	465	50%	42%	8%
PARENTS	199	21%	53%	27%	36%	17%	47%	36%	309	7%	45%	48%	140	14%	46%	41%	64	11%	58%	31%	166	19%	50%	31%
TEACHERS	94	0%	55%	45%	43%	2%	55%	43%	66	3%	53%	45%	74	0%	45%	55%	52	4%	46%	50%	60	3%	47%	50%

N = number, H = high (always / most of the time), M = medium (sometimes), L = low (seldom / never)
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

In the Alternating Block schools, the results are mixed. For example, at Bird sixty six percent (66%) of the students, and eighty four percent (84%) of the parents believe that student attention in their classes occurs some of the time or seldom. Thirty three percent (33%) of the students at Bird report problems with attention in classes. Similar responses by both groups of respondents were made regarding student interest in class. At Clover Hill, eighty one percent (81%) of the students, and eighty eight percent (88%) of the parents believe that student attention in their classes occurs some of the time or seldom. Similar results were recorded regarding student interest in their classes. On the other hand, teachers at both of these schools report few problems with student attention and interest in classes. For example, ninety six percent (96%) of the teachers at Bird experience problems with student attention in class some time, or seldom. Clover Hill teachers (93%) report similar lack of problems with student attention in class. There perceptions on problems with student interest in class are similar to their perceptions of student attention in class.

As with the Semester Block schools, students in the Alternating Block schools perceive that they are bored in their classes more often than parents and teachers. For example, at Bird forty six percent (46%) of the students, twenty one percent (21%) of the parents, and no teachers perceive students to be bored in class most of the time. At Clover Hill, thirty two percent (32%) of the students, seventeen percent (17%) of the parents, and 2% of the teachers perceive students to be bored in class most of the time.

At the seven period day school seventy six percent (76%) of the students, eighty eight percent (88%) of the parents, and ninety six percent (96%) of the teachers believe that students experience problems with attention in class some of the time or seldom. However, students appear to be experiencing problems with interest in school to a greater degree than attention in class. For example, at Matoaca thirty percent (30%) of the students responded most of the time to this statement. On the other hand, parents (8%) and teachers (8%) do not perceive lack of interest in classes as often as students.

As with other schools in this study, students in the seven period day school perceive that they are bored in their classes more often than parents and teachers. For example, forty percent (40%) of the students believe they are bored in class most of the time as contrasted to eleven percent (11%) of the parents, and 4% of the teachers.

At the six period day school, responses on problems with student attention in class are similar to other schools in the study. However, thirty four percent (34%) of the students at Midlothian, sixteen percent (16%) of the parents, and three (3%) of the teachers believe that students are experiencing problems with interest in their classes.

The differences are more pronounced on students appearing to be bored in classes. For example, at Midlothian fifty percent (50%) of the students, nineteen percent (19%) of the parents, and three (3%) of the teachers perceive student as bored in class. The results

on this question are more similar to Matoaca and Bird results than Clover Hill, James River and Monacan results.

Several comments from the focus groups help put student attention spans into context. For example, a Alternating Block Teacher related, "I'm not finding that the 1 1/2 hours has been any problem as far as attention because it also gives us time to do group work, discussion work and then come back together as a class instead of dividing all of those factors up into 2-3 days because that creates more of a problem with absences, those who miss the beginning of a unit, and the other thing is that special ed was mentioned..."

A Semester Block teacher relates, "It's very difficult to deal with lower levels in a block of time like this. Many of them require a great deal of attention which they would get one way or another. It's very taxing and challenging to...try to answer their emotional needs and to try to shift gears academically to make transitions between things. [Interviewer -is it the same under either schedule?] Just more agonizing for them under 85 minutes, but for lower level, I think...although I have a lower level AP science class and they're not having a problem with that. But they're older kids. Another Semester Block teacher adds a different picture on the effect of longer classes on lower achieving students, "I think the schedule is very beneficial for lower ability kids; fewer failures; fewer students going to summer school; fewer teachers, fewer subject area help kids, especially kids who have done poorly in the past." Another perspective is, "86 minute classes - depends on subject matter whether kids like classes or not." Semester Block

student offer, "the best thing about this schedule is that you get all your classes done in one semester. You don't get as bored at the end of the year...distracted by the end of the year, summertime." "Well, you still might be a little bit bored with school but at least you're into new content, new and different subjects and teachers. A Semester Block special education parent commented that "I think it's been good for him -- it would have been harder for the teachers to get to know the accommodations he needed. Having him longer, I think they know when they're losing him and when has to walk around. I really thought he'd never make a 90-minute period, but he's actually...it has helped his attention span. He can sit through church now for a whole hour now."

On the other hand, even in classrooms with shorter class times attention spans are a concern, particularly for students. For example, "My schedule is so predictable and repetitive, it gets boring. We do the same thing every single day." "My [] teacher is teaching the same stuff, the same style, everything. She might add new stuff, but it's just boring. She makes class period seem like it's still 55."

The data suggest, that students in schools with shorter class times rather than long class times report higher levels of boredom in their classes. For students, boredom equates with whole class lecture, and whole class lecture is used more often by teachers in schools where shorter class periods are used.

Teacher Effectiveness/Helpfulness. Across all schools teachers are more satisfied with their effectiveness than students and parents. While the data show few patterns, it is apparent that in four schools, students view teachers as relatively effective. For example, James River (59%), Matoaca (53%), Monacan (53%) and Clover Hill (50%) view teachers as more effective than Bird (41%) and Midlothian (38%). With few exceptions parental views on this statement mirror those of their children.

In regard to the amount of help teachers give students, the same pattern described above is evident. Teachers at all schools are more satisfied with the amount of help they give students. Students at James River (54%), Monacan (51%), Matoaca (47%) and Clover Hill (45%) are relatively more satisfied with teacher helpfulness than students at Bird (36%) and Midlothian (31%).

An assumption of scheduling students into larger blocks of time is that student teacher relationships will be enhanced. Table twelve, Report on Perceptions of Student-Teacher Relationships, provide respondents views on the quality of relationships, student attitudes towards teachers, and teacher knowledge of student strengths and weaknesses.

Table 12 About Here

TABLE 12 | **REPORT ON THE PERCEPTIONS OF STUDENT/TEACHER RELATIONSHIPS**

HELPLESSNESS	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1	I am satisfied with the effectiveness of teachers.																	
STUDENTS	466	41%	21%	489	50%	15%	397	59%	13%	419	52%	16%	171	53%	18%	456	38%	26%
PARENTS	201	48%	24%	214	55%	19%	299	72%	9%	134	63%	13%	63	59%	17%	168	54%	22%
TEACHERS	93	88%	4%	90	91%	4%	67	88%	4%	75	84%	5%	51	92%	0%	62	97%	0%
2	Generally, I am satisfied with the amount of help teachers give students.																	
STUDENTS	470	36%	29%	493	45%	19%	393	54%	16%	419	51%	22%	171	47%	22%	460	31%	31%
PARENTS	196	38%	35%	211	48%	25%	293	59%	14%	131	57%	14%	63	43%	32%	171	42%	29%
TEACHERS	94	80%	5%	91	77%	10%	67	79%	9%	75	88%	5%	51	78%	8%	61	93%	0%
3	Generally, teachers know the strength and weaknesses of their students.																	
STUDENTS	448	46%	29%	473	56%	18%	375	58%	18%	406	46%	28%	169	54%	22%	450	44%	28%
PARENTS	185	49%	27%	206	61%	21%	265	65%	16%	125	62%	16%	63	59%	17%	160	55%	26%
TEACHERS	94	87%	3%	91	90%	1%	67	85%	1%	75	89%	1%	51	96%	2%	62	97%	0%
4	Generally, teachers and students have quality relationships.																	
STUDENTS	473	52%	18%	494	56%	13%	395	66%	11%	419	58%	13%	171	58%	18%	464	42%	23%
PARENTS	202	62%	19%	210	63%	10%	308	81%	8%	139	79%	6%	66	58%	18%	168	59%	20%
TEACHERS	94	96%	3%	91	87%	2%	67	90%	0%	74	97%	1%	52	92%	2%	62	94%	0%
5	Student attitude toward teachers is positive.																	
STUDENTS	472	66%	10%	492	72%	8%	394	78%	7%	419	71%	8%	171	67%	12%	462	60%	17%
PARENTS	202	67%	16%	217	80%	8%	309	85%	5%	139	75%	9%	66	65%	17%	169	72%	15%
TEACHERS	94	96%	2%	91	96%	1%	67	93%	0%	70	92%	0%	50	92%	8%	61	92%	0%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

The responses on teachers knowing the strength and weaknesses of their students indicate that teachers at all schools are relatively sure they know the strengths and weaknesses of their students. Parents' perceptions, although lower than teachers, are relatively positive that teachers know the strength and weaknesses of their students. However, students' views vary in strength by school with no particular advantage to any scheduling option.

At all schools student attitudes regarding their teachers were seen positive by students, parents, and teachers at all schools. In the area of quality relationships, the responses at all schools demonstrate that quality relationships between teachers and students exist.

Considering the relative similarity among responses from all schools irrespective of the schedule being used, the focus group comments provide helpful insights. A Alternating Block teacher commented, "People in my department said please let them know-- we're ones who are more able to get around the room and help individuals than we would be in the shorter time period."

IMPACT OF SCHEDULES ON STUDENT PERFORMANCE

The impact of scheduling models on student performance was explored through the survey responses, focus group comments, and statistical data provided by the Chesterfield County Public schools.

Significant Findings. As in previous sections, the schools were compared statistically to determine if there were significant differences in how individuals responded to survey items. Graph 6, Report on Significant Findings: Achievement displays the significant findings related to respondent perceptions regarding student achievement.

Graph 6 about here

There were ninety two (92) significant findings when responses were inferentially compared on the achievement related survey items. Of the ninety two significant findings thirty four (34) of them were attributed to teachers, nine were attributed to parents, and forty nine significant comparisons were found among students at different schools.

As the findings in Graph 6 portrays, Block schedule schools (except Bird) respondents are more satisfied that learning is significantly being impacted by their school schedule than those at schools using shorter class periods. For example, the results of the significant comparisons, when aggregated at the school level, indicate that Clover Hill, James River and Monacan received seventy three (73) of the ninety two (92) more satisfied comparisons.

In fact, at Clover Hill there is a strong convergence of student, parent and teacher agreement that learning is being positively affected. However, the greater satisfaction levels at James River and Monacan are attributed to significantly more satisfied parents and students at these schools perceiving learning is being positively affected.

On the other hand, Bird and Midlothian received sixty seven (67) of the less satisfied comparisons. In the case of Bird, the less satisfied comparisons are evenly divided among students (18) and teachers (19). In total, Bird received forty two (42) of the ninety two less satisfied comparisons. In the case of Midlothian, results are being depressed by the less satisfied comparisons of students with their peers at other schools. The significant comparisons that support this analysis are listed below for your review.

Grades. Teachers at Monacan ($m=.9028$), James River ($m=.8209$), Clover Hill ($m=.6813$) and Midlothian ($m=.6557$) are more satisfied with their students achievement as reflected in their grades than teachers at Bird ($m=.1398$) ($F=8.0527$; $d.f.=5, 435$; $e.s.=.0856$).

- In particular, Math teachers at Midlothian ($m=1.0000$) are more satisfied with the achievement of their students as reflected in their grades than Math teachers at Bird ($m= -.1111$) ($F=2.2779$; $d.f.=5, 53$; $e.s.=.1918$).

- Practical Arts teachers at Monacan ($m=1.2143$) are more satisfied with the achievement level of their students as reflected in their grades than Practical Arts teachers at Bird ($m=.3529$) ($F=2.8966$; $d.f.=5, 72$; $e.s.=.1778$).
- English teachers at Clover Hill ($m=.7143$) are more satisfied with their achievement levels of their students as reflected in their grades than English teachers at Bird ($m= -.5263$) ($F=3.0761$; $d.f.=5, 72$; $e.s.=.1867$).
- Science teachers at Monacan ($m=1.3333$) are more satisfied with the achievement levels of their students as reflected in their grades than Science teachers at Matoaca ($m=.0000$) ($F=3.8553$; $d.f.=5, 55$; $e.s.=.2783$).

Parents at James River ($m=.9013$), Monacan ($m=.8421$) and Clover Hill ($m=.4885$) report that they are satisfied with their students achievement as reflected in their grades to a higher degree than parents at Bird ($m=.1449$). Parents at James River and Monacan report that they are satisfied with their students achievement as reflected in their grades to a higher degree than parents at Matoaca ($m=.2698$) and Midlothian ($m=.2832$). Also, James River parents are more satisfied with achievement as reflected in their students' grades than Clover Hill ($F=14.3595$; $d.f.=5, 1096$; $e.s.=.0617$).

Students at Monacan ($m=.7643$) and James River ($m=.6884$) report that they are satisfied with their achievement as reflected in their grades to a higher degree than

students at Midlothian ($m=.7643$), Bird ($m=.0511$), Matoaca ($m=.3333$) and Clover Hill ($m=.3984$). Students at Clover Hill report that they are satisfied with their grades as reflected in their grades to a higher degree than students at Bird and Midlothian. Students at Matoaca report that they are satisfied with their achievement as reflected in their grades to a higher degree than students at Midlothian ($F=30.0784$; $d.f.=5, 2406$; $e.s.=.0590$).

- In particular, ninth grade students at Monacan ($m=.6937$) and James River ($m=.6496$) report more satisfaction with their achievement as reflected in their grades than ninth graders at Midlothian ($m= -.2212$) and Bird ($m=.1048$) ($F=7.7667$; $d.f.=5, 653$; $e.s.=.0565$).
- Tenth grade students at Monacan ($m=.7570$), James River ($m=.7391$) and Clover Hill ($m=.4766$) all report higher satisfaction with their achievement as reflected in their grades than tenth graders at Matoaca ($m= -.2647$), Midlothian ($m= -.0714$) and Bird ($m=.0086$) ($F=11.3551$; $d.f.=5, 620$; $e.s.=.0845$).
- Eleventh grade students at James River ($m=.6748$), Monacan ($m=.5730$) and Clover Hill ($m=.3889$) report higher satisfaction with their achievement as reflected in their grades than eleventh grade students at Midlothian ($m= -.2688$) and Bird ($m= -.2150$) ($F=11.7343$; $d.f.=5, 574$; $e.s.=.0935$).
- Twelfth grade students at Monacan ($m=.9912$) report greater satisfaction with their grades than twelfth grade students at Bird ($m=.2623$), Midlothian ($m=.3057$) and Clover Hill ($m=.4065$) ($F=8.7697$; $d.f.=4, 555$; $e.s.=.0599$).

Learning as Much. Foreign Language teachers at Clover Hill ($m=.9091$) report they are more satisfied that their students are learning as much this year as last year than Foreign Language teachers at James River ($m= -.8571$) and Monacan ($m= -.8000$) ($F=4.3201$; $d.f.=5, 37$; $e.s.=.4030$). Math teachers at Midlothian ($m=1.2222$) report they are more satisfied that their students are leaning as much this year as last year than Math teachers at Bird ($m= -.4444$) ($F=2.1544$; $d.f.=5, 53$; $e.s.=.1833$). Practical Arts teachers at Monacan ($m=1.5000$) report that they are more satisfied that their students are learning as much this year as last year than Practical Arts teachers at Bird ($m=.4375$) ($F=3.3603$; $d.f.=5, 67$; $e.s.=.2132$). Performing Arts teachers at Clover Hill ($m=1.6667$) and Bird ($m=1.5000$) report that they are more satisfied that their students are learning as much this year as last year than performing arts teachers at James River ($m= -1.0000$) ($F=4.7965$; $d.f.=5, 20$; $e.s.=.6152$). English teachers at Matoaca ($m=1.2857$), Clover Hill ($m=.7143$), and Midlothian ($m=.4545$) are more satisfied that their students are learning as much this year as last year than English teachers at Monacan ($m= -1.0000$). English teachers at Matoaca and Clover Hill are more satisfied that their students are learning as much this year as last year than English teachers at James River ($m= -.6000$) ($F=6.2478$; $d.f.=5, 72$; $e.s.=.3180$).

Learning as much as they should be. English teachers at Matoaca ($m=.8571$) and Midlothian ($m=.6364$) are more satisfied that their students are learning as much as they should be this academic year than English teachers at Monacan ($m= -.5455$) ($F=4.1976$; $d.f.=5, 71$; $e.s.=.2413$). Science teachers at Monacan ($m=1.2222$) are more satisfied that

their students are learning as much as they should be this academic year than Science teachers at Matoaca ($m = -.2000$) and Clover Hill ($m = .0000$) ($F = 3.7423$; $d.f. = 5, 55$; $e.s. = .2723$).

Tenth grade students at James River ($m = .7727$) and Monacan ($m = .5888$) report they are learning as much as they should be this academic year more than tenth grade students at Bird ($m = .1239$). James River tenth grade students also report more satisfaction with their learning rate this academic year than tenth grade students at Matoaca ($m = .1765$), Midlothian ($m = .2717$), and Clover Hill ($m = .4080$) ($F = 7.0238$; $d.f. = 5, 602$; $e.s. = .0666$).

Quality of Learning. Math teachers at Midlothian ($m = 1.2000$), Matoaca ($m = 1.1250$), and Monacan ($m = 1.0000$) are more satisfied with the quality of their students learning than Math teachers at Bird ($m = .0000$) ($F = 4.0000$; $d.f. = 5, 55$; $e.s. = .2857$).

Tenth grade students at James River ($m = .7299$) and Monacan ($m = .6449$) are generally satisfied with the quality of what they are learning more than tenth grade students at Bird ($m = .2174$) and Midlothian ($m = .2347$). James River tenth grade students are also more satisfied with the quality of their learning than tenth grade students at Matoaca ($m = .1765$) ($F = 6.7811$; $d.f. = 5, 617$; $e.s. = .0525$).

Completion Rates. Teachers at Midlothian ($m = .8710$), Monacan ($m = .7067$), Matoaca ($m = .6471$) and Clover Hill ($m = .5824$) report greater satisfaction with their students rate

of completion of their work than teachers at Bird ($m=.1957$) ($F=5.3438$; $d.f.=5, 435$; $e.s.=.0585$). Practical Arts teachers at Midlothian ($m=1.3000$) report greater satisfaction with their students rate of completion of their work than teachers at Bird ($m=.1765$) ($F=3.0951$; $d.f.=5, 72$; $e.s.=.1876$). English Teachers at Midlothian ($m=.8182$) and Clover Hill ($m=.6429$) report greater satisfaction that their students rate of completion of their work than teachers at Bird ($m= -.3158$) ($F=2.9066$; $d.f.=5, 72$; $e.s.=.1782$). Science teachers at Midlothian ($m=1.0000$) and Monacan ($m=1.0000$) are more satisfied with their students rate of completion of their work than science teachers at science teachers at Clover Hill ($m=.0000$) ($F=3.5398$; $d.f.=5, 56$; $e.s.=.2576$).

Eleventh grade students at James River ($m=.6446$), Matoaca ($m=.6364$) and Clover Hill ($m=.5140$) are more satisfied with the completion rate of their work than eleventh grade students at Bird ($m=.0849$). James River and Matoaca eleventh graders are also more satisfied with the completion rate of their work than eleventh graders at Midlothian ($m=.1474$) ($F=6.1793$; $d.f.=5, 571$; $e.s.=.0518$).

Learning Important Concepts. Foreign Language teachers at Clover Hill ($m=1.0000$) are more satisfied that their students are mastering important concepts than Foreign Language teachers at Monacan ($m= -.4000$) ($F=2.9580$; $d.f.=5, 41$; $e.s.=.2912$).

Tenth grade students at James River ($m=.8409$) and Monacan ($m=.7048$) are more satisfied that they are mastering important concepts than tenth grade students at

Midlothian ($m=.1959$) and Bird ($m=.2589$). Clover Hill ($m=.5781$) tenth graders are more satisfied that they are mastering important concepts than tenth grade students at Midlothian ($F=9.0590$; $d.f.=5, 605$; $e.s.=.0702$).

Indepth Understanding of Subject. English teachers at Clover Hill ($m=.7857$) are more satisfied that their students are gaining an indepth understanding of the subject matter than English teachers at Monacan ($m= -.3636$) ($F=3.3320$; $d.f.=5, 71$; $e.s.=.2015$).

Achievement: Descriptive Findings. The surveys contained eight statements which assessed the participants beliefs regarding the amount of learning being attained by students at each of the schools. They were asked to respond to their satisfaction with achievement as reflected in grades, the mastery of important concepts, the depth of understanding being achieved, their ability to apply new information, the quality of learning, the amount of learning as compared to last year, and whether they are learning as much as they should be this academic year. Table thirteen, A Report on Perceptions of Student Performance: Achievement reports the perceptions of the respondents on these questions.

Table 13 about here

TABLE 13

REPORT ON PERCEPTIONS OF STUDENT PERFORMANCE ACHIEVEMENT

PERFORMANCE: ACHIEVEMENT	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1 I am satisfied with student achievement as reflected in grades.																		
STUDENTS	470	41%	36%	487	54%	24%	398	63%	18%	420	68%	24%	171	50%	29%	481	41%	36%
PARENTS	207	53%	36%	217	61%	24%	304	76%	12%	133	74%	18%	63	52%	33%	173	58%	34%
TEACHERS	93	45%	31%	91	68%	8%	67	78%	4%	72	78%	22%	52	56%	23%	61	72%	13%
2 Generally, I am satisfied that students are learning as much this year as last year.																		
STUDENTS	483	44%	28%	481	58%	14%	395	64%	15%	418	50%	22%	169	51%	21%	454	48%	17%
PARENTS	196	51%	23%	207	60%	14%	290	65%	19%	126	67%	24%	61	61%	20%	164	62%	21%
TEACHERS	88	53%	31%	89	74%	10%	61	57%	28%	69	59%	28%	49	57%	22%	59	78%	10%
3 Generally, I am satisfied that students are mastering important concepts.																		
STUDENTS	461	51%	15%	482	53%	11%	386	65%	7%	415	58%	10%	164	59%	10%	453	44%	20%
PARENTS	198	58%	15%	209	70%	7%	295	79%	6%	129	73%	11%	61	72%	10%	168	68%	13%
TEACHERS	93	69%	13%	91	81%	4%	67	75%	25%	75	83%	7%	52	77%	23%	61	87%	2%
4 Generally, I am satisfied that students are gaining an indepth understanding of subject matter in his/her classes.																		
STUDENTS	467	48%	18%	489	55%	12%	387	62%	10%	420	50%	16%	168	54%	20%	456	43%	22%
PARENTS	195	51%	25%	211	58%	17%	294	65%	16%	128	63%	17%	65	54%	23%	161	56%	24%
TEACHERS	94	53%	28%	90	66%	8%	67	55%	18%	73	60%	19%	51	53%	25%	62	58%	37%
5 Generally, I am satisfied that students are learning as much as he/she should be this academic year.																		
STUDENTS	459	42%	25%	473	58%	18%	385	66%	15%	418	55%	17%	168	48%	24%	447	41%	26%
PARENTS	197	40%	34%	203	48%	28%	281	60%	23%	128	56%	29%	65	45%	32%	157	48%	35%
TEACHERS	94	47%	30%	91	56%	18%	68	55%	23%	74	59%	27%	52	60%	23%	61	75%	8%
6 Generally, I am satisfied that students can apply what he/she has learned.																		
STUDENTS	469	50%	18%	485	53%	14%	392	68%	10%	417	58%	11%	169	63%	10%	454	50%	22%
PARENTS	202	60%	18%	211	68%	10%	298	75%	7%	130	71%	8%	62	61%	11%	169	70%	15%
TEACHERS	92	58%	15%	91	75%	7%	67	69%	31%	75	71%	7%	51	67%	16%	61	72%	8%
7 Generally, I am satisfied with the quality of what students learn.																		
STUDENTS	470	43%	19%	487	53%	12%	391	66%	11%	419	57%	14%	168	51%	19%	459	42%	19%
PARENTS	201	51%	25%	211	61%	18%	298	72%	13%	133	65%	17%	62	65%	27%	170	55%	22%
TEACHERS	94	64%	20%	91	77%	9%	67	70%	7%	75	80%	20%	51	65%	35%	62	89%	3%
8 Generally, I am satisfied with the completion rate of my students work.																		
STUDENTS	470	46%	23%	480	58%	14%	395	64%	9%	419	63%	13%	168	65%	12%	459	50%	16%
PARENTS	202	59%	21%	208	69%	11%	295	79%	9%	132	68%	12%	65	58%	15%	170	66%	16%
TEACHERS	92	41%	23%	91	65%	13%	65	65%	14%	75	69%	11%	51	67%	12%	62	84%	6%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Satisfaction with grades. Students, teachers, and parents were asked if they were satisfied with achievement as reflected in grades. Teachers, and parents answered most favorably to this questions at three of the schools using longer class periods. For example, the levels of satisfaction on this item reported by James River teachers (78%), parents (76%) and students (63%), and Monacan teachers (78%), parents (74%), and students (68%) were closely followed by Clover Hill's teachers (68%), parents (61%), and students (54%) as the highest among the six schools. At Midlothian, a divergence of opinion was expressed as satisfaction levels fluctuated among teachers (72%), parents (56%), and students (41%). At Bird, the results were flat with teachers (45%) and students (41%) expressing dissatisfaction with achievement as reflected in grades.

The highest levels of student satisfaction with achievement as reflected in grades occurs in the semester block schools. At every grade level, ninth through twelfth, student satisfaction reaches over sixty percent on this measure.

At the alternating block schools, the message is inconsistent. At Clover Hill student satisfaction at every grade level is above the fifty percent mark. Whereas, at Bird student satisfaction levels are in the low forty percent levels.

At the seven period day schedule student satisfaction with achievement as reflected in grades is averages around the forty percent mark for the ninth and tenth grade and

moves to fifty one percent in the eleventh grade and sixty six percent at the twelfth grade.

At the six period day schedule, student satisfaction with achievement as reflected in grades averages around thirty six percent at the ninth, tenth and eleventh grade and rises to fifty percent at the twelfth grade level.

The focus group responses support these findings. For example, a Semester Block student indicated, "Exams are easier because you just learned the material...Learning is better because you can focus better with only 4 classes a semester." A Semester Block parent indicated, "My son is working at the same amount as before; his grades are fine...good." The issue of the schedule requiring better time management is also seen as a strength of the schedule in regards to learning. For example, an Alternating Block student related, "I was really killing myself for good grades last year and this year, with this scheduling, I've been able to...it's been a lot easier... because I can manage my time better."

At the Semester Block schools, the perception of students and parents are that they are learning as much this year as last year, mastering important concepts, gaining an indepth understanding of subject matter, learning as much as they should be, able to apply what they have learned, satisfied with the quality of learning, and the completion rate of their work. In fact, in seven of the eight items related to perceptions regarding

learning, students and their parents at James River were more satisfied than their peers at other schools. In this other area Monacan parents were more satisfied and James River parents were second most satisfied. Teacher views at these schools were positive on these items but not to the same high level as students and parents on each item.

Application of knowledge. The strongest across group perceptions on student ability to apply what he/she has learned were found at Clover Hill, James River, Matoaca and Monacan. At these schools, teacher perceptions ran along a continuum from seventy five percent (75%) at Clover Hill to sixty seven percent (67%) at Matoaca. Parent perceptions ran from seventy five percent (75%) at James River to sixty one percent (61%) at Matoaca. Student perceptions extended from sixty eight percent (68%) at James River to fifty three percent (53%) at Clover Hill. The Bird results were positive with close agreement among parents, teachers, and students. At Midlothian, Parent perceptions (70%) were close to teacher perceptions (72%) but divergent from student perceptions (50%) that they could apply what they have learned.

In the focus groups, several Semester Block students provided insights into satisfaction levels. For example, "I am learning more. Like in history, I learned just as much as I did when I took it in 9th grade--just a shorter time period; you don't have to go through the whole year drawn out...you can get it over with real quick and you learn just as much." "I just think it's a different kind of...not necessarily that one is better than the other, because if you have 6 periods you have the whole year, but you only have maybe

a little every day, but in 4x4 you only have 4 classes, but more homework, so I don't think one is easier than the other one, but I think you learn as much." "I think I am learning better because I only have a couple classes to worry about. I can focus better?" Another student provided an interesting insight, "...learning more and understanding more than last year. I used stuff learned in math first semester in science second semester. Last year it would happen at same time.

A Semester Block parent added, "My son likes the schedule because he gets more in-depth and interesting classes (more involved). When he was first told he would have to transfer because of the boundary change, he was resistant. In fact, he wrote a letter to the superintendent asking him to stay where he was... Now, he would never want to leave for another school." Another Semester Block Parent Commented, "there's two ways of looking at it. I think the number of facts that ended up in her head was probably less, but I think her attitude, and what they did equipped her well. She may have lost a few facts, but she gained some other skills -- processing skills..."

A Semester Block teacher added, "I see it as more like problem-solving skills, i.e., what do you do if, and how do you approach that? Rather than facts and data - I don't know, again, whether that's my fault or theirs or where that problem might lie... Interviewer "Is it a fault?" Well, I don't know. I feel that it is for some reason."

At the Alternating Block schools, the results were mixed. For example, Clover Hill responses were similar to Semester Block schools, but Bird responses were uneven. For example, satisfaction was expressed above the fifty percent level on mastering important concepts and applying what students learn, and considerably less satisfied with learning as much as they should be this academic year.

From the focus groups, an Alternating Block teacher commented, "I think we went to the alternating block because the data showed that you could have more reinforcement activities. It allowed for re-teaching of concepts, this is I think one of the reasons educationally that county moved in this direction. That goes hand in hand with the cutting down of content and more focus on quality and learning. Being able to go into more depth on a particular subject. To begin and go through a whole process and finish up in one session -- closure..." "Sometimes, I think students learn better because they take fewer courses a day. Still, they still have quite a responsibility. I'm not sure..."

An Alternating Block student adds, "teachers tend to go more in-depth in an idea...". "I think we are getting more in-depth... of the background of it." Another student adds, "It gives you more time to learn. You'd start to learn something and then the bell would ring before. You never got to finish." Other comments highlighted some concerns regarding alternating days, "I think that's a problem with every class because you start something new on Monday and then you don't come back to it until Wednesday.." A second student had a different view on the same subject, "If you learn something, it

should stick with you, so I mean, it might be hard to remember it for Wednesday, but you need to remember it for longer than Wednesday. That's the purpose of learning, isn't it?" Another point of view was that, "it forces you to really learn instead of memorizing because you have to know it for a longer time. Short-term memorizing is not actually learning it."

In the Seven Period Day school, parents, teachers and students were very satisfied with achievement as reflected in grades, mastering important concepts, applying what students learn, the quality of what students learn, and the completion rate of student work. On the other three items their satisfaction level was over fifty percent or higher.

In the Six Period Day school, the perceptions are uneven. For example, teachers appear to be very satisfied on all eight items. Whereas students appear not to be satisfied on every item. Parents on the other hand appear to be satisfied on all items except that they don't believe that their children are learning as much as they should be.

In summary, the survey data suggest that in Semester Block Schools, the school communities (students, teachers, and parents) believe learning is being positively effected.

- Students and Parents strongly believe learning is favorably impacted overall.
- Students and Parents are most satisfied with learning as reflected in grades.
- Teachers are satisfied with learning as reflected in grades.

In Alternating Block Schools, the perceptions are almost opposite at each school.

- The Clover Hill school community is sure learning is being positively affected.
- The Bird school community is sure learning is not being positively affected.

In the Seven Period School, teachers believe learning is being positively effected.

However, Students and Parents believe learning is not being positively affected.

In the Six Period School, teachers believe learning is being positively effected. However, Students and Parents tend to believe learning is not being positively affected.

Statistical Data: Grades. These perceptions were tested against the statistical data on student grades and standardized tests results. GPAs were examined to determine if grades at schools which changed their schedule are improving. The Chesterfield County Public Schools student grade files were examined to determine if student grades as measured by grade point average (GPA) were increasing, decreasing or remaining the same. Three years of data were available on most schools except for James River which was available for one year.

The analysis was guided by establishing two criteria to derive conclusions: Did GPAs improve after the change of the schedule? Secondly, is the change attributable to annual fluctuations in the data, or has a trend be established? For example, trends are established when data increases, remains stable, or decreases over a period of time.

Generally, a five year period is examined. However, three data points can provide preliminary trend information.

Exhibit 1A, Report on Student GPA's by School indicates that overall grade performance for the 1995 school year is highest at Clover Hill (2.95) James River (2.94), and Monacan (2.87). GPAs are lower at Matoaca (2.39) and Bird (2.51). Midlothian's overall GPA (2.79) falls between these two groupings.

Exhibit 1A about here

Clover Hill, Monacan, and Matoaca GPAs demonstrate substantial increases from 1994 and 1995. However, the year after Clover Hill changed its schedule the GPA decreased, only to rise from 2.85 in 1994 to 2.95 in 1995. Bird, James River, Monacan and Matoaca changed their schedule for the 1995 school year. James River reports comparably high GPAs, but no trend line could be established since it has no previous history. The year after the change, Bird GPAs rose slightly, Monacan GPAs rose from 2.67 in 1994 to 2.87 in 1995, and Matoaca from 2.29 to 2.39 during this same two years. Midlothian GPAs over the same time period remained at a comparably high level.

EXHIBIT 1A | REPORT ON STUDENT GPA'S BY SCHOOL

	BIRD			CLOVER HILL			JAMES RIVER	MONACAN			MATOACA			MIDLOTHIAN		
	1993	1994	1995	1993	1994	1995	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995
GPA	2.47	2.49	2.51	2.88	2.85	2.95	2.94	2.67	2.67	2.87	2.37	2.29	2.39	2.82	2.78	2.79
GRADE LEVEL GPAs																
9TH	2.46	2.42	2.39		2.92	2.92	2.88	2.64	2.59	2.77	2.23	2.23	2.39	2.81	2.74	2.70
10TH	2.49	2.46	2.48		2.90	2.98	2.97	2.73	2.69	2.83	2.53	2.35	2.24	2.84	2.78	2.77
11TH		2.59	2.50		2.73	2.93	3.00		2.74	2.85		2.31	2.41		2.83	2.76
12TH			2.70			2.95				3.01			2.63			2.89
GPAs BY ACHIEVEMENT LEVEL																
C	2.28	2.26	2.18	2.76	2.58	2.68	2.74	2.52	2.54	2.60	1.94	2.07	2.08	2.59	2.57	2.61
H	2.79	2.98	3.10	3.23	3.16	3.18	3.27	3.16	3.13	3.29	3.01	2.60	2.84	3.18	3.15	3.04
O	2.70	2.67	2.80	3.07	3.12	3.32	3.15	2.70	2.77	3.07	2.61	2.52	2.67	3.08	3.01	3.22
X	2.02	2.00	2.18	2.24	1.99	2.19	1.89	2.48	2.00	2.56	1.66	1.58	1.59	2.33	2.54	2.14
Y	1.96	2.05	1.96	2.22	1.96	2.10	2.35	2.18	2.04	2.15	2.09	2.02	2.12	2.31	2.39	2.35
Z	2.37	3.05	2.32	2.64	2.67	2.73	2.85	2.54	2.54	2.64	2.12	2.20	2.21	2.60	2.59	2.56
COHORT ANALYSIS *																
3 YR GROWTH	9	10	11	9	10	11	9	9	10	11	9	10	11	9	10	11
GPA	2.46	2.46	2.50	2.91	2.90	2.93	2.88	2.64	2.69	2.85	2.23	2.35	2.41	2.81	2.78	2.76
C	2.28	2.25	2.15	2.74	2.71	2.75	2.59	2.34	2.58	2.50	1.74	1.83	2.08	2.57	2.59	2.51
H	2.76	2.94	3.14	3.24	3.08	3.28	3.37	3.20	3.23	3.33	3.02	2.86	2.92	3.24	3.14	3.12
O	2.67	2.72	2.86	3.11	3.15	3.41	2.94	2.59	2.85	3.14	2.51	2.49	2.83	3.08	3.01	3.40
X	2.05	1.93	1.83	2.20	2.05	2.13	1.72	2.30	2.44	2.75	1.69	1.73	1.54	2.07	2.26	2.50
Y	2.07	2.16	2.11	2.21	2.23	1.89	2.42	2.29	2.03	2.15	2.17	2.03	2.24	2.09	2.28	2.21
Z	2.37	2.33	2.29	2.80	2.62	2.71	2.91	2.66	2.49	2.52	1.96	2.31	2.13	2.59	2.54	2.55

GPA's = Grade Point Averages

* cohort analysis followed students entering the ninth grade in 1993, through 11th grade in 1995

A trend line at Monacan was established since grades began to improve two years prior to the change in schedules and continued after the change. At Clover Hill and Matoaca the evidence is also in a positive direction. However, a trend could not be established in both cases 1994 GPAs were lower than 1993 GPAs.

Grade Level GPAs GPAs were then examined by Grade Level over the same time period. Limitations in the data base would only allow comparisons for the ninth, tenth and eleventh grade. A total of thirty comparisons from 1994 to 1995 were available for review. Monacan GPAs rose in all three grade levels reviewed between 1994 and 1995. Clover Hill and Matoaca GPAs rose in two grade levels and decreased in one. Bird GPAs increased in one grade level and decreased in two. Midlothian GPAs decreased at each of the three grade levels.

In some cases the increases were modest, but there are several substantial increases noted. Substantial increases in GPAs at schools that had changed their schedules, the eleventh grade were noted in three cases. For example, the eleventh grade students at Clover Hill rose from a GPA of 2.73 to 2.93. The eleventh grade students at Monacan rose from a GPA of 2.74 to 2.85. The eleventh grade students at Matoaca rose from a GPA of 2.31 to 2.41. The ninth grade was similarly positively impacted the year after the schedule change. For example, at Monacan ninth grade rose from 2.59 to 2.77. Matoaca's ninth graders rose from 2.23 to 2.39 the year after the schedule change.

The increases at Monacan were attained at each of the three grade levels. For example, for the school years 1994 and 1995, ninth grade GPAs rose from 2.59 to 2.77, tenth grade GPAs rose from 2.69 to 2.83, and eleventh grade GPAs rose from 2.74 to 2.85. Clover Hill GPAs at each grade level demonstrated similar results. Midlothian and Bird GPAs at each grade level in 1995 were similar to those reported in 1994. Matoaca GPAs at the ninth grade increased from 2.23 to 2.39 and the eleventh grade from 2.31 to 2.41. GPAs at the tenth grade showed a three year decline from 2.53 to 2.24. The schedule change at Matoaca had no impact on reversing this declining trend at the tenth grade.

Achievement Levels GPAs. Several concerns were expressed in focus groups concerning the affect of different schedules on students performing at different levels of achievement. Therefore, GPAs were also examined by **Achievement Level** over the same three year period to determine if student grades were impacted by achievement levels.

Chesterfield County Public schools groups children for purposes of instruction in six general categories based on their previous achievement in school. The categories are Honors for students who are achieving at a high level, Z for students who are exceeding grade level expectations, Y for students who are meeting grade level expectations, X for students who are not meeting grade level expectations, and categories O and C for students who are not grouped by achievement levels for instruction. James River had

no previous grade history and was not used for these comparisons. GPAs for these six achievement categories at the remaining five schools were examined to determine the impact of the schedule on grading. Clover Hill was reviewed for an additional year since it had two years experience with a new schedule. A total of thirty six comparisons were available for review.

The year after the schedule change, Monacan and Matoaca GPAs rose in all six achievement categories. Bird GPAs rose in three categories and decreased in three categories. In the first year of the schedule change at Clover Hill, GPAs increased in two categories and decreased in four categories. However, in their second year, GPAs in all six categories increased. At Midlothian, GPAs increased in two categories and decreased in four categories for the same time period.

Honors students showed increased GPAs at Bird, Monacan, and Matoaca. Midlothian and Clover Hill GPAs decreased over the three year period. Honors GPAs at Monacan were stable two years prior to the change in schedule but rose from 3.13 in 1994 to 3.29 in 1995. The increase in honors GPAs at Monacan after the change in schedule. The increases found at Bird could not be solely attributed to the schedule change due to GPAs increasing in the years prior to the schedule change. Matoaca honors GPAs rose from 2.6 to 2.84 from 1994 to 1995.

Students in the O level are grouped together in general categories for instruction. Our initial impression was that the schedule was demonstrating a positive influence on their GPAs. However, further examination indicates that there was substantial progress at each of the six schools for the three year period. Therefore, it could not be determined if these students were benefiting from a schedule change, improved instruction, or if grouping practices in this category was changing.

Students grouped together who were achieving below standard expectations (the X Level) demonstrated a positive rise in their GPAs at three of the four schools that changed their schedules. Matoaca's rise was slight however and probably due to chance rather than schedule change. Bird's rise in x GPAs was more schedule related, since GPA was stable at the 2.0 range in 1993 and 1994 years and 2.18 in 1995. Monacan GPAs rose from 2.00 in 1994 to 2.56 in 1995. Clover Hill GPAs rose from 1.99 in 1994 to 2.19 in 1995. However, the GPAs decreased in the year after the change of schedules only to rise again in 1995.

Cohort Analysis. The above analyses were on grade levels and achievement levels and not on the same students in those categories each year. To strengthen the findings, a **cohort analysis** was conducted to try to isolate the impact of the schedule on GPAs. In the cohort analysis, GPAs for the same students were tracked to determine if there were changes in the grades of those students as they traversed through school. Using the data available to us, we tracked GPAs for students who entered the ninth grade in

1993 for the years 1994 when they were 10th graders, and 1995 when they were 11th graders. We were particularly interested in what happened to their GPAs the years after a schedule change. A total of forty three comparisons were available for review.

Students at Bird who entered the ninth grade in 1993 demonstrated increased GPAs in four categories and decreased GPAs in three categories the year after the change in the schedule. At Clover Hill, in the first year of the change of schedules, the cohort demonstrated increased GPAs in two categories and decreased GPAs in five categories. In the second year after the change, however, the cohort demonstrated increases in six categories and decreases in one category. At Monacan, the cohort demonstrated increased GPAs in six categories and decreased GPAs in one category. At Matoaca the cohort demonstrated increased GPAs demonstrated increased GPAs in five categories and decreased GPAs in two categories. At Midlothian, where not schedule change occurred, the cohort demonstrated increased GPAs in three categories and decreased GPAs in four categories. As a comparison, from 1993 to 1994 at Midlothian the cohort demonstrated an increase in three categories and a decrease in four categories.

Grades were also reviewed by subject and achievement level to determine if different effects were being felt by students at various achievement levels. The results of this analysis are found in Exhibit 1B, Report on Student Grades by School, Subject, and Achievement Levels.

Exhibit 1B about here

EXHIBIT 1B | REPORT ON STUDENT GPA'S BY SCHOOL, SUBJECT AND ACHIEVEMENT LEVELS

	BIRD			CLOVER HILL			JAMES RIVER	MONACAN			MATOACA			MIDLOTHIAN		
	1993	1994	1995	1993	1994	1995	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995
SUBJECT ANALYSIS BY ACHIEVEMENT LEVEL																
ENGLISH																
GPA	2.34	2.21	2.92	2.72	2.80	2.69	2.53	2.63	2.10	2.03	2.66	2.74				
C	2.17	2.04	2.88	2.64	2.68											
H	2.93	2.84	3.21	3.15	3.30	3.08	2.95	3.23	2.79	2.71	3.12	3.11				
O	2.23	2.00					2.23	2.35			2.34	2.50				
X	1.96	1.98		1.96	2.14	2.16	1.96	2.42	1.83	1.56	3.00	2.77				
Y	2.75	2.00				2.23	2.05	2.08	1.68	1.72	2.44	2.61				
Z	3.20	2.50				2.72	2.64	2.73	2.28	2.15	2.60	2.71				
MATH																
GPA	2.26	2.22	2.64	2.24	2.59	2.78	2.54	2.54	2.76	2.64						
H	2.67	3.20	3.20	2.95	2.94	3.28	3.09	3.11	3.24	3.04						
O	2.22	2.21														
X	2.03	1.97														
Y	1.99	1.88	2.20	2.06	2.17	2.47	2.03	2.23	2.28	2.01						
Z	2.35	2.21	2.68	2.60	2.59	2.72	2.57	2.48	2.68	2.63						
SCIENCE																
GPA	2.37	2.34	2.63	2.62	2.73	2.89	2.62	2.90	2.18	2.73	2.72	2.70				
C	2.18	2.17	2.45	2.49	2.50	2.73	2.33	2.46		2.50	2.53	2.63				
H	2.91	2.91	3.04	3.00	3.08	3.25	3.18	2.50	2.34	3.07	3.04	2.94				
O	2.26	2.07					2.34	2.42								
X	1.85	1.96														
Y				1.61	1.76				1.99	1.76						
Z	2.43	2.30		2.75	2.84	2.78	2.48	2.86	2.34	2.45	2.82	2.38				
SOCIAL STUDIES																
GPA	2.59	2.60	3.01	2.83	2.95	2.90	2.67	2.77	2.10	2.25	2.68	2.57				
C	2.47	2.37	2.78	2.74		2.66	2.59	2.65	2.02	2.10	2.57	2.54				
H	3.13	3.33	3.46	3.18	2.68	3.35	3.20	3.19	2.44	2.79	3.04	2.87				
O	2.37	2.34	2.67	3.44	3.18	3.11	2.32	2.77		2.74	2.59					
X	2.01	2.43			3.31											
Y					2.19											
FOR LANG																
GPA	2.50	2.41	2.64	2.74	2.80	2.63	2.29	2.25	2.28	2.21	2.39	2.30				
C																
H	3.03	3.16	3.33	3.27	3.24	3.27	2.91	2.73	2.90	2.93	2.90	2.64				
Y																
Z	2.41	2.39	2.48	2.54	2.61	2.59	2.10	2.15	2.09	2.01	2.22	2.21				

GPA's = Grade Point Averages
 C = z, y and sometimes x students
 H = Honors or AP
 O = Homogeneous Groups
 X = Students not meeting grade level expectations
 Y = Students meeting grade level expectations
 Z = Students who are meeting or exceeding grade level expectations

Overall, English GPAs for the school year 1995 ranged from 2.8 at Clover Hill and 2.74 at Midlothian to 2.03 at Matoaca and 2.21 at Bird. James River's overall English GPA was 2.69 and Monacan's was 2.63.

At the Alternating Block Schools, the year after the change in schedules, English GPAs at Bird rose in one achievement category and decreased in six categories. At Clover Hill the data for the year after the change of schedules indicated that English GPAs rose in one achievement category and decreased in one category. However, two years after the change (1994 to 1995), GPAS rose in four achievement categories with no category showing a decrease. At the Semester Block school, English GPAs rose in all six achievement categories. At the Seven Period Day school, English GPAs rose in one category and fell in four categories. At the Six Period Day school, English GPAs rose in four achievement categories and fell in two categories.

Overall Mathematics (Math) GPAs at the Semester Block schools ranged from 2.78 at James River to 2.54 at Monacan. At the Alternating Block schools, GPAs ranged from 2.22 at Bird to 2.59 at Clover Hill for the school year 1995. For the same year, Math GPAs were recorded for Matoaca at 2.64. Data was not available for Midlothian in this subject area. The three year results for the other schools is as follows.

In Math, GPAs rose at Bird in three achievement categories with no decreases in GPAs the year after the schedule change. At Clover Hill, Math GPAs demonstrated no

increases, decreases were noted in four categories the year after the schedule change. However, two years after the schedule change they increased in two categories and fell in two categories. At Monacan, Math GPAs rose in two categories and fell in one category the year after the schedule change. At Matoaca, Math GPAs demonstrated no increases and decreases in four categories the year after the schedule change. Data was not available for Midlothian students in this area.

Science overall GPAs for the school year 1995 ranged from 2.9 at Monacan and 2.89 at James River to 2.34 at Bird. Overall Science GPAs stood at 2.73 for both Clover Hill and Matoaca, and 2.7 at Midlothian. James River could not be analyzed for comparisons before and after the change in schedule. The results for the other schools is as follows.

In Science, GPAs rose at Bird in one achievement category and fell in four categories the year after the schedule change. At Clover Hill, Math GPAs rose in one category and fell in two categories the year after the schedule change. However, Math GPAs rose in five categories and fell in none two years after the change in schedule. At Monacan, Math GPAs rose in four categories and fell in one category the year after the schedule change. At Matoaca, the Math GPAs rose in three categories and fell in one category. At Midlothian, Math GPAs rose in one category and fell in two categories.

Social Studies overall GPAs for the school year 1995 ranged from 2.95 at Clover Hill and 2.9 at James River to 2.25 at Matoaca and 2.57 at Midlothian. Bird social studies overall GPA stood at 2.6 and Monacan at 2.77. James River could not be analyzed for comparisons before and after the change in schedule. The results for the other schools is as follows.

In Social Studies, GPAs rose in three achievement categories and fell in two categories at Bird the year after the change in the schedule. At Clover Hill, Social Studies GPAs rose in one category and fell in three categories the year after the change in the schedule. However, in the second year after the schedule change, Social Studies GPAs rose in two categories and fell in one category. At Monacan, Social Studies GPAs rose in one category and fell in three categories the year after the schedule change. At Matoaca, Social Studies GPAs rose in no categories and fell in four categories the year after the schedule change. At Midlothian, Social Studies GPAs rose in no categories and fell in four categories from 1994 to 1995.

Foreign Language (FL) overall GPAs for the 1995 school year ranged from 2.8 at Clover Hill and 2.63 at James River to 2.21 at Matoaca and 2.25 at Monacan. Midlothian overall FL GPA stood at 2.3 and Bird at 2.41. James River could not be analyzed for comparisons before and after the change in schedule. The results for the other schools is as follows.

In Foreign Language (FL), GPAs at Bird rose in one achievement category and fell in two categories the year after the schedule change. At Clover Hill, FL GPAS rose in two categories and fell in one category the year after the schedule change. However, two years after the schedule change, FL GPAs rose again in two categories and fell in one category. At Monacan, FL GPAs rose in one category and fell in two categories the year after the schedule change. At Matoaca, FL GPAs rose in one category and fell in two categories. At Midlothian, FL GPAs rose in no categories and fell in three categories from 1994 and 1995.

Honor Roll and Teacher Grade Satisfaction. The perceptions of teacher grade satisfaction and the grades they assigned students in the 1995 school year were analyzed to determine if teacher perceptions and teacher action were similar. These satisfaction levels are displayed in Table fourteen, Report on Teacher and Student Satisfaction with Grades by Grade Level and Subject.

Table 14 about here

TABLE 14

**REPORT ON TEACHER AND STUDENT SATISFACTION WITH GRADES
BY GRADE LEVEL AND SUBJECT**

	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN			
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	
I am satisfied with my students' achievement this year as reflected in his/her grades.																			
STUDENTS	470	42%	36%	487	54%	24%	398	63%	18%	420	68%	17%	171	50%	29%	461	41%	36%	
PARENTS	207	53%	36%	217	61%	24%	304	76%	12%	133	74%	18%	63	52%	33%	173	56%	34%	
TEACHERS	93	45%	31%	91	68%	8%	67	78%	5%	72	78%	6%	52	56%	23%	61	72%	13%	
SUBJECT																			
ENGLISH	19	26%	63%	14	79%	7%	10	60%	10%	12	42%	8%	7	71%	29%	11	55%	46%	
MATH	9	44%	56%	11	36%	0%	7	86%	14%	9	78%	11%	8	50%	25%	10	90%	0%	
SCIENCE	13	46%	23%	12	42%	17%	8	100%	0%	9	100%	0%	5	40%	60%	9	78%	0%	
SOCIAL STUDIES	12	42%	8%	11	64%	9%	7	86%	0%	12	100%	0%	5	100%	0%	5	100%	0%	
FOREIGN LANGUAGE	6	50%	17%	11	73%	18%	10	70%	10%	5	20%	40%	4	25%	50%	6	50%	33%	
SPECIAL EDUCATION	5	40%	60%	4	50%	25%	5	60%	0%	5	100%	0%	4	100%	0%	5	40%	20%	
PERFORMING ARTS	8	88%	0%	6	100%	0%	3	67%	0%	4	75%	0%	2	50%	0%	2	100%	0%	
PRACTICAL ARTS	17	53%	18%	13	100%	0%	10	70%	0%	14	86%	0%	9	56%	22%	10	80%	0%	
OTHER	2	0%	50%	4	50%	0%	1	100%	0%	2	100%	0%	1	0%	0%	2	50%	0%	
STUDENTS																			
9TH GRADE	124	43%	32%	128	51%	28%	137	64%	18%	111	66%	16%	41	46%	34%	113	41%	43%	
10TH GRADE	116	42%	39%	128	56%	20%	138	64%	19%	107	67%	21%	34	32%	47%	98	37%	39%	
11TH GRADE	107	34%	47%	108	59%	26%	123	62%	17%	89	64%	21%	55	51%	22%	93	30%	42%	
12TH GRADE	122	46%	27%	123	51%	23%	0	0%	0%	113	74%	11%	41	66%	17%	157	50%	26%	

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Two pieces of information were reviewed in the analysis. First, subject area teacher responses to the survey statement inquiring into their satisfaction with student achievement as reflected in grades were used to determine the satisfaction levels of teachers with student grades. These data were desegregated to determine teacher grade satisfaction by subject area. Secondly, an **Honor Roll Analysis** was conducted to determine the impact of various courses on the percentage of students on the honor role, the percentage of students receiving grades of 3.5 or better for each course was examined. The basic data for these comparisons are found in Exhibit 1C, Report on Student Grades by Subject.

Exhibit 1C About Here

For example, the satisfaction data in Table 14 indicates that sixty three of the English teachers at Matoaca (6%), and Bird (12%) were the least satisfied with student achievement as reflected in grades. On the other hand, James River (24%), Monacan (24%), Midlothian (25%), and Clover Hill (31%) expressed the most satisfaction with student achievement as reflected in grades.

To check these perceptions, English course honor rolls were examined. Course honor role percentages for the school year 1995 ranged from thirty one percent (31%) of those enrolled at Clover Hill to five percent (25%) at Midlothian, and twenty four percent (24%) at Monacan and James River. Six percent (6%) of the students at Matoaca, and twelve percent (12%) of the Bird students reached the threshold 3.5 level for honor role status.

	BIRD			CLOVER HILL			JAMES RIVER	MONACAN			MATOACA			MIDLOTHIAN		
	1993	1994	1995	1993	1994	1995	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995
SUBJECT ANALYSIS BY GRADES RECEIVED																
FOREIGN LANGUAGE																
4+		5%	8%	9%	11%	14%	8%		1%	2%		8%	6%		3%	0%
3.50		10%	8%	14%	15%	16%	14%		6%	6%		3%	11%		8%	5%
3.00		31%	25%	28%	31%	27%	28%		23%	20%		4%	18%		28%	26%
2.50		15%	12%	17%	14%	15%	14%		20%	20%		4%	11%		14%	19%
2.00		22%	23%	16%	17%	16%	19%		27%	27%		5%	25%		27%	30%
1.50		11%	12%	10%	8%	7%	9%		13%	13%		5%	12%		9%	11%
1.00		7%	12%	6%	5%	4%	7%		10%	12%		11%	17%		10%	8%
#STUDENTS		342	451	330	510	597	708		454	577		123	132		561	429
MATH																
4+		5%	5%	11%	9%	10%	15%		10%	10%		3%	4%		12%	9%
3.50		9%	9%	12%	13%	11%	19%		12%	14%		6%	6%		16%	14%
3.00		20%	17%	26%	22%	28%	25%		23%	23%		19%	16%		35%	29%
2.50		15%	13%	16%	15%	15%	13%		15%	13%		11%	15%		28%	15%
2.00		25%	23%	21%	21%	20%	14%		19%	20%		28%	24%		24%	17%
1.50		14%	14%	7%	10%	8%	7%		10%	8%		14%	15%		20%	8%
1.00		15%	19%	7%	11%	9%	8%		12%	13%		18%	21%		13%	8%
#STUDENTS		1064	1251	700	987	1218	1234		1120	1308		406	524		1441	1199
PERFORMING ARTS																
4+		63%	61%		91%	90%	72%		67%	81%		36%	54%		69%	75%
3.50		25%	18%		5%	6%	12%		16%	11%		18%	20%		14%	11%
3.00		12%	12%		4%	11%	11%		11%	5%		23%	13%		10%	9%
2.50		4%	4%			3%	3%		3%	2%		14%	5%		3%	2%
2.00		3%	3%		1%	1%	1%		2%	1%			4%		3%	3%
1.50		2%	2%			1%	1%			0%		5%	1%		9%	
1.00		1%	1%		1%	1%	1%			1%		5%	2%		9%	1%
#STUDENTS		245	344		170	228	405		181	351		22	92		223	183
SCIENCE																
4+		7%	7%		10%	12%	16%		11%	22%		6%	6%		10%	8%
3.50		8%	9%		12%	15%	19%		13%	17%		8%	12%		16%	14%
3.00		21%	21%		29%	29%	29%		24%	24%		15%	19%		29%	33%
2.50		18%	15%		13%	15%	13%		15%	12%		14%	14%		16%	17%
2.00		23%	22%		21%	15%	13%		19%	14%		26%	21%		17%	17%
1.50		11%	11%		6%	7%	4%		8%	5%		15%	11%		6%	6%
1.00		13%	16%		9%	7%	6%		9%	8%		18%	17%		6%	6%
#STUDENTS		964	1301		929	1163	1102		1103	1362		385	466		1353	1062
SOCIAL STUDIES																
4+		15%	15%		22%	17%	20%		16%	14%		3%	5%		13%	8%
3.50		12%	13%		16%	18%	15%		18%	14%		7%	9%		15%	15%
3.00		22%	22%		27%	29%	26%		25%	25%		16%	20%		25%	26%
2.50		12%	11%		9%	13%	12%		10%	10%		13%	11%		15%	12%
2.00		20%	19%		13%	13%	14%		16%	19%		25%	23%		16%	20%
1.50		7%	8%		3%	5%	5%		7%	8%		12%	14%		7%	9%
1.00		13%	18%		9%	6%	9%		9%	10%		23%	18%		10%	10%
#STUDENTS		795	1224		695	1289	1060		1532	882		326	457		972	1154

EXHIBIT 1C | REPORT ON STUDENT GRADES BY SUBJECT

	BIRD			CLOVER HILL			JAMES RIVER	MONACAN			MATOACA			MIDLOTHIAN		
	1993	1994	1995	1993	1994	1995	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995
ENGLISH																
4 +		5%	3%	18%	11%	14%	10%		7%	10%		4%	2%		7%	8%
3.50		9%	9%	17%	14%	17%	14%		12%	14%		5%	4%		15%	17%
3.00		22%	22%	30%	32%	30%	29%		27%	29%		16%	16%		32%	32%
2.50		16%	13%	13%	14%	11%	14%		16%	14%		13%	13%		17%	16%
2.00		21%	23%	12%	18%	15%	16%		21%	16%		27%	26%		16%	17%
1.50		10%	10%	1%	5%	5%	8%		6%	8%		14%	14%		7%	6%
1.00		16%	21%	5%	7%	7%	10%		11%	10%		21%	24%		6%	5%
#STUDENTS		1181	1445	705	951	1246	1150		1186	1477		449	567		1465	1300
Percentage of Students by Grades Earned																
4 +	10%	10%	12%	19%	18%	21%	21%	13%	13%	21%	9%	7%	10%	15%	15%	14%
3.50	8%	10%	11%	16%	15%	17%	18%	13%	13%	16%	9%	8%	9%	17%	16%	15%
3.00	24%	22%	21%	28%	27%	26%	26%	27%	25%	24%	20%	19%	20%	28%	27%	28%
2.50	14%	14%	12%	13%	12%	12%	12%	13%	14%	11%	13%	12%	12%	14%	14%	13%
2.00	23%	21%	20%	15%	15%	13%	13%	19%	18%	14%	24%	24%	21%	16%	16%	16%
1.50	9%	9%	9%	5%	5%	5%	5%	7%	7%	6%	9%	12%	10%	5%	6%	6%
1.00	12%	13%	14%	5%	7%	6%	6%	9%	9%	8%	17%	17%	17%	5%	6%	6%
#STUDENTS	3851	5944	8425	4177	6509	8523	8932	4704	6879	10490	1684	2519	3590	5402	8357	7193

The year after their schedule change, Clover Hill demonstrated a decrease in the percent of students on the English honor role from thirty five percent (35%; 1993) to twenty five percent (25%; 1994). The percentage rose two years after the change to thirty one (31%) percent in 1995. Decreases were also found at Bird (14% to 12%) and Matoaca (9% to 6%) after they changed the schedule. Monacan (19% to 24%) showed a modest increase after they changed the schedule. For comparative purposes, Midlothian (22% to 25%) also showed a modest increase during the same time period. James River's English Honor roll included twenty four percent (24%) of the students in 1995.

Math teachers were asked in the survey if they were satisfied with student achievement as reflected in grades. Forty four percent (44%) of the Math teachers at Bird, Clover Hill (36%), and Matoaca (50%) were least satisfied with student achievement as reflected in grades. On the other hand, Monacan (78%), James River (86%), and Midlothian (90%) were most satisfied with student achievement as reflected in grades.

To check these perceptions, Math course honor rolls were examined. Math course honor roll percentages for the school year 1995 ranged from thirty four percent (34%) of those enrolled at James River, twenty four percent (24%) at Monacan, twenty three percent (23%) at Midlothian, and twenty one percent (21%) at Clover Hill to ten percent (10%) at Matoaca and fourteen percent (14%) at Bird.

The year after the change in schedule, Clover Hill's Math honor roll demonstrated a negligible decrease (23%; 1993 to 22%; 1994) and remained at the 1994 level in 1995. Monacan's percent of students on the Math honor roll after the change in the schedule, rose from twenty two percent (22%) to twenty four percent (24%). The Math honor roll at Bird (14%), and Matoaca (10%) remained stable after the schedule change. For comparative purposes, Midlothian's Math honor roll demonstrated a decrease (28%; 1994 to 23%; 1995) for the same period of time.

Science teachers were asked in the survey if they were satisfied with student achievement as reflected in grades. Science teachers at Matoaca (40%), Clover Hill (42%), and Bird (46%) were the least satisfied with student achievement as reflected in grades and were the next most dissatisfied. On the other hand, Monacan (100%) , James River (100%), and Midlothian (78%) Science teachers were the most satisfied with student achievement as reflected in grades.

To check these perceptions, Science course honor rolls were examined. Science course honor roll percentages for the school year 1995 ranged from thirty nine percent (39%) at Monacan, and thirty four percent (34%) at James River to twenty seven percent (27%) at Clover Hill and twenty two percent at Midlothian (22%), to fourteen percent (14%) at Matoaca and sixteen percent (16%) at Bird.

A substantial increase (24%; 1994 to 39%; 1995) in Science honor rolls occurred at Monacan after the schedule was changed. A comparatively more modest change occurred at Clover Hill (22%; 1994 to 27%; 1995), and Matoaca (14%; 1994 to 18%; 1995). Bird' Science honor roll was stable after the change in schedule. For comparative purposes, Midlothian's Science honor roll decreased (26% to 22%) for the same period of time.

Social Studies teachers were asked in the survey if they were satisfied with student achievement as reflected in grades. Social Studies teachers at Bird (42%) were the least satisfied with student achievement as reflected in grades. Social Studies teachers at Monacan (100%), Matoaca (100%), Midlothian (100%), James River (86%) and Clover Hill (64%) were the most satisfied with student achievement as reflected in grades.

To check these perceptions, Social Studies course honor rolls were examined. Social Studies course honor roll percentages ranged from thirty five percent (35%) at Clover Hill, James River (35%), Monacan (28%), Bird (28%), Midlothian (23%) to fourteen percent (14%) at Matoaca for the 1995 school year.

After the schedule changed, Social Studies honor rolls decreased at Clover Hill (38%; 1994 to 35%; 1995), and Monacan (34%; 1994 to 28%; 1995). At Matoaca (10%; 1994 to 14%; 1995) and Bird (17%; 1994 to 18%; 1995) showed modest increases after the schedule changed. For comparative purposes, Midlothian's Social Studies honor roll

decreased from twenty eight percent (28%) to twenty three percent (23%) for the same time period.

Foreign Language teachers were asked in the survey if they were satisfied with student achievement as reflected in grades. Foreign Language teachers at Clover Hill (73%), James River (70%), Midlothian (50%), and Bird (50%) expressed the most satisfaction with student achievement as reflected in grades. On the other hand, Foreign Language teachers at Matoaca (25%), and Monacan (20%) expressed lower satisfaction levels with student achievement as reflected in grades.

To check these perceptions, Foreign Language honor rolls were examined. Foreign Language course honor roll percentages ranged from thirty percent (30%) at Clover Hill, twenty two percent (22%) at James River, seventeen percent (17%) at Matoaca, and sixteen percent (16%) at Bird, to five (5%) percent at Midlothian and eight (8%) percent at Monacan for the school year 1995.

After the schedule changed, Clover Hill's FL honor roll demonstrated an increase (23%;1993, 26%;1994, and 30%; 1995). Matoaca's FL honor roll also demonstrated an increase (11%;1994 to 17%;1995) after they changed their schedule. Results from Bird (15%;1994 to 16%; 1995) and Monacan (7%; 1994 to 8%; 1995) were stable after the change in schedules. For comparative purposes, Midlothian's FL honor roll decreased (11%; 1994 to 5%; 1995) during the same period of time.

Performing Arts (PA) courses (drama, speech, band, etc) were grouped together to compare the impact of these elective courses on honor roll percentages. Performing Arts teachers were asked in the survey if they were satisfied with student achievement as reflected in grades. Performing Arts teachers at Clover Hill (100%), Midlothian (100%), Bird (88%), Monacan (75%), and James River (67%), and expressed the most satisfaction with student achievement as reflected in grades. On the other hand, Foreign Language teachers at Matoaca (50%) expressed lower satisfaction levels with student achievement as reflected in grades.

To check these perceptions, PA honor rolls were examined. The percentage of students on the PA honor roll ranged from ninety six percent (96%) at Clover Hill, ninety two percent (92%) at Monacan, eighty six percent (86%) at Midlothian, and eighty four percent (84%) at James River, to seventy nine percent (79%) at Bird, and seventy four percent (74%) at Matoaca for the 1995 school year.

After schedules were changed, increases occurred in PA honor roll's at Matoaca (54%; 1994 to 74%; 1995), Monacan (73%; 1994 to 92%; 1995). Clover Hill's PA honor roll (96% in both 1994 and 1995) remained the highest of all schools after the schedule change. Bird's PA honor roll demonstrated a decrease (88%; 1994 to 79%; 1995) after they changed their schedule. For comparative purposes, Midlothian's PA honor roll increased (83%; 1994 to 86%; 1995) during the same time period.

Using the figures in the database, increases in PA honor rolls in schools that changed their schedules were complemented by increases in the number of students enrolling in these courses. The highest enrollments were found at James River (405 students). Enrollment in PA courses were demonstrated at Monacan (181 to 351 students), Clover Hill (170 to 228), Matoaca (22 to 92 students) and Bird (245 to 344 students). On the other hand, Midlothian PA enrollments decreased from two hundred and twenty three students (223) in 1994 to one hundred and eighty three students (183) in 1995.

STANDARDIZED TESTS

Student scores on standardized tests were examined to determine the impact of the scheduling models on these measures of student performance. Exhibit two, Report on Student Performance Indicators by School presents data on generally accepted student performance measures such as the Test for Achievement and Performance (TAP), Scholastic Achievement Test (SAT), Advanced Placement Tests (AP), and a test designed to determine achievement of students in Chesterfield County Public Schools in Algebra I that was previously alluded to in the content coverage section of this report.

Exhibit 2 about here

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN		DIV Ave
	N	Score	N	Score	N	Score	N	Score	N	Score	N	Score	
% Earning Advanced Studies Diploma													
94-95	205	51%	282	74%	NA	274	61%	81	52%	339	74%	NA	
% Earning Standard Diploma													
94-95	182	46%	98	26%	NA	161	36%	74	48%	107	23%	NA	
ALG I													
94-95	108	30.3	166	28.07	67	28.9	73	30.06	NA	NA	126	28.7	29.25
ITBS													
% Above 75%ile Composite													
92-93		35%		48%	NA		50%		25%		56%	42%	
93-94		37%		45%	NA		50%		25%		51%	39%	
94-95		34%		48%	50%		42%		12%		53%	NA	
%ile Composite													
92-93		63		72	NA		74		48		77	NA	
93-94		63		72	NA		72		54		74	NA	
94-95		59		72	74		70		42		74	NA	
SAT													
Verbal													
92-93	228	428	332	433	NA	347	448	86	394	470	461	NA	
93-94	217	421	324	437	NA	NA	435	84	364	417	461	NA	
94-95	274	423	314	439	NA	337	441	102	374	412	467	NA	
Math													
92-93	228	469	332	482	NA	347	483	86	446	470	509	NA	
93-94	217	468	324	510	NA	NA	NA	84	417	417	509	NA	
94-95	274	470	314	482	NA	337	489	102	421	412	510	NA	
Top 10%ile													
Verbal													
92-93		565		554	NA		568		485		590	NA	
93-94		528		578	NA		NA		464		598	NA	
94-95		518		593	NA		552		499		589	NA	
Math													
92-93		629		623	NA		646		545		657	NA	
93-94		609		653	NA		NA		547		659	NA	
94-95		616		654	NA		628		529		648	NA	

NA = NOT AVAILABLE
 NC = NOT COMPARABLE

EXHIBIT 2 | REPORT ON STUDENT PERFORMANCE INDICATORS BY SCHOOL

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN		DIV
	N	Score	N	Score	N	Score	N	Score	N	Score	N	Score	Ave
Advanced Placement													
% Senior Class Taking Exams													
92-93	29	7%	55	12%	NA	54	12%	3	2%	66	12%	13%	
93-94	16	4%	55	13%	NA	58	13%	5	4%	72	15%	14%	
94-95	25	5%	39	10%	NA	41	9%	4	3%	64	13%	NA	
Composite: % Takers Scoring 3 or Better													
92-93	32	81%	101	74%	NA	100	83%	0	NC	103	95%	60%	
93-94	23	89%	96	88%	NA	94	78%	3	NC	113	92%	52%	
94-95	25	77%	81	80%	NC	59	77%	3	NC	91	77%	NA	
English : % Scoring 3 or Better													
92-93	16	100%	25	88%	NA	31	94%	0	NC	29	100%	NA	
93-94	9	100%	31	97%	NA	33	100%	3	NC	31	100%	NA	
94-95	13	92%	24	95%	NC	27	89%	3	NC	22	100%	NA	
GPA													
92-93		2.47		2.88	NA		2.62		2.37		2.82	NA	
93-94		2.49		2.85	NA		2.67		2.29		2.78	NA	
94-95		2.51		2.95	2.94		2.87		2.39		2.79	NA	
ADM													
92-93		93.85		94.53	NA		95.35		94.25		96.35	NA	
93-94		94.50		95.77	NA		96.51		94.85		97.32	NA	
94-95		91.99		96.47	94.53		94.73		94.53		96.03	NA	
Ave Days Missed													
		11.77		7.81	8.32		7.93		9.52		6.52	NA	

NA = NOT AVAILABLE
 NC = NOT COMPARABLE

TAP data for the three year, 1993-95 indicates that on the composite scale, four of the five schools on which data was available to make the analysis, declined in scores over the three years. For example, at Midlothian, where the schedule did not change, scores fell from 77%ile in 1993 to 74%ile in 1995. On the other hand, the three other schools were scores declined did change their schedules. The decline at Bird, and Matoaca occurred the year after the schedule change. The decline at Monacan appears to be a three year trend, that began two years prior to their schedule change. Clover Hill has maintained a stable score each year. For comparative purposes, James River students scored at the level of Midlothian in 1995..

The indication is that while the trend must be monitored, declines in those schools experiencing them cannot be attributed to the schedule changes that occurred. It should be further noted that scores at all schools except one are considerably above the national averages on this test.

SAT. The SAT scores were examined over the same three year period. The results on the verbal portion of the examination are relatively stable and demonstrate only year to year fluctuations. However, Clover Hill, where the schedule changed two years ago, and Midlothian where the schedule did not change are demonstrating a period of an upward trend on verbal scores. Matoaca scores indicate that more students took the test in 1995 than 1994 and 1993 and their scores rose the year after the schedule change. While this is a promising result on both accounts, a trend up can not be established with

just these three years of data and it must be considered as a year to year fluctuation. At Monacan verbal scores rose the year after the schedule change but since they had declined the year prior to the change they are considered as annual fluctuations.

On the Math portion of the test, the results at Clover Hill represent year to year fluctuations. However, the Math portion scores rose rather significantly during the year that Clover Hill changed its schedule, only to drop to previous levels in their second year of the schedule change. Monacan, on the other hand is demonstrating an increase in the first year of their schedule change. However, until a trend can be established, it must be considered a year to year fluctuation. The results at Matoaca are more enlightening on year to year fluctuations. For example, on the verbal and math portions, their results rose in 1994 from their previous year, only to fall to previous levels in 1995. The results on the Math portion at Midlothian are stable over the three year period.

To be sure that schedule changes were not negatively affecting student performance on the SAT, the performance of the top ten percent of the class was examined. A definite positive trend was established for the top ten percent of Clover Hill's students taking the SAT's for the three year period. For example, SAT scores for the top ten percent of the class rose the first and second year after the schedule change. On the other hand, Matoaca's verbal scores rose and math scores declined the year after the schedule change. At Bird, the verbal scores declined and the math scores rose the year after the schedule change. For comparative purposes, Midlothian, where no schedule change

occurred, experienced a decline in both the verbal and math portions of the exam. Considering the boundary changes and shifting student populations at both Monacan and Midlothian, these are figures bear watching, but the declines cannot be attributed to schedule changes, or no schedule changes at this time.

Advanced Placement Tests (AP). All schools except Bird are experiencing fewer students sitting for advanced placement tests. This decline is likely related to the fact that colleges and universities are requiring students to score at the 4 or 5 level rather than the traditional 3 level for college credit, and fewer students are taking the courses and the exams.

On the composite scale, the AP scores are consistently even in four of the five schools with a senior class. For example, Bird (77%), Clover Hill (79%), Monacan (77%) and Midlothian (77%) each experienced similar numbers of students scoring a three or better on the test (three has traditionally represented college credit). Matoaca scores were not used in this analysis because the number of students sitting for the examinations (3) were not comparable to other schools. James River was also not included because the comparisons would not be comparable since no seniors were available for the examinations.

On the English portion, scores rose at Clover Hill the year after the schedule change. The number of students and scores declined two years after the schedule change. At

Bird and Monacan, the number of students sitting for the exam and scores declined the year after the schedule changed. At Midlothian, the number of students sitting for the exam declined but the scores remained the same.

Schools in other school divisions and other states that have moved to a semester block schedule also reported early concerns with their ability to provide appropriate opportunities for AP students, particularly when they take the course the first semester and the test is given the second semester. Many of them have solved their concerns by moving all advance placement classes into two-credit year-long courses, thereby doubling the amount of instructional time available in their AP courses.

ATTENDANCE AND DISCIPLINE

Student achievement and attendance are thought to be related. And, improved attendance and student behavior are generally thought to benefit from Block schedules. The focus group interviews support these thoughts. For example, an Alternating Block teacher commented that, "The ones who are there every day are actually making better grades than I thought they would have. But the ones who are absent are, it really affects their grades terribly when they're absent one day." Another teacher indicated, "when they miss one day it's like they missed two days worth of material." Students in Alternating Block schools support those observations. One student said, "if you miss a day, you miss a week... If you missed a day last year... and if you miss a day this year, it's like four."

Attendance

The area of attendance was examined in two ways. The teacher and administrator surveys asked for perceptions related to the increase of attendance problems at the school and focus group interviews. Then student attendance statistics were examined to contrast perceptions to actual student attendance levels.

Significant Findings. As in previous sections of this report, the schools were compared statistically to determine if there were any significant differences in responses from each school. There were fourteen (14) significant findings when responses were inferentially compared on discipline. Graph 7, Significant Findings: Attendance and Discipline exhibits the significant comparisons. For discipline and attendance questions, no significant comparisons could be made for students responses and parent responses -- the questions were only asked of Teachers.

Monacan was more satisfied in ten (10) of the comparisons and Bird was less satisfied in eight (8) of the comparisons. The remaining significant findings were scattered among the other schools. The significant comparisons for Attendance which support this analysis are listed below for your review.

Graph 7 about here

GRAPH 7 | REPORT ON SIGNIFICANT FINDINGS: ATTENDANCE AND DISCIPLINE

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN		
	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	MORE	LESS	
STUDENTS													
PARENTS		NO SIGNIFICANT DIFFERENCES											
TEACHERS		NO SIGNIFICANT DIFFERENCES											
ATTENDANCE	⊘ ⊘ ⊘ ⊘ ⊘		● ⊘		● ● ● ● ● ● ● ● ● ●		● ● ● ● ● ● ● ● ● ●		⊘ ⊘		● ●		⊘
DISCIPLINE	⊘ ⊘												
SCHOOL TOTAL	1	4	2	1	2	0	4	5	1	1	0	1	

MORE = MORE SATISFIED
 LESS = LESS SATISFIED
 P < .05 & ETA 2 > .05

- Practical Arts teachers at Monacan ($m=1.5000$) reported a higher level of agreement with the statement "I believe that attendance in my classes is better this year" than practical arts teachers at Bird ($m= -.2500$), James River ($m=.0000$), Matoaca ($m=.1250$), and Clover Hill ($m=.1818$) ($F=4.6168$; $d.f.=5, 63$; $e.s.=.2847$).
- Science teachers at Monacan ($m=1.5556$) believed that attendance was better this year than Science teachers at Bird ($m= -.5455$), Matoaca ($m= -.4000$), Clover Hill ($m=.0000$), and Midlothian ($m=.0000$) ($F=6.8194$; $d.f.=5, 52$; $e.s.=.4204$).
- Math teachers at Midlothian ($m=.4444$), James River ($m=.4286$), Monacan ($m=.3636$), and Matoaca ($m=.1250$) agreed that attendance was better more than math teachers at Bird ($m= -1.3333$) ($F=5.4202$; $d.f.=5, 53$; $e.s.=.3609$).
- Administrators at James River ($m=1.3333$), Clover Hill ($m=1.0000$), and Monacan ($m=1.0000$) also believed attendance was better in their schools than administrators at Bird ($m= -1.2500$) ($F=5.1360$; $d.f.=5, 19$; $e.s.=.0647$).

Descriptive Findings. Attendance was the focus of one statement on the teacher and administrator surveys, "Student attendance in classes has gotten better." The responses are found on Table fifteen, Report on Perceptions of Student Performance: Attendance and Discipline. In interpreting the results from Table 16, we assumed that those respondents who chose to answer that they were "satisfied" believed that attendance was better. Those respondents who chose to answer that they were "dissatisfied" believed that attendance was worse. Those respondents who chose to answer

"undecided" believed that attendance was about the same as in the past. Using these assumptions, the following interpretations were made.

Table 15 About Here

The two semester block schools reported similar positive responses indicating that attendance in classes is better. For example, at James River fifty two percent (52%) of the teachers felt attendance was better while at Monacan, fifty nine percent (59%) felt attendance was better. At James River, forty three percent (43%), and at Monacan twenty two percent (22%) felt it was the same as always. The indications are that attendance is not negatively affected by the semester block schedule. The "undecided" responses at James River are most likely due to the fact that they could only compare it to their previous school.

TABLE 15

**REPORT ON PERCEPTIONS OF STUDENT PERFORMANCE:
ATTENDANCE AND DISCIPLINE**

PERFORMANCE: ATTENDANCE/DISCIPLINE	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN		
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %
1	Student attendance in classes has gotten better.																	
TEACHERS	87	20%	51%	87	37%	25%	56	52%	25%	70	59%	19%	47	32%	30%	58	40%	19%
ADMINISTRATORS	4	0%	100%	3	100%	0%	3	100%	0%	3	67%	0%	3	67%	33%	3	100%	0%
COUNSELORS/LIBRARIANS	4	0%	50%	2	50%	0%	4	0%	50%	3	67%	0%	2	50%	0%	3	0%	33%
2	Student discipline problems have gotten worse this year.																	
TEACHERS	86	15%	67%	88	16%	64%	59	15%	63%	71	10%	58%	50	10%	62%	59	15%	71%

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

Responses from the two alternating block schools were inconsistent. For example, at Clover Hill, thirty seven percent (37%) of the teachers felt attendance was better, while forty eight percent (48%) believed it was about the same as in the past. At Bird, only twenty percent (20%) believed that attendance was better, fifty percent of the teachers (51%) were sure that attendance was not better, and twenty nine percent (29%) felt it was about the same. Focus group comments supported a conclusion that the indications are that attendance may be negatively affected by the semester block schedule. For example, a common comment from students was, "more kids skip class and school now because of a 'lag time' in getting caught."

The responses at the Seven Period Day school were inconclusive. For example, thirty two percent (32%) of the teachers believed that attendance was better, thirty percent (30%) felt it was worse, and thirty eight percent (38%) believed it was about the same. The survey responses indicate are that the seven period day schedule does not positively affect attendance.

The responses at the Six Period Day school were similarly inconclusive. For example, forty percent (40%) of the Midlothian teachers felt attendance was better, nineteen percent (19%) felt that it was not, and forty one percent (41%) believed it was about the same as in the past. Since no schedule change was made at Midlothian, it is interpreted that attendance was not perceived as a problem at Midlothian.

Statistical Data. The perceptions expressed in the surveys were reviewed against the statistical data provided by the Chesterfield County Public Schools. Two types of data were reviewed. The average daily attendance rates for each school were examined first. Then the average number of days students missed school were reviewed to determine if the schedule changes were having particular impacts for different student groups.

ADA. Average Daily Attendance is reported on Exhibit three, Report on School Average Daily Attendance for 1992-1995. Average Daily Attendance (ADA) was computed using information the School Division reports to the Virginia Department of Education.

Exhibit 3 About Here

The results of this analysis demonstrated that in the year after the schedule changes at Bird , Monacan, and Matoaca average daily attendance fell. Bird's ADA dropped from close to ninety five percent (94.5%) in 1994 to close to ninety two percent (91.99%) in 1995. Monacan's ADA dropped from close to ninety seven percent in 1994 to approximately ninety five percent (94.73%) in 1995. Matoaca's ADA showed a smaller drop from (94.85%) in 1994 to 94.53% in 1995. Clover Hill on the other hand, experienced an increase each year since the inception of its schedule two years ago. For the year they made the change in schedule, their ADA moved from approximately ninety five percent (94.53%) in 1993 to approximately ninety six percent (95.77%) in 1994. Midlothian's ADA also dropped from 97.32% in 1994 to 96.03% in 1995.

EXHIBIT 3 | REPORT ON STUDENT AVERAGE DAILY ATTENDANCE FOR 1992-1995

	BIRD		CLOVER HILL		JAMES RIVER		MONACAN		MATOACA		MIDLOTHIAN	
ADA												
92-93	93.85%		94.53%		NA		95.35%		92.76%		96.35%	
93-94	94.50%		95.77%		NA		96.51%		94.85%		97.32%	
94-95	91.99%		96.28%		94.53%		94.73%		93.35%		96.03%	
94-95	ADA	ADM	ADA	ADM	ADA	ADM	ADA	ADM	ADA	ADM	ADA	ADM
SEPT	1796	1878	1432	1471	1232	1256	1552	1594	652	681	1340	1367
OCT	1774	1883	1420	1473	1212	1270	1535	1597	639	679	1324	1368
NOV	1718	1873	1390	1466	1205	1271	1517	1597	625	675	1313	1368
DEC	1680	1860	1459	1370	1174	1260	1492	1594	615	670	1298	1362
JAN	1688	1846	1373	1449	1171	1243	1482	1587	620	666	1307	1360
FEB	1676	1843	1362	1441	1162	1251	1495	1593	609	658	1296	1360
MAR	1670	1828	1354	1434	1175	1247	1499	1582	615	654	1293	1360
APRIL	1653	1822	1343	1430	1152	1236	1479	1574	603	648	1295	1356
MAY	1629	1807	1347	1426	1149	1225	1468	1565	598	648	1275	1353
JUNE	1675	1797	1371	1426	1168	1221	1484	1555	609	647	1322	1350
YEAR	16958	18436	13849	14384	11797	12479	15003	15838	6186	6627	13062	13603
93-94												
SEPT	1842	1903	1520	1552	NA		1724	1771	636	665	2027	2067
OCT	1809	1912	1493	1552	NA		1707	1782	622	662	2000	2067
NOV	1769	1902	1473	1550	NA		1683	1771	601	657	1968	2056
DEC	1750	1891	1456	1546	NA		1667	1761	596	650	1960	2049
JAN	1764	1877	1468	1538	NA		1678	1754	593	646	1976	2046
FEB	1722	1852	1449	1542	NA		1659	1758	591	645	1934	2035
MAR	1711	1833	1450	1540	NA		1663	1755	589	641	1948	2035
APRIL	1694	1821	1454	1540	NA		1657	1755	585	631	1955	2032
MAY	1666	1805	1433	1533	NA		1641	1751	579	625	1916	2028
JUNE	1698	1797	1460	1525	NA		1681	1742	586	618	1968	2022
YEAR	17425	18593	14657	15418	NA		16759	17600	5978	6440	19650	20436
92-93												
SEPT	1779	1834	1643	1686	NA		1763	1806	677	704	1998	2038
OCT	1763	1850	1614	1691	NA		1743	1809	665	709	1976	2033
NOV	1727	1854	1582	1684	NA		1706	1801	641	701	1950	2026
DEC	1710	1835	1572	1675	NA		1700	1796	626	690	1937	2025
JAN	1725	1824	1561	1659	NA		1710	1797	623	676	1962	2026
FEB	1697	1821	1548	1649	NA		1690	1791	615	668	1932	2021
MAR	1676	1806	1545	1651	NA		1679	1780	612	657	1923	2015
APRIL	1668	1799	1546	1648	NA		1684	1772	594	651	1922	2013
MAY	1629	1782	1540	1640	NA		1657	1764	600	647	1924	2011
JUNE	1683	1769	1550	1627	NA		1716	1763	606	645	1956	2010
YEAR	17057	18174	15702	16610	0	0	17048	17878	6259	6747	19479	20217

Days Absent. The second source of attendance information was retrieved from the Chesterfield County Public Schools student attendance files. This data base was examined to determine the impact of schedules on the number days students were absent from school. The average days absent (ADM) was computed to describe the attendance picture. The percent of students missing either zero to four days, five to eight days and nine plus days was computed. These three threshold levels were chosen because they coincide with the number of days that seniors can be absent without having to take final exams.

ADM was computed by totaling the number of student days missed found in the data base and dividing this total by the number of student records in the data base. For example, at Bird students missed a total of 18,665 days. This total was divided by 1586 which represents the number of student records found in the data base. The data base was complete for only the 1995 school year. However, since it had been adding a grade each year for the last three years it was possible to provide a cohort analysis of the days absent for students who entered as ninth graders in the 1993 school year. Exhibit 4A, Report on Student Attendance Patterns by Grade Level for 1995 displays number of days absent by school and grade level.

Exhibit 4A About Here

EXHIBIT 4A | REPORT ON STUDENT ATTENDANCE PATTERNS BY SCHOOL FOR 1995

INDICATORS	BIRD	CLOVER HILL	JAMES RIVER	MONACAN	MATOACA	MIDLOTHIAN	TOTALS
9TH GRADE							
ENROLLMENT	495	366	469	404	186	323	2105
DAYS ABSENT							
AVE DAYS MISSED							
% ABSENT 0-4 DAYS	39%	51%	46%	55%	39%	56%	51%
% ABSENT 5-8 DAYS	18%	26%	20%	19%	20%	21%	22%
% ABSENT 9+ DAYS	43%	23%	33%	26%	41%	23%	34%
10TH GRADE							
ENROLLMENT	374	338	383	323	152	283	1749
DAYS ABSENT							
AVE DAYS MISSED							
% ABSENT 0-4 DAYS	40%	45%	50%	52%	39%	59%	50%
% ABSENT 5-8 DAYS	20%	24%	20%	20%	20%	21%	22%
% ABSENT 9+ DAYS	40%	31%	30%	28%	40%	20%	33%
11TH GRADE							
ENROLLMENT	321	319	358	347	119	254	1647
DAYS ABSENT							
AVE DAYS MISSED							
% ABSENT 0-4 DAYS	48%	36%	44%	43%	39%	46%	45%
% ABSENT 5-8 DAYS	22%	25%	22%	27%	23%	23%	25%
% ABSENT 9+ DAYS	30%	39%	35%	29%	38%	23%	33%
12TH GRADE							
ENROLLMENT	396	363	0	443	149	452	1702
DAYS ABSENT							
AVE DAYS MISSED							
% ABSENT 0-4 DAYS	22%	31%	NA	34%	40%	45%	36%
% ABSENT 5-8 DAYS	24%	34%	NA	31%	27%	31%	32%
% ABSENT 9+ DAYS	54%	35%	NA	35%	32%	24%	38%
SCHOOL TOTALS							
ENROLLMENT	1586	1386	1210	1517	606	1312	7617
DAYS ABSENT	18665	10819	10070	12035	6002	8548	66139
AVE DAYS MISSED	11.77	7.81	8.32	7.93	9.90	6.52	8.68
% ABSENT 0-4 DAYS	34%	41%	47%	46%	40%	52%	43%
% ABSENT 5-8 DAYS	21%	27%	21%	24%	22%	25%	24%
% ABSENT 9+ DAYS	45%	32%	33%	30%	38%	23%	33%

School. Students in all six schools averaged 8.6 days absent in 1995. This average fluctuated by school. For example, ADM ranged from Bird's students missing close to twelve days (11.77) and Matoaca's students missing close to ten days (9.9) in 1995 to students at Midlothian missing six and one half days (6.52). ADM for reached close to eight days (7.81) at Clover Hill, Monacan (7.93), and James River (8.32).

As a group, forty three percent (43%) of the students in the six schools missed zero to four days. This percentages ranges from fifty two percent of the students at Midlothian, forty six percent (46%) of the students at Monacan, and forty seven percent (47%) of the students at James River missing zero to four days while thirty four percent (34%) of the students at Bird missing this number of days. The number of students at Clover Hill (41%) and Matoaca (40%) missing zero to four days was similar.

As a group, thirty three (33%) percent of the students in the six schools missed more than nine days of school in 1995. This percentage ranges from a high of forty five percent (45%) of the students at Bird and thirty eight percent (38%) of the students at Matoaca missing more than nine days of school to a low of twenty three percent (23%) of the students at Midlothian. The results at Clover Hill (32%), James River (33%) and Monacan (30%) were similar.

Grade Level. This source of information was examined by **grade level** to determine differences. At the ninth grade, the differences were found in the categories of zero to four days absent and more than nine days absent. Fewer Clover Hill, Monacan, James River and Midlothian students miss more than nine days of school than ninth graders at Bird and Matoaca. Conversely, fewer Bird and Matoaca students miss zero to four days of school than students at Clover Hill, Monacan, James River and Midlothian.

At the tenth grade, the dispersement of the students is greater at each category of days missed at Bird, Clover Hill and Matoaca. While at James River, Monacan, and Midlothian if students miss school the majority don't miss more than four days. Matoaca

and Bird students recorded the highest percentages in the more than nine days missed category.

At the eleventh grade, the dispersement of the students is relatively similar across all six schools. Midlothian students miss less number of days than those at the other schools in the more than nine days category.

At the twelfth grade, fifty four percent (54%) of the students missed more than nine days of school at Bird in 1995. The results at the other schools are relatively similar. Midlothian students at the twelfth grade miss fewer days than their peers at other schools.

Achievement Levels. The information was further reviewed by achievement level to determine if any particular group of students was missing more school than another group of student. Exhibit 4B, 1995 Student Attendance by Student Achievement Levels displays the days missed by achievement levels. (Data for Midlothian was not available in the data base.)

Exhibit 4B about here

The data indicate that students who are not performing at expected levels (X Level) miss more days of school than their peers at each school. Sixty five percent (65%) of the students in this category miss more than nine days of school at Bird. At Matoaca there are similar results, the percentage of this level of student missing more than nine days reaches seventy two percent (72%). Y level students at each school also miss more days than their peers at each school.

Honors students, and students meeting the schools performance standards (Z level) missed fewer days at each school. In most cases, at each of the school reviewed students in these categories miss fewer than four days of school.

EXHIBIT 4B

1995 STUDENT ATTENDANCE BY STUDENT ACHIEVEMENT LEVELS

ACHIEVEMENT LEVEL	BIRD	CLOVER HILL	JAMES RIVER	MONACAN	MATOACA	MIDLOTHIAN	TOTALS
C LEVEL							
ENROLLMENT	423	380	170	213	51	217	1454
% ABSENT 0-4 DAYS	27%	31%	46%	44%	29%	45%	33%
% ABSENT 5-8 DAYS	22%	28%	17%	24%	29%	28%	20%
% ABSENT 9+ DAYS	51%	41%	37%	32%	41%	27%	32%
H LEVEL							
ENROLLMENT	204	340	197	231	58	258	1288
% ABSENT 0-4 DAYS	48%	55%	61%	56%	53%	71%	44%
% ABSENT 5-8 DAYS	25%	27%	21%	26%	28%	21%	20%
% ABSENT 9+ DAYS	28%	19%	17%	18%	19%	8%	16%
O LEVEL							
ENROLLMENT	488	302	429	558	236	268	2281
% ABSENT 0-4 DAYS	36%	39%	45%	48%	41%	45%	37%
% ABSENT 5-8 DAYS	20%	31%	21%	23%	22%	27%	20%
% ABSENT 9+ DAYS	44%	30%	34%	29%	38%	28%	31%
X LEVEL							
ENROLLMENT	103	12	8	43	36	7	209
% ABSENT 0-4 DAYS	18%	33%	25%	21%	19%	43%	20%
% ABSENT 5-8 DAYS	17%	17%	25%	19%	8%	14%	15%
% ABSENT 9+ DAYS	65%	50%	50%	61%	72%	43%	62%
Y LEVEL							
ENROLLMENT	100	99	163	106	71	141	680
% ABSENT 0-4 DAYS	23%	25%	29%	22%	31%	35%	21%
% ABSENT 5-8 DAYS	19%	20%	17%	22%	20%	27%	15%
% ABSENT 9+ DAYS	58%	55%	54%	57%	49%	38%	43%
Z LEVEL							
ENROLLMENT	268	253	242	366	154	421	1704
% ABSENT 0-4 DAYS	41%	46%	50%	47%	45%	56%	34%
% ABSENT 5-8 DAYS	22%	26%	25%	28%	24%	24%	19%
% ABSENT 9+ DAYS	37%	28%	26%	25%	31%	20%	22%

Cohort Analysis. The data base did not contain data to compare schools over a three year period. However, information was available to conduct a cohort analysis. This was accomplished by looking at data from students who entered the ninth grade in 1993. The days these students missed each year were identified for 1994 when they were 10th graders, and in 1995 when they were eleventh graders. Exhibit 4C, Report of Cohort Analysis of Students Entering Ninth Grade in 1993 displays these analyses.

Exhibit 4C about here

The data indicate that at each school the same students miss more days of school every year they attend. For example tenth graders miss more school than ninth graders and eleventh graders miss more school than tenth graders. At Bird, Monacan and Matoaca fewer students missed less than five days of school and more students missed more than nine days of school the year the schedule changed. This may or may not be attributable to the schedule when we consider our previous analyses indicating that students miss more days of school as they transverse through the grades. This occurs even at Midlothian where no schedule change was made but similar grade level results were found. At Clover Hill, however, the first year after the schedule change attendance of students who entered the ninth grade in 1993 improved for a one year period. In 1995, this group of students missed school at the same rate of their peers in other schools.

EXHIBIT 4C | **REPORT OF COHORT ANALYSIS OF STUDENTS ENTERING NINTH GRADE IN 1993**

	JAMES																		
	BIRD			CLOVER HILL			RIVER			MONACAN			MATOACA			MIDLOTHIAN			
	1993	1994	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995	1993	1994	1995	
COHORT ANALYSIS																			
%																			
ABSENT 0-4 DAYS	55%	59%	35%	48%	52%	36%	46%	57%	42%	47%	49%	39%	61%	53%	46%	9TH	10TH	11TH	
ABSENT 5-8 DAYS	21%	18%	22%	27%	22%	25%	20%	20%	29%	18%	24%	23%	23%	24%	23%	23%	24%	24%	23%
ABSENT 9+ DAYS	24%	23%	43%	25%	26%	39%	33%	23%	29%	35%	27%	38%	17%	24%	23%	17%	24%	24%	23%
# STUDENTS	393	318	321	338	329	319	469	439	347	171	140	119	472	466	254	472	466	254	254
COHORT ANALYSIS																			
#																			
ABSENT 0-4 DAYS	216	187	113	162	170	116	217	249	146	81	69	47	288	245	117	288	245	117	117
ABSENT 5-8 DAYS	81	58	70	91	74	80	95	87	99	31	33	27	107	112	59	107	112	59	59
ABSENT 9+ DAYS	96	73	138	85	85	123	157	103	102	59	38	45	78	111	59	78	111	59	59
# STUDENTS	393	318	321	338	329	319	469	439	347	171	140	119	472	466	254	472	466	254	254

In summary, these analyses of attendance did not demonstrate the expected improvements in attendance that advocates of alternative schedules project as a benefit of such schedules. The data imply just the opposite. As a whole student attendance is decreased. Further analysis indicated that lower achieving students are missing more school than they did prior to the schedule changes. ADA data indicate that attendance at four of the six schools is lower in 1995 than 1994. Specifically, three of the four schools where schedule changes occurred recorded lower ADA's the year after the schedule change. The results at Matoaca and Monacan are considered as yearly fluctuations. However, in the case of Monacan, the positive perceptions reported by respondents was not validated by the ADA data. In the case of Bird, where lower satisfaction levels were recorded are validated by the ADA data. At the two Semester Block schools, the results at James River and Monacan are similar for this 1995 school year. Data however is only available to comment on the effect of the schedule change at Monacan.

- Monacan experienced almost a two percent drop in their attendance the year after the schedule changed. This drop came after a year where attendance had increased. The only reason we are reluctant to assign the drop to the schedule change is that Midlothian also exhibited a similar drop. Both of these schools were impacted by the move of some students to James River High School and how much of their attendance drop should be attributed to that source is unknown. However, without another year of data, the decreases at both schools are considered as annual fluctuations.

Another factor in Monacan's favor is that the average number of days missed at Monacan (see Exhibit 4A) is the third lowest of the six schools. If there is an attendance problem at Monacan it is narrowly focused and amenable to quick remediation. Still, there is enough evidence from the focus group sessions at Monacan to indicate that attendance bears examination. In fact, a suggestion was made in the student focus group at Monacan on how another semester block school moved to increase attendance.

One student who transferred to their current school from a Semester Block school in another state indicated that his/her previous high school improved its attendance problem by instituting a "time for time" policy. **Time for Time** is a session to make up your classes. As the student explained,

If you miss 5 days, you wouldn't get that credit because you've missed a lot, unless you make it up and there is a place, at school, to make it up before and after school two days a week. That's "time for time". If you got sick for a week, this was the big problem, and it got close to where school or the semester was about to get out, so they'd have to write the Board and ask permission to make it up. If you miss 2 days, that's 8 time for times you have to make up and you have to stay before or after school 8 times. Students didn't like that so it gave more reason for them to stay in. That's where that 99% good attendance came from.

You're making up work, you have to let your teacher know you're going to time for time and they send the work up to the classroom and then you're there for an hour and a half and then you just get one class. You can make up one class in one time for time. It sounds awful, but it kept a lot of people in school. Attendance was real good. 99% for the school. I didn't miss a day and if I did, I was quick to make it up. 3 tardies was equal to 1 absence so you had to...

On the other hand, parents in the Semester Block focus groups expressed positive experiences with attendance related to the schedule. For example, a Semester Block Parent commented, "When my daughter was out with the flu, she did feel a little lost, but she only had 4 things to concentrate on to makeup, so I don't know that it was any worse than if she had...she did feel math was a lost class because she had already missed so many days and they had gone so much farther along." Another parent indicated, "My son is far less willing to miss a day of school than before (even for illness) because of all you would miss.

At the Alternating Block schools the message is inconsistent. Clover Hill on the one hand, experienced attendance increases the year it changed its schedule and continues to show an upward trend to its data.

At Bird, ADA improved the year prior to the change, however ADA declined the year the schedule changed.

- Reviewing the average number of days missed by a student at Bird (also found on Exhibit 4A), the results from the survey and the focus groups indicates the schedule change contributed to the decrease in attendance. For example, many students would agree that, "It makes it a lot easier for people to skip classes. I know that..." As teacher commented, "I [taught in] the 7-period every other day schedule, and of course the straight 6 before that. I think with this [semester block] schedule, it's easier for kids compared to the every other day schedule to make up things because you get them, boom, the next day. When you're seeing the child every other day and they're absent one day, it's really kind of a nightmare to keep track of, when did I last see you, etc? And that gets to be... your head really can spin on that one."

Discipline

The impact of the schedule on discipline was examined through the survey and focus group and individual interviews. While on site, the research team also inquired as to the number of discipline referrals, suspensions and expulsions.

Significant Findings. As in previous sections of this report, the schools were compared statistically to determine if there were any significant differences in responses from each school. There were 4 significant findings when responses were inferentially compared on discipline. Graph 7, Significant Findings: Attendance and Discipline exhibits the significant comparisons. For discipline and attendance questions, no significant comparisons could be made for students responses and parent responses – the questions were only asked of Teachers.

The responses of teachers at Bird received the 3 less satisfied comparisons with their colleagues at other schools. The responses of teachers at James River (1), Midlothian (1) and Matoaca (1) received the three more satisfied comparisons. The significant comparisons were as follows:

Math teachers at Bird ($m=.3750$) reported a higher level of agreement to the statement "I have more discipline problems this year than last year" than math teachers at Midlothian ($m= -1.2222$), Matoaca ($m= -1.1250$), and James River ($m= -1.0000$) who disagreed with the statement ($F=4.3994$; $d.f.=5, 53$; $e.s.=.3143$).

Descriptive Findings. Discipline was the focus of one statement on the teacher and administrator surveys. They were asked to provide their perceptions as to whether student discipline problems had gotten worse this year. The responses were reported on Table 15, Report on Perceptions of Student Performance: Attendance and Discipline.

In interpreting the results from Table 15, we assumed that those respondents who chose to answer that they were "satisfied" believed that discipline was worse. Those respondents who chose to answer that they were "dissatisfied" believed that discipline was better. Those respondents who chose to answer "undecided" believed that discipline was about the same as in the past. Using these assumptions, the following interpretations were made.

In the semester block schools, the schedule does not seem to affect discipline negatively. For example, sixty three percent (63%) of the James River teachers believe that discipline is better, fifteen percent (15%) feel it is worse and twenty two percent (22%) believe its about the same as in the past. At Monacan, fifty eight percent (58%) of the teachers believe discipline is better, ten percent (10%) feel its is worse, and thirty two percent (32%) believe its about the same as in the past.

One Semester Block teacher commented, "When they're good, they're very good and when they're bad, they're awful. If you've got someone who is off the wall and is a real discipline problem, 90 minutes is a long time. If you really have a kid with a lot of problems, on a shorter schedule, you kind of grit your teeth and make it to the end, but they can be extremely disruptive and really throw off your teaching. But for the most part, my kids have been really pretty good." Another Semester Block teacher indicated, "I think it's calmer than on a regular 6-period day where they're changing classes so often. They're not in the hall as much.I would have to say it's generally pretty calm."

In the Alternating Block schools, the results are similar to the Semester Block schools. For example, at Bird sixty seven percent (67%) of the teachers believe discipline is better, fifteen percent (15%) believe it is worse, and eighteen percent (18%) believe it is about the same. At Clover Hill, sixty four percent (64%) of the teachers believe discipline is better, sixteen percent (16%) believe it is worse, and twenty percent (20%) believe it is about the same as in the past. Focus group comments support these perceptions. For example, an Alternating Block teacher commented that, "With fewer passing times in the hall and a less hectic pace in the entire day, this year quieter." Another teacher indicated, "discipline problems seem to be down; since there are less changes in the hall, there is less opportunity for fighting and altercations."

At seven period day school, sixty two percent (62%) of the teachers believe discipline is better, ten percent (10%) believe it is the same, and twenty eight percent (28%) believe it is the same as in the past. A Seven Period Day teacher related, "You now have extra coverage all day long in the halls. We don't...it's been a positive thing in some ways. We don't have problem kids in the hallways. If you see 1 or 2, that's a rarity. Last year in the hallway, there were kids everywhere. It's been a very good year...because there's always a teacher stationed in the hall at all time."

At the six period day school, seventy one percent (71%) of the teachers believe discipline is better, fifteen percent (15%) believe it is worse, and fourteen percent (14%) think its about the same as in the past. There were few teacher or student references

to discipline in the focus groups indicating that discipline is not a problem at this school. However, the following student comment is the general consensus at all schools. "Teachers with discipline problems before with shorter class periods are still having discipline problems."

In summary, at all the schools, the general consensus of teachers in the focus groups was, "There is a sense of calm, not as frantic as before, and the children move from task to task. I think they are nicer people to be around and...I'm not sure that they don't learn as much because when you're dealing with a lot of conflict in your classroom, that is very disruptive to the learning process..." Fewer discipline referrals were also reported at all schools.

University Admissions

The impact of school schedules on university undergraduate admissions was examined by reviewing letters provided by parents from college and university personnel, interviewing Counselors and Administrators at each school and then asking them to respond to an open ended question on their survey. An inquiry was also made in focus group meetings. Finally, a poll of college and university admissions offices was conducted. Poll responses were received from Virginia, VPI, James Madison, George Mason, Penn State, Pittsburgh, Georgetown, and North Carolina Universities and Mary Baldwin and Mary Washington Colleges.

The data indicate that, at this time, colleges and universities do not use the school schedule as a criteria in admission decisions. Grades, and types of courses taken, are the lead criteria used followed by SAT scores, extra curricular activities and reputation of the high school. The specific ranking depends on the college or university. The reputation of the high school is used to determine how low in class rank they will select students. The school's reputation is established over time by judging the performance of students in high school with their performance at the college or university. Therefore, schedules that positively impact these criteria would be beneficial to students.

COSTS AND BENEFITS OF SCHEDULES

The costs and benefits of each scheduling model were explored by examining the staffing costs, and associated professional issues of each scheduling models. Secondly, the benefits associated with each scheduling model were examined through their potential to deliver course opportunities and their features as revealed in this study.

Staffing Costs of Scheduling Models

Staffing costs were isolated for this analyses because they comprise the majority of the costs of program delivery. Obviously, there are other costs that would be associated with each model. And, perhaps some cost savings. Given the scope of this study, however, examining staffing costs and its associated course credit, and class costs is a beginning point to begin a discussion of the costs and benefits of each scheduling model.

The costs of the scheduling models were analyzed by developing a hypothetical staffing costs for the delivery of the instructional program at each school. The hypothetical staffing costs were developed by establishing a formula for the base staff allocation to schools. The formula considers only regular and vocational teachers in its formulation since special education teacher allocation is determined through a separate formula and is not a part of this analyses. The base allocation for staffing the schools is the number of classes taught by a teacher multiplied by the established class size standard, divided by the enrollment. For example, a teacher in a six period day school would teach 5 classes with an average class size of twenty five (25) which equals an average teacher workload of one hundred and twenty five (125) students. Dividing the average teacher workload into the schools enrollment provides the number of teachers required to deliver the regular and vocational program at each school. Exhibit 5, Hypothetical and Actual Costs of Scheduling Models, displays these costs.

Exhibit 5 About Here

Exhibit five also presents the actual costs of providing the regular and vocational instructional program at each school. Actual costs were derived from the Chesterfield County School Divisions annual budget books, and an analysis of the number of courses that are provided at each school. The exhibit describes the costs per student, costs per credit, costs per course, and actual figures on average class size and work load.

HYPOTHETICAL AND ACTUAL COSTS OF SCHEDULING MODELS

Hypothetical Staffing Projection

Periods	Enrollment	Base Teacher Allocation	Ave Teacher Salary/ Benefits	Total Teacher Cost	Cost per Pupil	Cost per Credit	ATW
6	1500	72	\$36,000	\$2,592,000	\$1,728	\$288	125
7	1500	84	\$36,000	\$3,024,000	\$2,016	\$288	125
8	1500	80	\$36,000	\$2,880,000	\$1,920	\$240	150

Actual 1995 Budgeted Costs

SCHOOL	Budget	Enrollment	Cost/ Student	Credits	Cost/ Credit	Teaching Assignments	# Teachers	Actual PTR	Actual ATWL
Bird	\$6,954,848	1858	\$3,743	7	\$535	5	105	18	88
Clover Hill	\$5,035,202	1378	\$3,654	7	\$522	5	84	16	82
James River	\$4,534,933	1270	\$3,571	8	\$446	6	72	18	106
Monacan	\$5,479,924	1583	\$3,462	8	\$433	6	85	19	112
Matoaca	\$3,233,128	684	\$4,727	7	\$675	5	48	14	71
Midlothian	\$4,831,586	1321	\$3,658	6	\$610	5	73	18	90

Teachers includes only regular and vocational education teachers
 TPR = Teacher Pupil Ratio
 ATWL = Average Teacher Work Load

Costs

The analysis of current year budgeted costs and credits suggest that Semester Block schedules are more cost effective than the other three scheduling models studied on a cost per course credit basis. Using a hypothetical staffing formula, the Six Period Day is the most cost effective for staffing purposes, the Semester Block schedule the second most cost effective, and the seven period schedules the least cost effective.

Some cost savings result from the Block schedules. Students enroll in summer school for remedial and elective purposes. Summer school (1995) data indicate that fewer students enrolling in summer school classes from Block scheduled schools. (see Appendix C to review these data.) The data on grades also indicate that there are fewer students failing three or more subjects from Block schools. The cost savings result from students being able to take classes during the regular school year they would normally take in summer school, or not at all. These cost savings, however, generally accrue to the students' parents rather than the school division.

Professional Costs. On the one hand, the professional costs due to Semester Block schedules appear to be higher than other schedules. For example, hypothetically the average teacher workload is one hundred and fifty students as opposed to one hundred and twenty five students in schools not employing a Semester Block schedule. A review of actual average teacher workload indicates on average this level is not reached. However, the focus groups and survey indicate that some teachers approach and exceed

the one hundred and fifty student level. This level when reached in the Semester Block schools is balanced by a semester workload of seventy five students each semester.

These professional costs were analyzed through the significant findings for planning time, staff development, interaction with colleagues, class size and workload. Graph 8, Report on Significant Findings: Professional Concerns displays this information.

Graph 8 about here

Planning Time. Teachers at Bird ($m=.2796$) are more significantly satisfied with their planning time than teachers at James River ($m= -.6716$), Midlothian ($m= -.4500$), and Clover Hill ($m= -.3000$). Teachers at Matoaca ($m=.1538$) and Monacan ($m= -.0800$) are significantly more satisfied with their planning time than teachers at James River ($m= -.6716$) ($F=6.5820$; $d.f.=5, 436$; $e.s.=.0709$).

- Foreign Language teachers at Matoaca ($m=1.2500$) are more satisfied with the amount of time they have for lesson planning, correcting and grading than Foreign Language teachers at James River ($m= -1.3000$), Monacan ($m= -1.0000$), and Midlothian ($m= -1.0000$) ($F=4.9613$; $d.f.=5, 42$; $e.s.=.4014$).

- English teachers at Matoaca ($m=1.0000$), Midlothian ($m=.0000$), and Bird ($m=.0000$) are more satisfied with the amount of time they have for lesson planning, correcting and grading than English teachers at James River ($m= -1.9000$) ($F=5.2645$; $d.f.=5, 70$; $e.s.=.2882$).

Interaction with Colleagues. Teachers at Matoaca ($m=.5769$) and Bird ($m=.5054$) are more satisfied with the interaction they have with their colleagues than teachers at James River ($m= -.1642$) ($F=4.6161$; $d.f.=5, 439$; $e.s.=.0564$). In particular,

- English teachers at Matoaca ($m=1.0000$) are more satisfied with the amount of interaction with their colleagues than English teachers at James River ($m= -1.1000$) and Monacan ($m= -.7273$) ($F=3.8587$; $d.f.=5, 71$; $e.s.=.2262$).
- Practical Arts teachers at Bird ($m=.9375$) are more satisfied with the amount of interaction they have with colleagues than Practical arts teachers at Midlothian ($m= -.5000$) ($F=3.0508$; $d.f.=5, 71$; $e.s.=.1877$).
- Foreign Language teachers at Bird ($m=1.000$) and Clover Hill ($m=.6364$) are more satisfied with the amount of interaction they have with their colleagues than Foreign Language teachers at James River ($m= -1.000$) ($F=4.2607$; $d.f.=5, 42$; $e.s.=.3654$).

Professional Development. Teachers at Clover Hill ($m=2.667$) report that **workshops provided by their school** are significantly more helpful than teachers at James River

($m=1.7463$), Monacan ($m=1.7838$), Bird ($m=1.7849$) and Midlothian ($m=1.8197$) ($F=4.8063$; $d.f.=5, 436$; $e.s.=.0528$).

- Specifically, Practical Arts teachers at Clover Hill ($m=2.8462$) report higher levels of agreement that school workshops are more helpful than Practical Arts teachers at Bird ($m=1.8325$) and Midlothian ($m=1.8571$) ($F=2.6191$; $5, 71$; $e.s.=.1656$).
- Foreign Language teachers at Midlothian ($m=2.5000$) and Clover Hill ($m=2.2727$) report that the inservice workshops provided by the school are more helpful than Foreign Language teachers at Monacan ($m=1.2000$) ($F=2.9827$; $d.f.=5, 41$; $e.s.=.2929$).
- Social studies teachers at Monacan ($m=2.7273$) report that they **subject area specialists provides workshops** that are helpful for instruction to a higher extent than social studies teachers at Clover Hill ($m=1.3636$) ($F=2.2239$; $d.f.=5, 51$; $e.s.=.1947$).
- Math teachers at Clover Hill ($m=2.3636$) and Midlothian ($m=2.2000$) report higher levels of agreement that subject area specialist provides inservice workshops that are more helpful for instruction than teachers at Matoaca ($m=1.2500$) ($F=3.9268$; $d.f.=5, 55$; $e.s.=.2820$).
- Foreign Language teachers at Midlothian ($m=3.1667$), Bird ($m=3.0000$), Matoaca ($m=2.7500$), Clover Hill ($m=2.5455$) and James River ($m=2.2000$) report higher levels of agreement that subject area specialist provides inservice workshops that

are helpful for instruction than Foreign Language teachers at Monacan (m=1.0000).

- Midlothian Foreign Language teachers report that inservice workshops by area specialists are more helpful than Foreign Language teachers at James River (F=8.5372; d.f.=5, 41; e.s.=.5425).

Workload. Foreign language teachers at Matoaca (m=1.5000) and Clover Hill (m=.7273) are more satisfied with their workload than Foreign language teachers at Monacan (m= -1.5000) and James River (m= -.8000). Foreign Language teachers at Bird (m=.5000) are more satisfied than Foreign Language teachers at Monacan (m= -1.5000) (F=7.7533; d.f.=5, 38; e.s.=.5117). English teachers at Matoaca (m=.8571), Midlothian (m=.1818) and Bird (m= -.1579) are more satisfied with their workload than English teachers at James River (m= -1.7000) (F=1.4526; d.f.=5, 71; e.s.=.3267).

Foreign language teachers at Matoaca and Clover Hill are more satisfied with their workload than Foreign language teachers at Monacan and James River. Foreign Language teachers at Bird are more satisfied than Foreign Language teachers at Monacan. English teachers at Matoaca, Midlothian and Bird are more satisfied with their workload than English teachers at James River.

Class Size. Teachers at Matoaca (m=1.1731) report greater satisfaction with class size than teachers at Bird (m= -.0851), James River (m=.1045), Monacan (m=.2267), and

Clover Hill ($m=.2667$). Teachers at Midlothian ($m=.8710$) report greater satisfaction with class size than teachers at Bird ($F=9.1404$; $d.f.=5, 439$; $e.s.=.0953$).

Social studies teachers at Midlothian ($m=.8333$) report higher degrees of satisfaction with class size than social studies teachers at Bird ($m= -1.0833$). Survey responses from English teachers at all schools except Matoaca indicate that they are dissatisfied to a certain extent with the size of their classes. However, the levels of their dissatisfaction differ significantly. The mean satisfaction level reported by Matoaca English teachers ($m=1.4286$) is higher than English teachers at Bird ($m= -.4211$), Monacan ($m= -.2500$), and Midlothian ($m= -.1818$). And, while all but Matoaca are dissatisfied, English teachers at Matoaca, Clover Hill ($m= -.0769$), Midlothian, Monacan, and Bird are still significantly more satisfied with class size than English teachers at James River ($m= -1.7000$) ($F=6.7612$; $d.f.=5, 71$; $e.s.=.3387$).

On the other hand, parents at Matoaca ($m=.5833$), James River ($m=.5600$), and Monacan ($m=.4516$) are more satisfied with the size of their child's classes than parents at Bird ($m= -.1518$) and Midlothian ($m=.0424$). Parents at James River are more satisfied with class size than parents at Clover Hill ($m=.1754$), but parents at Clover Hill are more satisfied with the size of their child's classes than parents at Bird ($F=14.4180$; $d.f.=5, 1050$; $e.s.=.0645$).

There are other professional costs resulting from Block schedules. For example, work routines, such as scheduling students, also must be conducted twice a year instead of once a year. Adjustments to content delivery must be made in all schools that changed their schedules. Pace of work is also considered a professional cost that must be borne at Semester Block schools, but not at schools using other schedules. The pace of work is faster for teachers and students with little leeway for non task oriented activity. Students seem to have adapted quickly to this pace. Teachers, on the other hand, are still in an adjustment phase and are exhibiting some strain due to the pace.

At the Alternating Block schools the pace is slower and both students and teachers report it is an advantage due to the schedule. Also, at the Alternating Block and Seven Period Day schools, the workload issues are fewer since teachers have a planning and duty period as well as a teaching load of five classes. At the Six Period Day school, the pace is more routine. Teachers have long since adjusted to the pace of their work and its associated workload concerns. On the other hand, the six period day schedule is limited in its ability to deliver course opportunities for students. The seven period and six period day schedule also limit the variety of instructional strategies that teachers can employ.

Benefits

In this section the focus is what benefits do each scheduling model provide. The benefits of the various scheduling models are described by identifying the advantages

and disadvantages associated with each model's ability to deliver a variety of course offerings, impact on professional concerns, and the perceived benefits of each schedule.

Course Opportunities. A considerable advantage has been portrayed for schedules that increased the course opportunities for students. This section of the report focuses on parent, student and teacher satisfaction with the number of opportunities available at each school. As in previous sections of this report, the schools were compared statistically to determine if there were any significant differences in responses from each school. In the body of the report, the statements favoring one school over another are simply listed and compiled in Graphs to display a pattern of significant findings.

Significant Findings. Graph 9, Report on Significant Findings: Course Opportunities exhibits the significant comparisons for course opportunities. As with other Graphs displaying significant findings, when a finding favored one group it was recorded in the more satisfied column for that school and the less satisfied column for the other group. There were forty two (42) significant findings when responses were inferentially compared on the availability of courses. Of the forty two significant findings, seven (7) of them were attributed to teachers, thirty (30) were attributed to students, and 5 were attributed to parents.

Graph 9 about here

As the findings indicate, there is greater satisfaction among parents and students in the ability of schools that changed their schedules to provide more course opportunities than the Six Period Day school. However, the significant findings also indicate that Semester Block schools were better able to provide a greater number of course opportunities for students as seen by the consumer. For example, James River was favored in twelve (12) comparison with other schools and less satisfied in 4 comparisons. Similarly, Monacan was favored in twelve (12) comparisons with other schools and less satisfied in 3 comparisons.

In each school, the more satisfied comparisons were recorded by students and parents and the less satisfied comparisons were attributed to teacher perceptions. For example, the students at James River and those at Monacan were each more satisfied in eleven (11) comparisons with their peers in other schools. They received no less satisfied comparisons. Parents at James River and Monacan were each more satisfied in 1 comparison with their peers in other schools. They recorded no less satisfied comparisons. On the other hand, the responses of teachers received 4 less satisfied comparisons at James River and 3 less satisfied comparisons at Monacan with those of their peers at other schools. In neither case, did the responses of teachers receive a more satisfied comparisons with those of their peers.

The Alternating Block schools and the Seven Period Day school also exhibited an ability to provide significantly greater number of course opportunities, but not at the same

degree of satisfaction as the Semester Block schools. For example, Clover Hill received 7 more satisfied comparisons and 4 less satisfied comparisons. Bird received 5 more satisfied comparisons and 7 less satisfied comparisons. And, Matoaca received 5 more satisfied comparisons and 4 less satisfied comparisons.

Unlike the strong student comparisons found in the semester block schools, the responses of students at Clover Hill received 4 more satisfied comparisons with their peers at other schools, and 4 less satisfied comparisons. The responses of students at Bird received 3 more satisfied comparisons with their peers at other schools, and 7 less satisfied responses. The responses of students at Matoaca received 1 more satisfied response and 4 less satisfied comparisons with their peers at other schools.

The responses of parents at each of the three schools received 1 more satisfied comparison and no less satisfied comparisons with their peers at other schools.

On the other hand, the responses of teachers at these schools indicated they were more satisfied with the schedules ability to provide course opportunities than teachers at the Semester Block schools. For example, the responses of teachers at Bird (1), Clover Hill (2) and Matoaca (3) received more satisfied comparisons with the responses of their peers at Semester Block schools.

At the Six Period Day School, the responses from participants at Midlothian, received twenty (20) less satisfied comparisons on the availability of courses. Of the twenty less more satisfied comparisons, fifteen (15) were attributed to comparisons of student responses with those of their peers at other schools. The other 5 less satisfied comparisons were attributed to the responses of parents with those of their peers at other schools. The responses of teachers at Midlothian received 1 more satisfied comparison and no less satisfied comparisons with those of their peers in other schools. The significant comparisons that support this analysis are listed below for your review.

Students at James River ($m=1.1965$) and Monacan ($m=1.0452$) report greater satisfaction with course opportunities than students at Midlothian ($m= -.0675$), Clover Hill ($m=.5709$), Matoaca ($m=.5976$) and Bird ($m=.7606$). Students at Bird, Matoaca, and Clover Hill report greater satisfaction with course opportunities than students at Midlothian ($F=72.4259$; $d.f.=5, 2410$; $e.s.=.1309$). In particular,

- Ninth grade students at James River ($m=1.2628$), Monacan ($m=1.2566$) are more satisfied with the courses available to them than ninth grade students at Midlothian ($m= -.0090$), Matoaca ($m=.5610$), Clover Hill ($m=.7252$) and Bird ($m=.8293$). On the other hand ninth grade students at Clover Hill and Bird are more satisfied with the courses available to them than ninth graders at Midlothian ($F=21.4694$; $d.f.=5, 655$; $e.s.=.1417$).

- Tenth grade students at James River ($m=1.3139$), Monacan ($m=1.1415$), Bird ($m=.7217$), Matoaca ($m=.6716$) and Clover Hill ($m=.5271$) are more satisfied with the courses available to them than tenth grade students at Midlothian ($m= -.2990$). James River and Monacan tenth graders are also more satisfied with courses than than Clover Hill tenth graders. And, James River tenth graders are also more satisfied in this area than Matoaca and Bird ($F=28.3125$; $d.f.=5, 617$; $e.s.=.1879$).
- Twelfth grade students at Monacan ($m=.9018$), Bird ($m=.7440$) and Clover Hill ($m=.5794$) are more satisfied with the number of courses available to them than twelfth grade students at Midlothian ($m= -.0255$) ($F=16.1913$; $d.f.=4, 560$; $e.s.=.1043$).

Parents at James River ($m=1.0693$), Monacan ($m=.9398$), Clover Hill ($m=.8558$), Bird ($m=.7633$) and Matoaca ($m=.7213$) report significantly greater satisfaction with course opportunities than parents at Midlothian ($.2047$). Also, James River parents are significantly more satisfied with course opportunities than parents at Bird ($F=17.8423$; $d.f.=5, 1089$; $e.s.=.0760$).

Foreign Language teachers at Matoaca ($m=1.6667$) and Clover Hill ($m=1.0000$) are more satisfied with the number of courses available to students than Foreign Language teachers at Monacan ($m= -.4000$) ($F=4.1309$; $d.f.=5, 40$; $e.s.=.3711$). English teachers at Matoaca ($m=1.2857$), Midlothian ($m=.8182$), Bird ($m=.6111$) and Clover Hill ($m=.5000$)

are more satisfied with the number of courses available to students than James River ($m = -.8000$). Matoaca is higher than Monacan ($m = -.0909$) ($F = 5.5592$; $d.f. = 5, 70$; $e.s. = .2995$).

Advantages and Disadvantages of the Scheduling Models. The advantages and disadvantages of the schedule were investigated by requesting answers to open ended questions on the surveys and inquiring into these areas during the focus group and individual interviews. The responses were coded and are reported below. Only those advantages and disadvantages that are supported by the survey and statistical findings are reported. Some areas, such as teacher concern with attention spans were not supported through the surveys and focus group findings and are therefore not reported. This listing also does not include the advantages and disadvantages that the research team gleaned from the study. This information is reported in the summary and conclusions section of this report.

Alternating Block Schedules

Two schools, Bird and Clover Hill utilize an alternating block schedule. The survey requested their views as to the advantages and disadvantages of the schedule. The areas where there was agreement among the respondents will be presented first, followed by the areas that were reported by fewer groups.

Advantages. Respondents identified seven hundred and sixty advantages to the alternating block schedule. The schools seemed to agree on two advantages.

The alternating block schedule permits teachers to **use of variety of activities in their classes**. Twenty six percent of the four hundred (400) advantages cited by participants at Clover Hill chose this advantage. Thirty five (35) teachers, forty (40) students, and twenty five (25) parents cited variety of classroom activities as an advantage. At Bird, twenty one percent of the three hundred and sixty (360) cited advantages by participants were related to an ability to provide a variety of classroom activities as an advantage. Twenty two (22) teachers, thirty four (34) students, and twelve (12) parents cited variety of classroom activities as an advantage.

Bird respondents, for example, saw **provides opportunity for electives** as a greater advantage (14% of the total) than Clover Hill (6% of the total). At Bird, eighteen (18) parents, and thirteen (13) teachers, thirteen (13) students, 3 counselors, and 4 administrators cited an increase in elective opportunities as an advantage. At Clover Hill, eleven (11) parents, 8 students, 3 teachers and 1 counselor saw this as an advantage of the schedule. At Clover Hill opportunity for more classes received only 6% of the total four hundred (400) citations.

Bird (19% of their total) cited **not seeing students every day** as an advantage of the schedule. Whereas, it received 9% of the Clover Hill total advantages. At Bird fifty five

(55) teachers, eleven (11) students, and 3 parents cited it as an advantage. At Clover Hill, 9 teachers, sixteen (16) students, and 9 parents cited it as an advantage.

At Bird two other advantages drew some attention. **Improved grades and learning** was cited by 9% of their total citations primarily by students. For example, 5 teachers and 5 parents cited this as an advantage, while 24 students cited it as an advantage.

Fewer students per class/day/year was cited by 8% of their total cited advantages. Whereas it received only 5% of the Clover Hill citations. At Bird, this advantage was cited by sixteen (16) teachers, 5 students and 6 parents. At Clover Hill, 7 teachers, 9 students and 5 parents cited it as an advantage of their schedule.

Clover Hill respondents, on the other hand, **individualizing instructional relationships** was their second highest cited advantage after curriculum coverage. It received eighteen percent (18%) of the total four hundred citations a Clover Hill. It was mentioned by thirty seven (37) teachers, twenty one (21) students, twelve (12) parents, 1 counselor and 2 administrators. At Bird, individualizing instructional relationships received 6% of their total citations. However, there were no teachers that cited it as an advantage. Whereas, sixteen (16) students, and 4 parents cited it as an advantage.

No other advantage received more than seven percent of the total number of advantages cited by respondents.

DISADVANTAGES

Respondents identified four hundred and twenty disadvantages to the alternating block schedule. There were four areas of agreement by the respondents at both schools.

Hard to make up work comprised nineteen percent (19%) of the cited disadvantages at Bird, and seventeen percent (17%) at Clover Hill. At Bird, twenty seven (27) teachers, ten (10) parents, 3 students, 3 counselors, and 2 administrators cited it as a disadvantage. At Clover Hill, twenty four (24) teachers, 4 parents, and 2 students cited it as a disadvantage.

Coverage comprised fifteen percent (15%) of the cited disadvantages at Bird, and thirteen percent (13%) of the disadvantages at Clover Hill. At Bird, eleven (11) teachers, eleven (11) parents, eight students (8), 3 administrators, and 2 counselors cited it as a disadvantage. At Clover Hill, ten (10) teachers, 9 parents, 4 students, and 1 counselor cited it as a disadvantage.

Finally, **not seeing students every day was** comprised fourteen percent (14%) of the cited disadvantages at Bird, and ten percent (10%) of the cited disadvantages at Clover Hill. At Bird, twenty four (24) teachers, 5 parents, 3 students, and 1 counselor cited it as a disadvantage. At Clover Hill, eleven (11) teachers, 6 parents and 1 counselor cited it as a disadvantage.

No other disadvantage received more than seven percent of the citations at each school.

Semester Block Schedules

Two schools, James River and Monacan utilize a semester block schedule. The survey requested their views as to the advantages and disadvantages of the schedule. The areas where there was agreement among the respondents will be presented first, followed by the areas that were reported by fewer groups.

Advantages. Respondents cited advantages six hundred twenty four times for the semester block schedule. The respondents agreed on four advantages to the semester block schedule.

The most frequently mentioned advantage at both schools is that the semester block schedule provides opportunities for electives. **Opportunity for electives** comprised thirty five percent (%) of the cited advantages at James River and twenty percent (20%) of the cited advantages at Monacan. At James River, forty five (45) parents, thirty five (35) students, 9 teachers, 3 counselors and 2 administrators cited the opportunity as an advantage of the schedule. At Monacan, twenty two (22) parents, thirty six (36) students, 8 teachers, 2 counselors, and 2 administrators cited it as an advantage of the schedule.

The second most frequently mentioned advantage at both schools is their belief that the schedule helps improve grades and learning. **Improved grades and learning** comprised thirty one percent (31%) of the cited advantages at James River, and twenty percent (20%) of the cited advantages at Monacan. At James River, thirty four (34) parents, thirty four (34) students, fourteen (14) teachers, 1 counselor, and 1 administrator cited improved grades as an advantage of the schedule. At Monacan, twelve (12) parents, thirty three (33) students, twenty three (23) teachers, 2 counselors, and 1 administrator cited improved grades and learning as an advantage of the schedule.

The third most frequently mentioned advantage at both schools is their belief that the schedule helps to individualize instructional relationships. **Individualize instructional relationships** comprised twenty percent (29%) of the cited advantages at James River, and twelve percent (12%) at Monacan. At James River, twenty two (22) teachers, seventeen (17) students, fourteen (14) parents and 1 counselor cited individualize instructional relationships as an advantage of the schedule. At Monacan, nineteen (19) teachers, fifteen (15) students, 5 parents, 2 counselors, and 1 administrator cited individualize instructional relationships as an advantage of the schedule.

The fourth most frequently mentioned advantage at both schools is their belief that the schedule helps to provide the class time to do and complete a variety of activities. **Providing the class time to do and complete a variety of activities** comprised nineteen percent (19%) of the cited advantages at James River, and twelve percent

(12%) at Monacan. At James River, twenty three (23) parents, fourteen (14) teachers, eleven (11) students, 3 counselors, and 1 administrator cited providing time to do and complete a variety of activities as an advantage of the schedule. At Monacan, nineteen (19) teachers, fifteen (15) students, 5 parents, 2 counselors, and 1 administrator cited providing time to do and complete a variety of activities as an advantage of the schedule.

Fewer classes to focus on comprised twenty eight percent (28%) of the cited advantages at James River, their third highest advantage. However, fewer classes to focus on comprised only 8% of the Monacan advantages. At James River, thirty five (35) parents, eighteen (18) students, seventeen (17) teachers, 4 counselors, and 1 administrator cited fewer classes to focus on as an advantage of the schedule. At Monacan, ten (10) students, 9 teachers, 8 parents, 1 counselor, and 1 administrator cited fewer classes to focus on as an advantage of the schedule.

No other advantage received more than 7% of the cited advantages.

Disadvantages

Respondents identified three hundred and sixty three disadvantages to the semester block schedule. There was one area of agreement by respondents at each school.

Coverage was comprised thirty seven percent (37%) of the cited disadvantages at Monacan, and thirty two percent of the cited advantages at James River. At Monacan, twenty one (21) teachers, eighteen (18) students, eleven (11) parents, and 3 counselors cited coverage as a disadvantage of the semester block schedule. At James River, thirty eight (38) parents, 21 teachers, 9 students, and 1 counselor cited coverage as a disadvantage of the semester block schedule.

Homework. Several disadvantages were mentioned more at one school than the other school. For example, ten percent (10%) of the cited disadvantages at Monacan referred to homework. Whereas it was only cited as 4% of the disadvantages at James River. At Monacan, 9 students, 3 parents, and 2 teachers mentioned it as a disadvantage. At James River, 4 students, 3 parents, and 2 teachers mentioned it as a disadvantage of the schedule.

More students per class/day/year comprised fourteen percent (14%) of the cited disadvantages at James River, and 6% at Monacan. At James River, eighteen (18) teachers, 9 students, 1 parent and 1 counselor cited it as a disadvantage. At Monacan, 6 teachers, 1 student, and 1 parent cited it as a disadvantage of the schedule.

No other disadvantages received more than 7% of the cited disadvantages.

SEVEN PERIOD DAY SCHEDULE

Advantages were mentioned one hundred and thirty eight by respondents at the seven period day school. The most cited advantage of the seven period day (33%) was that it **provides opportunities for electives**. Twenty six (26) teachers, 9 parents, 6 students, 2 counselors, and 2 administrators cited increased course opportunities as an advantage of the seven period day schedule.

The second most cited advantage of the seven period day (18%) was that it **provides fewer students per class/day/year**. Eleven (11) students, 7 teachers, 5 parents, 1 counselor, and 1 administrator cited fewer students per class/day/year as an advantage of the seven period day.

The third most cited advantage of the seven period day (14%) was that it **increased enthusiasm and interest**. Ten (10) teachers, 5 parents, 4 students, and 1 counselor cited it as an advantage.

The four most cited advantage of the seven period day (11%) was that it **helped individualize instructional relationships**. nine (9) students, 4 parents, and 2 teachers cited it as an advantage of the schedule.

No other advantages received more than 7% of the cited advantages.

Disadvantages

Thirty four disadvantages were mentioned by respondents at the seven period day school. The most cited disadvantage of the seven period day (53%) was that it provided **little time to complete and do a variety of activities in class**. Fourteen (14) teachers, 3 parents, and 1 student cited it as a disadvantage.

The second most cited disadvantage of the seven period day (18%) referred to **coverage**. Four teachers, and 2 parents identified it as a disadvantage.

No other disadvantages received more than 7% of the cited disadvantages.

SIX PERIOD DAY SCHEDULE

There were two hundred and thirty three advantages mentioned by respondents at the six period day school.

The most cited advantage of the six period day (19%) was **seeing students every day**. Twenty two (22) teachers, twelve (12) parents, 7 students, 2 counselors, and 2 administrators cited it as an advantage of the six period day schedule. Six period day schedule teacher commented, "I think it's an advantage. It's a reinforcement. The best thing about the 6 period day is that it allows teachers to introduce material, review and practice the material. Secondly, the kids meet every day.

The third most cited advantage of the Six Period Day (16%) was **fewer students per class/day/year**. Twenty (20) students, ten (10) parents, 6 teachers, and 1 administrator cited it as an advantage of the six period day schedule.

The fourth most cited advantage of the six period day (10%) was that it fostered **coverage**. Twelve (12) teachers, 6 parents, 5 students, and 1 counselor cited it as an advantage of the six period schedule.

No other advantages received more than 7% of the cited advantages.

Disadvantages

The largest disadvantage of the six period day schedule (62%) is its **inability to provide elective opportunities** for students. It was cited by thirty eight (38) students, thirty four (34) parents, thirty one (31) teachers, 4 counselors, and 3 administrators.

The second most cited disadvantage of the six period day schedule (12%) is its inability to allow **time to complete and do a variety of activities**. It was cited by twelve (12) teachers, 7 parents, 2 students, and 1 counselor as a disadvantage of the six period day schedule.

No other disadvantages received more than 7% of the cited disadvantages.

CONCLUSIONS

Four conclusions were drawn from this study, (1) lengthening the amount of class time positively impacts teaching and learning, (2) lengthening the amount of class time, however, does not necessarily produce positive changes in teaching and learning, (3) student and teacher responsibility for education is impacted by the schedule, and (4) decision making can be improved by first determining what one wishes to accomplish and then considering how a scheduling model can support the goals selected.

After these four conclusions are discussed, the major findings of the study are summarized for your review. The specific data supporting these findings and conclusions are found in data that precedes them in this report. Also, In this section, the schools are discussed by the type of schedule they utilize rather than school name to keep the focus of the findings on the schedule. Where two schools using the same schedule differed in their responses, the data are presented by school name.

Positive Impact. The changes in instructional delivery associated with schedules using longer blocks of class time are considered a benefit by those responding to this survey. Students from three of those schools feel they are learning as much as before and enjoying it more. The findings of this study indicate that In schools where teachers: (1) use a greater variety of instructional strategies including more small group instruction and less whole class lecture, and (2) engage in more collegial activities such as taking

a team approach to instruction, integrating content across subjects, students and their parents perceive:

- greater satisfaction with their school,
- positive instructional changes are being made,
- greater improvements in learning, and
- less student boredom with school.

These activities and perceptions were found to a greater extent in Semester Block schools and in one Alternating Block school than in schools that employ shorter amounts of class time.

Little Impact. Our second conclusion is that changing the length of class time does not automatically produce better results. For example, in one of the Alternating Block schools, teachers have changed their teaching strategies as described above and the results are as described above. At the other Alternating Block school, students perceive teachers using more whole class instruction and whole class lecture and less variety of instructional practices, and their students and their parents perceive (1) less satisfaction with their school, (2) fewer positive changes in instructional strategies, (3) fewer improvements in learning, and (4) students express more boredom with school. These effects were also evident in the responses from schools using shorter allocations of classroom time.

Changing Responsibilities. Third, the schedules also impact the responsibilities of teachers and students. Some view this as a benefit, others might view it as a cost. For example, the Semester Block and Alternating Block schedules require that students take more responsibility for their education. They, as well as their teachers, have to manage their time better. In the Semester Block schools, students have flexibility in adjusting their workload from semester to semester. While students are still adjusting to this responsibility, they perceive this as a strength of their schedule. In the Alternating Block schools, students must adjust to different courses on different days. Alternating classes require students to manage their homework and course assignments to a greater extent than previously necessary. On the other hand, in the schools utilizing shorter blocks of time, students are less responsible for their own education. Teachers are more directive, and there is little flexibility in scheduling opportunities.

Better Decision making. Finally, decision makers should come to consensus on what they wish to accomplish and then select the scheduling model with features that will support their goals. For example, the respective characteristics of each scheduling model as revealed by this study are displayed on the matrix on the following page. (The characteristics described for the Alternating Block schools assume that teaching practices change.) By first deciding the type of educational program one wishes to foster, the decision of which schedule to adopt becomes much easier. For instance, by comparing the goal of fostering more course opportunities for students with the features of the schedules on the matrix, the decision then is centered on the Alternating Block,

Semester Block and Seven Period Day schedules. A similar comparative process can be used for each goal that decision makers adopt.

CHARACTERISTICS OF HIGH SCHOOL SCHEDULES

Schedule Characteristic	SB	AB	7 period	6 Period
Daily reinforcement of student learning	x		x	x
Ease of attendance monitoring	x		x	x
Easier to make up work			x	x
Fewer student/teacher classes per day	x	x		
Fewer student/teacher classes per semester	x			
Greater student satisfaction	x	x		
Greater parent satisfaction	x	x		
Greater teacher satisfaction		x	x	x
Improved grades	x	x		
Increased teacher collegial relationships	x	x		
Less student boredom	x	x		
More immediate student testing	x		x	x
More students per teacher per year	x			
More student responsibility for education	x	x		
New beginnings each semester	x			
No adjustment to longer classes			x	x
No course coverage adjustment required				x
Opportunity to individualize instruction	x	x		
Opportunity to take more courses	x	x	x	
Opportunity to use a variety of teaching strategies	x	x		
Scheduling twice a year	x			
Teacher comfort with established routines				x

SB = Semester Block AB = Alternating Block

Summary of Major Findings

The study's major findings are summarized by (1) overall satisfaction, (2) impact on teaching, (3) impact on student performance, and (4) costs and benefits.

OVERALL SATISFACTION

Overall satisfaction with the schedule was first examined through survey items related to attitudes and enthusiasm for school, and then the item regarding retention of the schedule.

Attitudes Toward School

In general, teachers (over 81%) and parents (over 72%) express positive attitudes towards schools. Student attitudes toward school are lower (50%) and vary by school.

At the Semester Block schools, students report significantly more satisfaction than students at other schools with the exception of Clover Hill. Parents at James River also report significantly more enthusiasm for their school than parents at all other schools with the exception of Monacan. Teachers at James River report significantly higher levels of enthusiasm for their school than teachers at Clover Hill and Bird.

At the Seven Period Day school, teachers report significantly more enthusiasm for their school than teachers at Bird, Clover Hill and Monacan.

Retention of the Schedule

On the survey item related to the retention of the schedule, the data suggest that a clear majority (over 60% in all cases) of the students, parents, and teachers at James River, Monacan, and Clover Hill wish to retain their current schedules. The responses at Bird, Matoaca and Midlothian are inconsistent. Teachers generally tend to favor the current schedule. Parent and student responses generally prefer a change in the schedule. At Midlothian, the data indicates that many parents, students, and teachers desire a schedule that will provide students with more course opportunities. In particular, forty seven percent (47%) of the parents, and thirty six percent (36%) of the students at Midlothian reported that they desired a change in their current schedule. Thirty one percent (31%) of the parents and thirty nine percent (39%) of the students wish to retain the current schedule.

As indicated above, the data suggests that a majority of teacher responses at all six schools were favorable towards retaining their current schedule. However, differences by subject area were expressed. For example:

At the **Semester Block schools**, the responses of Science (over 80%), Social Studies (over 70%), Special Education (over 60%) and performing and practical arts teachers indicate a desire to retain the schedule. On the other hand, the responses of Math, English and Foreign Language teachers were inconclusive, depending upon the school.

At James River, seventy one percent (71%) of the Math teachers favored retention of the schedule. At Monacan fifty percent (50%) favored retention of the schedule. At James River thirty percent (30%) of the English teachers favored retention of the schedule and thirty percent (30%) wished to teach under a different schedule. Forty percent (40%) of the English teachers at James River were undecided on the matter. At Monacan, fifty five percent (55%) of the English teachers wished to teach under a different schedule, thirty six percent (36%) wished to retain the current schedule, and eight percent (8%) of the teachers had no opinion on the matter. The responses of Foreign Language teachers at James River were also inconclusive. For example, forty four percent (44%) favored retention, twenty two percent (22%) wished to teach under a different schedule, and thirty four percent (34%) were undecided. Foreign Language teachers at Monacan responded similarly. One teacher wished to retain the current schedule, two teachers wished to teach under a different schedule and three teachers were undecided on the matter.

At the **Alternating Block schools**, most Foreign Language teachers (over 70%) wish to retain the schedule. However, English, Science, Social Studies, Special Education, and Performing and Practical Arts teachers at Bird view the issue of retention of the schedule differently from their colleagues at Clover Hill High School. For example, English teachers responded in an inconclusive fashion to the question of retention of the current schedule. At Bird, forty two percent (42%) of the English teachers favored retaining the current schedule, forty seven percent (47%) wished to teach under a

different schedule, and eleven percent (11%) were undecided on the matter. At Clover Hill, eighty six percent (86%) favored retaining the schedule. At Bird, fifty percent (50%) of the Science teachers and at Clover Hill seventy five percent (75%) favored retaining the schedule. At Bird, fifty five percent (55%) and at Clover Hill ninety one percent (91%) of the Social Studies teachers favored retaining the schedule. At Bird, thirty three percent (33%) and at Clover Hill one hundred percent (100%) of the Special Education teachers favored retaining the schedule.

At the **Seven Period Day school**, the responses of English, Social Studies, Science, and Special Education teachers (over 60%) indicate a desire to retain the current schedule. However, Math (50%) and Foreign Language (50%) teacher responses are unclear as to whether they wish to retain the schedule. Other teachers, such as Business and Art seem to desire a change in schedules.

At the **Six Period Day school**, for example, many English (82%), Foreign Language (100%), Social Studies (67%), and Science (67%) teachers wish to retain the schedule, while few Math (40%) teachers wish to retain the schedule.

IMPACT OF THE SCHEDULE ON TEACHING

Changes in Instructional Approaches

In general, teachers (over 55%) at schools using longer blocks of time report that teaching methods have changed, as compared to teachers (less than 47%) at schools using shorter blocks of time.

The data suggest that students, teachers, and parents at **Semester Block schools** report significantly more positive changes occurred in teaching and learning processes and teaching methods this past year than their peers in schools that use shorter class times.

In the **Alternating Block schools**, the results are inconsistent. On the one hand, students, teachers, and parents at Clover Hill report significantly more positive changes occurred in teaching and learning processes, and teaching methods this past year, as compared to their peers in schools using shorter class times. On the other hand, teachers at Bird report the use of new instructional approaches and positive changes in teaching and learning, but they are not validated by student and parent responses.

In **schools using shorter class times**, students, parents (less than 31%) and teachers (less than 47%) report few changes in teaching methods this past year. These responses are significantly lower than their peers in block schedule schools.

Content Coverage

Three pieces of information were reviewed to provide information on coverage. First, the surveys inquired into teacher, student and parent perceptions on the amount of content covered, the depth of the coverage, the level of academic challenge provided to students, and the teachers ability to cover the material in the amount of time available. Second, teachers were also asked to indicate if they were able to cover the approved county curriculum. Finally, a test was designed and administered to determine whether or not a common body of content was covered and whether or not students were learning this common body of content.

In the Spring of 1995, an **Algebra I test** was designed and administered by teachers in five of the six high schools in this study to determine if students were learning a common body of content. The results indicate that students tested at each of the five high schools scored comparably. These results imply that, no matter which schedule a school utilized, a common body of Algebra I content was covered by teachers and learned by students.

The data also suggest that most school communities indicate they are satisfied with the **level of academic challenge** provided to students (over 60%), and believe that teachers are able to **cover the material in the time provided** most of the time (over 65%). Most teachers at all schools (over 64%) believe they can deliver the content in the amount of time provided.

Student responses at the **Semester and Alternating Block schools** express significantly more satisfaction with their teachers ability to cover the material in the amount of time provided than students in schools with shorter class periods. However, teachers at these schools report significantly more difficulty with content coverage than teachers at schools using shorter amounts of class time.

In general, Semester Block teachers, however, express more satisfaction with their ability to cover the approved county curriculum than Alternating Block teachers. For example, sixty percent (60%) of the teachers at James River, and seventy two percent (72%) of the teachers at Monacan believe they are able to cover the approved county curriculum. At Bird, fifty two percent (52%), of the teachers and at Clover Hill fifty eight percent (58%) of the teachers believe they are able to cover the approved county curriculum.

At **schools using shorter class times**, Seven Period Day teachers believe they can cover the approved county curriculum. For example, sixty seven percent (67%) of the teachers at Matoaca and eighty one percent (81%) of the teachers at Midlothian express satisfaction with their ability to deliver the approved county curriculum.

Instructional Practices

The survey items referring to instructional practices were analyzed through the process change scale. Survey items asked respondents how often a practice occurred. Some items used the satisfaction scale to determine not only how often a practice occurred but

also if respondents were satisfied with the practice. In general, the descriptive statistics indicate that teachers use most instructional practices in all schools. The inferential statistical analyses indicate that teachers suggest that teaching in Block scheduled schools differs significantly from teaching in non Blocked schools. For example,

In the **Semester Block Schools** the responses were consistent at both schools,

- Teachers reported using group instruction, a variety of instructional activities, and assessment procedures (multiple choice tests, portfolios), and take team approaches to teaching more often than teachers at schools using shorter class periods.
- Teachers use whole class instruction, whole class lecture, and textbooks as the primary tool of instruction less often than teachers using shorter class periods.
- Students express more satisfaction with feedback on homework, quality relationships with teachers, less boredom in classes than students in schools using shorter class periods and at Bird.
- Parents express more satisfaction with quality relationships with teachers, and teacher helpfulness than parents at all other schools.

In the **Alternating Block Schools**,

- Teachers use team approaches to teaching more often, and whole class instruction, whole class lecture, multiple choice, and true/false questions less often than teachers in schools using shorter class periods. They also use multiple

choice, true/false questions and portfolios less often than teachers in Semester Block schools.

Other responses from these schools are variable. For example,

- At Clover Hill, teachers use group instruction, a variety of instructional practices, and integrated approaches to teaching more often, and use essay questions less often than teachers at schools using shorter class periods, and at Bird. Students express more satisfaction with quality relationships with teachers than students at schools using shorter class periods, and at Bird.
- At Bird, teachers use whole class lecture, whole class instruction, essay questions more often, and a variety in instructional practices less often than teachers at Semester Block schools, and at Clover Hill. Students express more satisfaction with teacher helpfulness than students at other schools with the exception of students at Matoaca.

In the **Seven Period Day School**,

- Teachers use whole class instruction, whole class lecture, and text books as the primary tool of instruction more often than teachers at schools using longer class times, with the exception of teachers at Bird. They also report higher uses of a variety of instructional activities than teachers at the Six Period Day school.

- Teachers use group instruction, rubrics, essay questions, and team and integrated approaches to instruction less often than teachers at most schools using longer class periods.
- Students express more satisfaction with teacher helpfulness than students at other schools, with the exception of students at Bird.

In the Six Period Day School,

- Teachers use whole class instruction, whole class lecture, textbooks as the primary tool of instruction, and rubrics more often than schools using longer class periods, with the exception of teachers at Bird.
- Teachers use group instruction, a variety of instructional activities, and team and integrated approaches to instruction less often than schools using longer class periods, with the exception of teachers at Bird.

Homework

The data indicate that a clear majority of teachers at all schools believe students can seldom complete their homework at school. In the inferential comparisons, no significant differences were found among teachers, students, and parents at all schools.

On the other hand, in the focus groups some teachers indicated there was some merit in the practice of at least starting homework in school for some students. For example, several teachers pointed out, "I found that with some kids, if they start it in class, the

odds of them getting it back to me are so much greater." On the other hand, as several teachers related, "The issues of students not doing homework were there long before block scheduling."

Attention Spans

Students in schools with shorter class times and Bird express less interest in classes. In general, students in all schools report higher levels of inattention and boredom in their classes **than their parents or teachers report for them**. However, students also report significantly lower levels of boredom in classes at the Semester Block schools and one Alternating Block school. The focus group data indicate that for many students, boredom equates with whole class lecture.

Collegial Practices

The data indicate that teachers at three of the four schools employing longer blocks of classroom time believe strong collegial relationships are developing. For example, Clover Hill, James River, and Bird, report collegial practices such as forming informal discussion groups, team approaches to teaching and integrating instruction across subject areas occur significantly more often than teachers at other schools. Contrasted with these schools, teachers at other schools continue individual approaches to their work.

Teacher responses for integrating the delivery of instruction are more similar than those reported above. Over sixty percent (60%) of the teachers at the Block schools work to integrate instruction across subject areas. In the schools using shorter blocks of time, the range of the teachers working to integrate instruction across subject areas is from forty nine percent (49%) to fifty five percent (55%).

IMPACT OF SCHEDULES ON STUDENT PERFORMANCE

Learning

In **Semester Block Schools**, satisfaction levels indicate that students, teachers, and parents are satisfied that learning is being positively affected. At both schools,

- Students and parents are significantly more satisfied that learning is being favorably impacted overall than students and parents at all other schools.
- Students and parents are significantly more satisfied with learning as reflected in grades than students and parents at all other schools, with the exception of Clover Hill.
- Students are significantly more satisfied that they are learning important concepts, and gaining an in-depth understanding than students in all other schools. They are also significantly more satisfied that they are learning as much as they should be, than students at other schools with the exception of Clover Hill.
- Teachers are significantly more satisfied with learning as reflected in grades than teachers at Bird. Over fifty seven percent (57%) of the teachers at both schools

are satisfied that students are learning as much this year as last year. This level of satisfaction is significantly less than teachers at other schools with the exception of Bird.

At James River,

- teacher satisfaction levels with survey items are as follows: learning as reflected in grades (78%), mastering important concepts (75%), gaining an in-depth understanding (55%), application of learning (69%), quality of learning (70%), the completion rate of work (65%) and learning as much this year as last year (57%).
- student satisfaction levels with survey items are as follows: learning as reflected in grades (63%), mastering important concepts (65%), gaining an in-depth understanding (62%), application of learning (68%), quality of learning, (66%), the completion rate of work (64%) and learning as much this year as last year (64%).

At Monacan,

- teacher satisfaction levels with survey items are as follows: learning as reflected in grades (78%), mastering important concepts (83%), gaining an in-depth understanding (60%), application of learning (71%), quality of learning, (80%), the completion rate of work (69%) and learning as much this year as last year (59%).

- student satisfaction levels with survey items are as follows: learning as reflected in grades (68%), mastering important concepts (58%), gaining an in-depth understanding (50%), application of learning (58%), quality of learning, (57%), the completion rate of work (63%) and learning as much this year as last year (50%).

In Alternating Block Schools, the satisfaction levels are inconsistent.

- The Clover Hill school community, (students, teachers, and parents) is significantly more satisfied that learning is being positively affected. For example, students and parents are significantly more satisfied with learning as reflected in grades than students and parents at schools using shorter class times and Bird. Teachers are significantly more satisfied that students are learning as much this year as last than teachers in the Semester Block schools and Bird. Teachers are also significantly more satisfied that students are learning as much as they can than teachers at Bird.
- Clover Hill teacher satisfaction levels with survey items are as follows: learning as reflected in grades (68%), mastering important concepts (81%), gaining an in-depth understanding (66%), application of learning (75%), quality of learning, (77%), the completion rate of work (65%) and learning as much this year as last year (74%).

- Clover Hill student satisfaction levels with survey items are as follows: learning as reflected in grades (54%), mastering important concepts (53%), gaining an in-depth understanding (55%), application of learning (53%), quality of learning, (53%), the completion rate of work (58%) and learning as much this year as last year (56%).
- The Bird school community (students, parents, and teachers) reports that learning is not being positively affected. On almost every survey item dealing with achievement, students and parents are significantly less satisfied than their peers in other Blocked schools. Teachers also express significantly less satisfaction on many achievement survey items when compared to teachers in other schools.
- Bird teacher satisfaction levels with survey items are as follows: learning as reflected in grades (45%), mastering important concepts (69%), gaining an in-depth understanding (53%), application of learning (58%), quality of learning, (64%), the completion rate of work (41%) and learning as much this year as last year (53%).
- Bird student satisfaction levels with survey items are as follows: learning as reflected in grades (41%), mastering important concepts (51%), gaining an in-depth understanding (48%), application of learning (50%), quality of learning

(43%), the completion rate of work (46%) and learning as much this year as last year (44%).

In the **Seven Period Day school**, teachers are significantly more satisfied that learning is being positively affected than **teachers at other schools**. However, students and parents are significantly less satisfied that learning is being positively affected **than students and parents at other schools**.

- Teachers satisfaction levels with survey items are as follows: learning as reflected in grades (56%), mastering important concepts (77%), gaining an in-depth understanding (53%), application of learning (67%), quality of learning, (65%), the completion rate of work (67%) and learning as much this year as last year (57%).
- Student satisfaction levels with survey items are as follows: learning as reflected in grades (50%), mastering important concepts (59%), gaining an in-depth understanding (54%), application of learning (63%), quality of learning, (51%), the completion rate of work (65%) and learning as much this year as last year (51%).

In the **Six Period Day school**, teachers are significantly more satisfied that learning is being positively affected **than teachers at other schools**. However, students and parents are significantly less satisfied than their peers in other schools (except Bird) that learning is being positively affected.

- Teacher satisfaction levels with survey items are as follows: learning as reflected in grades (72%), mastering important concepts (87%), gaining an in-depth understanding (58%), application of learning (72%), quality of learning, (89%), the completion rate of work (84%) and learning as much this year as last year (78%).
- Student satisfaction levels with survey items are as follows: learning as reflected in grades (41%), mastering important concepts (44%), gaining an in-depth understanding (43%), application of learning (50%), quality of learning, (42%), the completion rate of work (50%) and learning as much this year as last year (48%).

Grades

GPA's were examined to determine if grades at schools which changed their schedule improved the year after a schedule change. The rise or decline of GPA's were also analyzed to determine if the data should be interpreted as trends or annual fluctuations. These criteria were used to examine student performance on all statistical performance data analyzed for this study. For example, the year after their schedule changed,

- GPA's decreased at Clover Hill only to rise from 2.85 in 1994 to 2.95 in 1995. On the other hand, GPA's substantially rose from 1994 to 1995 at Monacan (2.67-2.87), and Matoaca (2.29-2.39). The year after the change, Bird GPA's rose

slightly (2.49 -2.51). James River reports comparably high GPAs, (2.94) but no trend analysis could be conducted since it has no previous history.

- A trend line at Monacan was established. Grades began to improve two years prior to the change in schedules and continued after the change. At Clover Hill and Matoaca the evidence is also in a positive direction. However, a trend could not be established because in both cases, 1994 GPAs were lower than 1993 GPAs. At this point they are considered as annual fluctuations. Midlothian GPAs over the same time period (1993-95) remained stable (2.82-2.78-2.79).

The **GPAs of a cohort of students** from Bird, Clover Hill, Monacan, Matoaca, and Midlothian who entered the ninth grade in 1993 were followed for three years. Over all, the GPAs of these students rose each year with the exception of Midlothian. In the year after the schedule changed, GPAs rose at Monacan, Bird, and Matoaca, and were stable at Clover Hill.

Grades were also examined in the same manner by **student achievement levels**. These analyses indicate that most students' grades have benefited from schedule changes. However, until trends are established rises and declines are considered as annual fluctuations. For example,

- The grades of **honors students** rose the year after schedule changes at Monacan, Matoaca, and Bird. They declined slightly at Clover Hill. For comparative purposes, they also declined at Midlothian in 1995. Honors GPAs were the highest at Monacan and James River in 1995.
- The grades of **students exceeding grade level expectations** rose the year after schedule changes at Clover Hill, Monacan, slightly at Matoaca, and declined at Bird. For comparative purposes, they also declined at Midlothian in 1995. James River GPAs for students exceeding grade level expectations were the highest of the six schools in 1995.
- The grades of **students meeting grade level expectations** rose the year after schedule changes at Monacan and Matoaca, and declined at Bird and Clover Hill. At Clover Hill, they rose again two years after the schedule change. For comparative purposes, they rose at Midlothian in 1995. James Rivers GPAs for students meeting grade level expectations were the highest of the six schools in 1995.
- The grades of **students not meeting grade level expectations** rose the year after the schedule change at Bird, Monacan and slightly at Matoaca and declined at Clover Hill. At Clover Hill, they rose again two years after the schedule change. For comparative purposes, they also declined at Midlothian in 1995. Monacan's 1995 GPAs for students not meeting grade level expectations were the highest of the six schools in 1995.

- The GPAs of **students who were not grouped for instruction** are demonstrating substantial growth over the three years of analyses. Positive trend lines were established at Monacan and Clover Hill over the 3 year period. Monacan's trend began the year prior to the schedule change. The year after a schedule change, the grades of these students rose at Bird, Clover Hill, Monacan, and Matoaca. For comparative purposes Midlothian's GPAs also rose in 1995. Clover Hill's GPAs for non-grouped students were the highest of the six schools in 1995.

The percentage of students achieving **Honor Roll** status the year after a schedule change was examined by school. Students achieving Honor Roll status were then examined by subject to assess which subjects were influencing the Honor Roll numbers. The data suggest that increases in Honor Rolls may be primarily attributable to more students enrolling in Performing Arts classes. For example, at James River four hundred and five students (405) enrolled in Performing Arts classes and eighty four percent (84%) received grades of 3.5 or better. At Monacan, student enrollment in Performing Arts Classes increased from one hundred and eighty one (181) students in 1994 (83% received grades of 3.5 or better) to three hundred and fifty one (351) students in 1995 (92% received grades of 3.5 or better. The number of students taking Performing Arts classes also rose at Clover Hill (96% at 3.5 or better), Bird (79% at 3.5 or better) and Matoaca (74% at 3.5 or better)

The GPAs, Honor Roll level, were examined **for each subject**. While there were rises and declines the year after the schedule change, there were few significant changes in Honor Roll levels for those subjects. It appears that Science Honor Rolls at Monacan, and Math Honor Rolls at James River are benefiting most by the change in schedules.

The analyses for each subject area are as follows:

- **English GPAs** rose the year after the schedule change at Monacan and declined at Bird, Clover Hill, and Matoaca. For comparative purposes, Midlothian's English GPAs rose in 1995. Clover Hill English GPAs were the highest of the six schools in 1995. James River's English GPAs were lower than Midlothian's but comparable.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change at Monacan, declined at Clover Hill, and declined slightly at Bird and Matoaca. For comparative purposes, Midlothian's English Honor Roll rose in 1995. Clover Hill's English Honor Roll was the highest of the six schools in 1995.

- **Math GPAs** did not rise the year after the schedule change at any school. They remained the same at Monacan and declined at the other schools where schedules changed. For comparative purposes, James River's Math GPAs were the highest of the schools reviewed.

The percentage of students scoring at the honor roll level of 3.5+ rose slightly the year after a schedule change at Monacan, and was stable at Clover Hill, Bird and Matoaca. For comparative purposes, Midlothian's Math Honor Roll declined in 1995. James River's Math Honor Roll was the highest of the six schools in 1995.

- **Science GPAs** rose the year after a schedule change at Monacan and Matoaca and declined slightly at Bird and Clover Hill. At Clover Hill they rose two years after the schedule change. For comparative purposes, Midlothian's Science GPAs slightly declined in 1995. Monacan's Science GPAs were the highest of the six schools. James River Science GPAs were comparable to Monacan's.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change rose Monacan, Clover Hill, Bird and Matoaca and was stable at Bird. For comparative purposes, Midlothian's Science Honor Roll declined in 1995. Monacan's Honor Roll was the highest of the six schools in 1995. James River's Science Honor Roll was comparable to Monacan's.

- **Social Studies GPAs** rose the year after a schedule change at Bird, Monacan and Matoaca and declined at Clover Hill. Clover Hills Social Studies GPAs rose two years after the schedule change. For comparative purposes, Midlothian's Social Studies GPAs declined in 1995. James River's Social Studies GPAs were comparable to Clover Hill's.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change at Clover Hill and Matoaca. They were stable at Bird and declined at Monacan. For comparative purposes, Midlothian's Social Studies Honor Roll declined in 1995. James River's Social Studies Honor Roll was the highest of the six schools in 1995.

- **Foreign Language GPAs** rose the year after a schedule change at Clover Hill and declined at Bird, Monacan, and Matoaca. For comparative purposes, Midlothian's Foreign Language GPAs declined in 1995. Clover Hill's Foreign Language GPAs were the highest at Clover Hill, and second highest at James River in 1995.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change at Clover Hill and Matoaca. It was stable at Bird and Monacan. For comparative purposes, Midlothian's Foreign Language Honor Roll declined in 1995. Clover Hill's Foreign Language Honor Roll was the highest and James River's was the second highest of the six schools in 1995.

Standardized Tests

Many of the schools in this study perform well above the national averages on standardized tests. The data suggest they are still performing at those high levels. However, the impact of alternative schedules is inconclusive on standardized measures.

For example, Clover Hill, which is in its second year of implementation, is demonstrating growth on Iowa Tests of Basic Skills (TAP), Scholastic Aptitude Tests (SAT) and Advanced Placement Tests (AP). On the other hand, the results for Bird, and Monacan, which are just beginning their first year of implementation, are less impressive on these measures. The clarity of the results on these standardized measures was further diluted because James River does not have a senior class and therefore was not compared on any measure other than the TAP scores.

TAP data for the three year period, 1993-95 indicates that on the composite scale Midlothian, the school that did not change its schedule, has experienced a slight decline over the three years. Bird, Matoaca, and Monacan, where schedules changed, also experienced similar declines. The decline at Bird and Matoaca occurred the year after the schedule change, however since no trend lines were established, these declines are reported as annual fluctuations. The decline at Monacan appears to be a three year trend which began two years prior to the schedule change. Clover Hill has maintained a stable score each year. And, James River students scored at the level of Midlothian in 1995. The data suggest several trends should be monitored. However, until the data is clearer where declines have occurred they are interpreted as annual fluctuations, or not directly attributable to the schedule changes.

SAT scores were examined over the same three year period (1993-95). The results on the verbal portion of the examination demonstrate yearly fluctuations. However, at

Clover Hill, where the schedule changed two years ago, and Midlothian where the schedule did not change there is an upward trend on verbal SAT scores. Matoaca scores indicate that more students took the test in 1995 than 1994 and 1993, and their scores rose the year after the schedule change. Monacan's verbal scores rose the year after the schedule change. While these are promising results, a trend has not been established for the rise in scores. Therefore, it is considered a year-to-year fluctuation.

On the Math portion of the test, the scores at Clover Hill are interpreted as year to year fluctuations. The year that Clover Hill changed its schedule the Math portion scores rose rather significantly only to return to previous levels in their second year of the schedule change. Monacan Math scores slightly declined the year after the schedule change and are considered as annual fluctuations. Bird scores slightly rose the first year of their schedule change. However, until a trend can be established, it must be considered a year-to-year fluctuation. The results at Matoaca are more enlightening on year to year fluctuations. For example, on the verbal and math portions, results rose in 1994 from the previous year and returned to previous levels in 1995. The results on the Math portion at Midlothian were stable over the three year period.

To be sure that schedule changes were not negatively affecting student performance on the SAT, the scores of the top ten percent of the senior class were examined. Clover Hill SAT scores for the top ten percent of the class rose the year after the schedule change, Matoaca and Monacan declined, and Bird remained stable the year after the

change in schedules. However, Midlothian which did not change its schedule also experienced a drop in verbal and math scores in the top ten percent of the graduating class. Considering the boundary changes, shifting student populations at both Monacan and Midlothian, and the schedule change at Monacan, these measures should continue to be monitored.

Advanced Placement Tests (AP). All schools except Bird are experiencing fewer students sitting for advanced placement tests. This decline is likely related to the fact that colleges and universities are requiring students to score at the 4 or 5 level rather than the traditional 3 level for college credit, and fewer students are taking the courses and the exams.

On the composite scale, the AP scores are consistently even in four of the five schools with a senior class. For example, Bird (77%), Clover Hill (79%), Monacan (77%) and Midlothian (77%) each experienced similar numbers of students scoring a three or better on the test. (Three has traditionally represented college credit). Matoaca scores were not used in this analysis because the number of students sitting for the examinations (3) were not comparable to other schools. James River was also not included because the comparisons would not be comparable since no seniors were available for the examinations.

On the English portion, scores rose at Clover Hill the year after the schedule change. The number of students and scores declined two years after the schedule change. At Bird and Monacan, the number of students sitting for the exam and scores declined the year after the schedule changed. At Midlothian, the number of students sitting for the exam declined but the scores remained the same.

Attendance

In schools that changed their schedule, perceptions regarding attendance fluctuated. For example, in the Semester Block schools, over fifty two percent (52%) of the teachers report attendance is better this year than last year. This satisfaction level is higher than teachers at other schools. In the Alternating Block schools, teachers at Bird (20%) and Clover Hill (37%) report that attendance is better this year than last year. At the Seven Period Day school, teachers (32%) report that attendance is better this year than last year. The anecdotal data suggest that in Block schools, students do not like to miss school because they miss too much work. However, it is relatively clear that overall attendance has not been positively effected by the change in schedules. For example, average daily attendance declined at Bird and Monacan the year after the schedule change, rose at Clover Hill, and was stable at Matoaca.

Discipline

Respondents at schools that changed their schedule report fewer discipline problems this year. Over sixty percent (60%) of the teachers at all schools disagreed with the survey

item "student discipline problems have gotten worse this year." The general response at schools that changed their schedule was that the school was "calmer", and fewer discipline referrals were being made by teachers.

University Admissions

The impact of school schedules on university undergraduate admissions was examined by reviewing letters provided by parents from college and university personnel, interviewing Counselors and Administrators at each school and then asking them to respond to an open ended question on their survey. An inquiry was also made in focus group meetings. Finally, a poll of college and university admissions offices was conducted.

The data indicate that, at this time, colleges and universities do not use the school schedule as a criteria in admission decisions. Grades, and types of courses taken, are the lead criteria used followed by SAT scores, extra curricular activities and reputation of the high school. The specific ranking depends on the college or university. The reputation of the high school is used to determine how low in class rank they will select students. The schools reputation is established over time by judging the performance of students in high school with their performance at the college or university. Therefore, schedules that positively impact these criteria would be beneficial to students.

six period day schedule also limit the variety of instructional strategies that teachers can employ.

Benefits

Teachers, parents, and students report that a significant benefit of Block schedules is the increased number of course opportunities for students. The Semester Block schedule provides the most course opportunities. In fact, students, parents and teachers at Semester Block Schools express significantly greater satisfaction with the number of student course opportunities available than the school communities at other schools. Alternating Block schedules are also able to provide more course opportunities than schools not utilizing block schedules. Seven Period Day schedules provide expanded course opportunities, but respondents expressed less satisfaction with course opportunities than respondents from the Block schools. Six Period Day schedules provide the fewest course opportunities and respondents expressed the lower satisfaction with the number of student course opportunities than respondents from the Block schools.

groups and survey indicate that some teachers approach and exceed the one hundred and fifty student level. This level when reached in the Semester Block schools is balanced by a semester workload of seventy five students each semester.

There are other professional costs resulting from Block schedules. For example, work routines, such as scheduling students, also must be conducted twice a year instead of once a year. Adjustments to content delivery must be made in all schools that changed their schedules. Additionally, pace of work is also considered a professional cost that must be borne at Semester Block schools, but not at schools using other schedules. The pace of work is faster for teachers and students with little leeway for non task oriented activity. Students seem to have adapted quickly to this pace. Teachers, on the other hand, are still in an adjustment phase and are exhibiting some strain due to the pace.

At the Alternating Block schools the pace is slower and both students and teachers report it is an advantage due to the schedule. Also, at the Alternating Block and Seven Period Day schools, the workload issues are fewer since teachers have a planning and duty period as well as a teaching load of five classes. At the Six Period Day school, the pace is more routine. Teachers have long since adjusted to the pace of their work and its associated workload concerns. On the other hand, the six period day schedule is limited in its ability to deliver course opportunities for students. The seven period and

COSTS AND BENEFITS

Costs

The analyses of current year budgeted costs and credits suggest that Semester Block schedules are more cost effective than the other three scheduling models studied on a cost per course credit basis. Using a hypothetical staffing formula, the Six Period Day is the most cost effective for staffing purposes, the Semester Block schedule the second most cost effective, and the seven period schedules the least cost effective.

Some cost savings result from the Block schedules. Students enroll in summer school for remedial and elective purposes. Summer school (1995) data indicate that fewer students enrolling in summer school classes from Block scheduled schools. The data on grades also indicate that there are fewer students failing three or more subjects from Block schools. The cost savings result from students being able to take classes during the regular school year they would normally take in summer school, or not at all. These cost savings, however, generally accrue to the students' parents rather than the school division.

On the one hand, the professional costs due to Semester Block schedules appear to be higher than other schedules. For example, hypothetically the average teacher workload is one hundred and fifty students as opposed to one hundred and twenty five students in schools not employing a Semester Block schedule. A review of actual average teacher workload indicates on average this level is not reached. However, the focus

APPENDIX A
SURVEY INSTRUMENTS

STUDENT SURVEY

The purpose of this survey is to collect your perceptions regarding school policies, processes, and practices, especially as they relate to teaching and learning. ALL RESPONSES ARE COMPLETELY CONFIDENTIAL.

SECTION 1

Directions: This set of questions relates to teaching processes and classroom activities at your high school. Please **CIRCLE** the number for each item that best indicates the frequency with which the behaviors occur in *your* classes *this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Always	Most of the Time	Some of the Time	Seldom	Never	Don't Know
1. My teachers use group activities in my classes	1	2	3	4	5	8
2. In my classes, time is distributed among whole class instruction, small group work, and individual study	1	2	3	4	5	8
3. Most class time is spent in whole class instruction	1	2	3	4	5	8
4. My teachers work with me in individual study	1	2	3	4	5	8
5. My teachers are using new instructional approaches this year	1	2	3	4	5	8
6. I am bored in my classes	1	2	3	4	5	8
7. My teachers are able to cover the material for my classes in the amount of time provided	1	2	3	4	5	8
8. I have problems with attentiveness in my classes	1	2	3	4	5	8
9. I have problems with interest in my classes	1	2	3	4	5	8
10. My parents have contact with my teachers	1	2	3	4	5	8
11. I am able to complete my homework in school.	1	2	3	4	5	8
12. Teachers provide feedback on my homework	1	2	3	4	5	8
13. My teachers use textbooks as a primary instructional tool	1	2	3	4	5	8
14. My teachers use a variety of instructional materials other than textbooks in my classes	1	2	3	4	5	8
15. My teachers use samples of my work collected in portfolios to assess my performance	1	2	3	4	5	8

	Always	Most of the Time	Some of the Time	Seldom	Never	Don't Know
16. My teachers use essay questions to assess my performance	1	2	3	4	5	8
17. My teachers use multiple choice and true-false questions to assess my performance . .	1	2	3	4	5	8
18. My teachers use whole class lecture in my classes	1	2	3	4	5	8
19. My teachers use worksheets in my classes. . .	1	2	3	4	5	8
20. My teachers require me to use multiple sources of information to answer project-based problems	1	2	3	4	5	8
21. In my classes, I use computer applications for drill and practice, and/or tutorials	1	2	3	4	5	8
22. In my classes, I use computer applications for problem-solving and/or simulated learning activities.	1	2	3	4	5	8
23. In my classes, I use computer data bases . .	1	2	3	4	5	8
24. In my classes, I use spreadsheets.	1	2	3	4	5	8
25. In my classes, I use wordprocessing	1	2	3	4	5	8
26. In my classes, I use computer graphics . . .	1	2	3	4	5	8
27. In my classes, I use telecommunications. . .	1	2	3	4	5	8
28. I am enthusiastic about my school	1	2	3	4	5	8

SECTION 2

Directions: This set of questions relates to your satisfaction with teaching processes and classroom activities at your high school. Please **CIRCLE** the number that best indicates the level of your agreement with each item. Please answer the items based on your satisfaction with *your* classes *this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
1. My general attitude toward my school is positive	1	2	3	4	5	8
2. Generally, I am satisfied with the amount of homework teachers assign me	1	2	3	4	5	8
3. Generally, I am satisfied with the size of my classes	1	2	3	4	5	8
4. Generally, I am satisfied with the amount of content covered this school year	1	2	3	4	5	8
5. Generally, I am satisfied with the level of academic challenge I am provided	1	2	3	4	5	8
6. Generally, I am satisfied with the effectiveness of my teachers	1	2	3	4	5	8
7. Generally, the teaching methods of my teachers are the same as they've always been	1	2	3	4	5	8
8. Generally, I believe there has been a positive change in the teaching and learning processes in my classes this year	1	2	3	4	5	8
9. Generally, I am satisfied with my achievement this year as reflected in my grades.	1	2	3	4	5	8
10. Generally, I am satisfied with the quality of what I learn.	1	2	3	4	5	8
11. Generally, I am satisfied with the depth of coverage of material in my classes.	1	2	3	4	5	8
12. Generally, I am satisfied that I am learning as much this year as last year	1	2	3	4	5	8
13. Generally, I am satisfied that I can apply what I have learned.	1	2	3	4	5	8
14. Generally, I am satisfied with the number of courses available to me.	1	2	3	4	5	8
15. Generally, I am mastering important concepts	1	2	3	4	5	8
16. Generally, I am satisfied with the completion rate of my work.	1	2	3	4	5	8

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
17. In general, my attitude toward school is positive	1	2	3	4	5	8
18. Generally, I am gaining an in-depth understanding of the subject matter in most of my classes	1	2	3	4	5	8
19. Generally, I am satisfied with the quality of my relationships with my teachers	1	2	3	4	5	8
20. Generally, I am satisfied with the amount of input I have in school decisions that affect students	1	2	3	4	5	8
21. Generally, I am learning as much as I should be this academic year.	1	2	3	4	5	8
22. Generally, my teachers know my strengths and weaknesses.	1	2	3	4	5	8
23. In general, my attitude toward my teachers is negative.	1	2	3	4	5	8
24. Generally, I wish my parents had more contact with my teachers	1	2	3	4	5	8
25. Generally, I am satisfied with the amount of help my teachers give me	1	2	3	4	5	8
26. Generally, I am satisfied with my workload .	1	2	3	4	5	8
27. Generally, I am satisfied with the feedback that teachers provide on my homework . . .	1	2	3	4	5	8
28. Generally, my parents are very involved with my teachers.	1	2	3	4	5	8
29. Generally, my parents are very involved with my school activities	1	2	3	4	5	8

SECTION 3

Directions: This set of questions relates to the **CURRENT CLASS SCHEDULE** at your high school. Please check the box next to the appropriate response for each item.

1. Have you ever attended a high school (including your current high school) that was *not* on a 6-period day schedule?
¹ Yes (my current high school)
² Yes (a previous high school)
³ Yes (my current high school and a previous high school)
⁴ No
⁵ I don't know
2. When compared to other schedules, the traditional 6-period school day provides the best opportunity for learning.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
3. The traditional format of approximately 55-minute classes over approximately 180 days is beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
4. There are alternative schedules that are beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
5. I like the current daily schedule of classes at my school.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
6. Overall, I would rate my experience of attending high school under the current schedule:
¹ Excellent
² Good
³ Fair
⁴ Poor
⁵ Terrible
7. Considering all your impressions about the current schedule at your high school, select a response:
¹ I would like to remain in the current schedule
² I would like to attend under a different schedule
³ I have no opinion
⁴ I am undecided
8. If you transferred into your current high school from another high school, how successfully did your current school accommodate your transfer?
¹ Extremely successful
² Somewhat successful
³ Not very successful
⁴ Extremely unsuccessful
⁵ I did not transfer into my current high school
9. If you transferred from another high school, what type of a schedule was your previous school on?
¹ 6 period schedule
² 7 period schedule
³ 7 period block schedule
⁴ 4 x 4 block schedule
⁵ Other schedule (describe _____)
⁶ I don't know the previous schedule
⁷ I did not transfer into my current high school
10. What high school do you currently attend?

TEACHER SURVEY

The purpose of this survey is to collect your perceptions regarding school policies, processes, and practices, especially as they relate to teaching and learning. ALL RESPONSES ARE COMPLETELY CONFIDENTIAL.

SECTION 1

Directions: This set of questions relates to teaching processes and classroom activities at your high school. Please **CIRCLE** the number for each item that best indicates the frequency with which the behaviors occur in *your* classes *this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Always	Most of the Time	Some of the Time	Seldom	Never	Don't Know
1. I use group activities in my classes	1	2	3	4	5	8
2. In my classes, time is distributed among whole class instruction, small group work, and individual study	1	2	3	4	5	8
3. Most class time is spent in whole class instruction	1	2	3	4	5	8
4. I work with my students in individual study .	1	2	3	4	5	8
5. I am using new instructional approaches this year	1	2	3	4	5	8
6. My students appear bored in my classes . . .	1	2	3	4	5	8
7. I am able to cover the material for my classes in the amount of time provided	1	2	3	4	5	8
8. I experience problems with student attentiveness in my classes.	1	2	3	4	5	8
9. I experience problems with student interest in my classes	1	2	3	4	5	8
10. I have contact with my students' parents. . .	1	2	3	4	5	8
11. My students are able to complete their homework in school	1	2	3	4	5	8
12. I provide feedback on my students' homework	1	2	3	4	5	8
13. I use textbooks as a primary instructional tool	1	2	3	4	5	8
14. I use a variety of instructional materials other than textbooks in my classes	1	2	3	4	5	8
15. I use portfolios to assess my students' performance	1	2	3	4	5	8
16. I use essay questions to assess my students' performance	1	2	3	4	5	8

	Always	Most of the Time	Some of the Time	Seldom	Never	Don't Know
17. I use multiple choice and true-false questions to assess my students' performance	1	2	3	4	5	8
18. I use whole class lecture in my classes. . . .	1	2	3	4	5	8
19. I use worksheets in my classes.	1	2	3	4	5	8
20. I require students to use multiple sources of information to answer project-based problems	1	2	3	4	5	8
21. Students in my class use computer applications for drill and practice, and/or tutorials.	1	2	3	4	5	8
22. Students in my class use computer applications for problem-solving and/or simulated learning activities	1	2	3	4	5	8
23. Students in my class use computer data bases	1	2	3	4	5	8
24. Students in my class use spreadsheets	1	2	3	4	5	8
25. Students in my class use wordprocessing . .	1	2	3	4	5	8
26. Students in my class use computer graphics .	1	2	3	4	5	8
27. Students in my class use telecommunications	1	2	3	4	5	8
28. I am enthusiastic about my school	1	2	3	4	5	8
29. I use learning technologies for developing instructional materials, lesson planning, and/or grading	1	2	3	4	5	8
30. I use rubrics (specific criteria) for scoring student assignments	1	2	3	4	5	8
31. The in-service workshops provided by my school are helpful	1	2	3	4	5	8
32. Teachers at my school form informal support/discussion groups to exchange ideas and resources	1	2	3	4	5	8
33. My subject-area specialist provides in-service workshops that are helpful for instruction	1	2	3	4	5	8
34. Teachers at my high school take a team approach to teaching	1	2	3	4	5	8
35. Teachers at my high school work to integrate instruction across subject areas	1	2	3	4	5	8

SECTION 2

Directions: This set of questions relates to your satisfaction with teaching processes and classroom activities at your high school. Please **CIRCLE** the number that best indicates the level of your agreement with each item. Please answer the items based on your satisfaction with *your* classes *this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
1. My general attitude toward my school is positive	1	2	3	4	5	8
2. Generally, I am satisfied with the amount of homework I assign my students	1	2	3	4	5	8
3. Generally, I am satisfied with the size of my classes	1	2	3	4	5	8
4. Generally, I am satisfied with the amount of content covered this school year	1	2	3	4	5	8
5. Generally, I am satisfied with the level of academic challenge I provide my students.	1	2	3	4	5	8
6. Generally, I am satisfied with my effectiveness as a teacher.	1	2	3	4	5	8
7. Generally, my teaching methods are the same as they have always been.	1	2	3	4	5	8
8. Generally, I believe there has been a positive change in the teaching and learning processes in my classes this year	1	2	3	4	5	8
9. Generally, I am satisfied with my students' achievement this year as reflected in their grades.	1	2	3	4	5	8
10. Generally, I am satisfied with the quality of what my students learn.	1	2	3	4	5	8
11. Generally, I am satisfied with the depth of coverage of material in my classes	1	2	3	4	5	8
12. Generally, I am satisfied that my students are learning as much this year as last year.	1	2	3	4	5	8
13. Generally, I am satisfied that my students can apply what they have learned	1	2	3	4	5	8
14. Generally, I am satisfied with the number of courses available to students	1	2	3	4	5	8
15. Generally, my students are mastering important concepts	1	2	3	4	5	8
16. Generally, I am satisfied with the completion rate of my students' work.	1	2	3	4	5	8

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
17. In general, my students' attitudes toward school are positive	1	2	3	4	5	8
18. Generally, my students are gaining an in-depth understanding of the subject matter . .	1	2	3	4	5	8
19. Generally, I am satisfied with the quality of my relationships with my students.	1	2	3	4	5	8
20. Generally, I am satisfied with the amount of input I have in school decisions that affect teachers.	1	2	3	4	5	8
21. Generally, my students are learning as much as they should be this academic year.	1	2	3	4	5	8
22. Generally, I know my students' strengths and weaknesses	1	2	3	4	5	8
23. In general, students' attitudes toward me are negative.	1	2	3	4	5	8
24. Generally, I wish my students' parents had more contact with me	1	2	3	4	5	8
25. Generally, I am satisfied with the amount of help I give my students.	1	2	3	4	5	8
26. Generally, I am satisfied with my workload .	1	2	3	4	5	8
27. Generally, I am satisfied with the feedback that I provide on students' homework	1	2	3	4	5	8
28. Generally, the parents of my students are very involved with me	1	2	3	4	5	8
29. Generally, the parents of my students are very involved with school activities	1	2	3	4	5	8
30. Generally, I am satisfied with the amount of time I have for lesson planning, correcting, and grading.	1	2	3	4	5	8
31. Generally, I am satisfied with the amount of interaction I have with my colleagues	1	2	3	4	5	8
32. Generally, I believe attendance in my classes is better this year	1	2	3	4	5	8
33. Generally, I have more discipline problems this year than last year	1	2	3	4	5	8
34. Generally, I am able to cover the approved county curriculum in my classes	1	2	3	4	5	8

SECTION 3

Directions: This set of questions relates to the **CURRENT CLASS SCHEDULE** at your high school. Please check the box next to the appropriate response for each item.

1. Have you taught at a high school (including your current high school) that was *not* on a 6-period schedule?
¹ Yes (my current high school)
² Yes (a previous high school)
³ Yes (my current high school and a previous high school)
⁴ No
⁵ I don't know
2. When compared to other schedules, the traditional 6-period school day provides the best opportunity for learning.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
3. The traditional format of approximately 55-minute classes over approximately 180 days is beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
4. There are alternative schedules that are beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
5. I like the current daily schedule of classes at my school.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
6. Overall, I would rate my experience of teaching under the current schedule as
¹ Excellent
² Good
³ Fair
⁴ Poor
⁵ Terrible
7. Considering all your impressions about the current schedule at your high school, select a response:
¹ I would like to remain in the current schedule
² I would like to teach under a different schedule
³ I have no opinion
⁴ I am undecided

SECTION 4

Directions: This set of questions relates to demographic information. Please check the appropriate response.

1. At which school do you presently work?

2. What is your gender?
¹ Female
² Male
3. What is your age?
¹ 20-29
² 30-39
³ 40-49
⁴ 50-59
⁵ 60 or over
4. What is your racial or ethnic background?
¹ African American
² Asian
³ Caucasian
⁴ Hispanic
⁵ Native American
⁶ Other
5. What is your highest level of education?
¹ High School graduate
² Bachelors degree
³ Bachelors degree plus teaching certificate
⁴ Masters degree
⁵ Doctorate
⁶ Other (specify _____)
6. Do you work:
¹ Full-time
² Part-time
7. How many years have you been teaching?
¹ Less than 1 year
² 1 - 2 years
³ 3 - 5 years
⁴ 6 - 10 years
⁵ 11 -15 years
⁶ 16 - 20 years
⁷ More than 20 years
8. Total number of years at present school:
¹ Less than 1 year
² 1 -2 years
³ 3 - 5 years
⁴ 6 - 10 years
⁵ 11 -15 years
⁶ 16 - 20 years
⁷ More than 20 years
9. What is your present school position?
¹ Central office staff
² Principal or Assistant Principal
³ Teacher
⁴ Guidance Counselor
⁵ Librarian
⁶ Other (paraprofessional/aide; non-instructional support personnel, e.g., bus driver, cafeteria worker, etc.)

10. How many periods do you teach a day?
¹ None
² 1 - 2
³ 3 - 4
⁴ 5 - 6
⁵ 7 or more
11. How many periods do you teach each week?
¹ None
² 1 - 2
³ 3 - 4
⁴ 5 - 6
⁵ 7 or more
12. How many preparations do you have this year?
¹ None
² 1
³ 2
⁴ 3
⁵ 4 or more

13. My average class size is:
- ¹ 5 - 10 students
 - ² 11 - 15 students
 - ³ 16 - 20 students
 - ⁴ 21 - 25 students
 - ⁵ 26 students or more

14. How many AP classes do you teach this year?
- ¹ None
 - ² 1
 - ³ 2
 - ⁴ 3
 - ⁵ 4 or more

15. How many Honors classes do you teach this year?
- ¹ None
 - ² 1
 - ³ 2
 - ⁴ 3
 - ⁵ 4 or more

16. If any of your students have transferred into one or more of your classes this year from another school, how successful were you in accommodating these students?
- ¹ Extremely successful
 - ² Somewhat successful
 - ³ Not very successful
 - ⁴ Extremely unsuccessful
 - ⁵ No students have transferred into my classes

17. If you are a classroom teacher, what is your major teaching assignment? (Check only one box)

- ¹ Art
- ² Computer Education
- ³ Driver Education
- ⁴ English/Language Arts/Reading
- ⁵ Drama
- ⁶ Foreign Language
- ⁷ Health
- ⁸ Home Economics
- ⁹ Industrial Arts
- ¹⁰ Mathematics
- Music
 - ¹¹ Band
 - ¹² Orchestra
 - ¹³ Chorus
- ¹⁴ Physical Education
- ¹⁵ Science
- ¹⁶ Social Studies
- Special Education
 - ¹⁷ Learning Disabled
 - ¹⁸ Emotionally Disabled
 - ¹⁹ Other (specify exceptionality) _____
- ²⁰ Vocational Education
- ²¹ Other (specify) _____

PARENT SURVEY

The purpose of this survey is to collect your perceptions regarding school policies, processes, and practices, especially as they relate to teaching and learning. ALL RESPONSES ARE COMPLETELY CONFIDENTIAL. If you have children attending two (2) different high schools, you may be receiving a survey from each school. Please fill out each survey so we may compare each child's school experiences..

Directions: The objective of the following survey is to gather information on parental perceptions only. Please respond to the following items based on *your own* personal experience and perspective as a parent. Please **DO NOT** ask your child or children to provide answers for you. The perceptions of students are very important to the school and will be surveyed on a different date. If you have MORE THAN ONE CHILD ATTENDING THIS HIGH SCHOOL, please respond to the survey items with regard to your children, *generally*. If there are any items that would require different responses for different children, you may briefly describe this in the open space next to the particular item. We appreciate the time and thought you give to this survey.

SECTION 1

Directions: This set of questions relates to teaching processes and classroom activities at your child's (children's) high school. Please **CIRCLE** the number for each item that best indicates the frequency with which the behaviors occur in *your child's (children's)* classes *this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Always	Most of the Time	Some of the Time	Seldom	Never	Don't Know
1. My child's teachers use group activities in their classes.	1	2	3	4	5	8
2. In my child's classes, time is distributed among whole class instruction, small group work, and individual study.	1	2	3	4	5	8
3. Most of my child's class time is spent in whole class instruction	1	2	3	4	5	8
4. My child's teachers work with him/her in individual study	1	2	3	4	5	8
5. My child's teachers are using new instructional approaches	1	2	3	4	5	8
6. My child is bored in his/her classes	1	2	3	4	5	8
7. My child's teachers are able to cover the material for their classes in the amount of time provided.	1	2	3	4	5	8
8. My child experiences problems with attentiveness in his/her classes.	1	2	3	4	5	8
9. My child experiences problems with interest in his/her classes	1	2	3	4	5	8
10. I have contact with my child's teachers . . .	1	2	3	4	5	8
11. My child is able to complete his/her homework in school	1	2	3	4	5	8

	Always	Most of the Time	Some of the Time	Seldom	Never	Don't Know
12. My child's teachers provide feedback on his/her homework	1	2	3	4	5	8
13. My child's teachers use textbooks as a primary instructional tool	1	2	3	4	5	8
14. My child's teachers use a variety of instructional materials other than textbooks in his/her classes	1	2	3	4	5	8
15. My child's teachers collect samples of his/her work in portfolios to assess his/her performance	1	2	3	4	5	8
16. My child's teachers use essay questions to assess his/her performance.	1	2	3	4	5	8
17. My child's teachers use multiple choice and true-false questions to assess his/her performance	1	2	3	4	5	8
18. My child's teachers use whole class lecture in his/her classes	1	2	3	4	5	8
19. My child's teachers use worksheets in his/her classes	1	2	3	4	5	8
20. My child's teachers require students to use multiple sources of information to answer project-based problems.	1	2	3	4	5	8
21. My child uses computer applications for drill and practice and/or tutorials in class.	1	2	3	4	5	8
22. My child uses computer applications for problem-solving and/or simulated learning activities in his/her classes	1	2	3	4	5	8
23. My child uses computer data bases in his/her classes	1	2	3	4	5	8
24. My child uses spreadsheets in his/her classes	1	2	3	4	5	8
25. My child uses wordprocessing in his/her classes	1	2	3	4	5	8
26. My child uses computer graphics in his/her classes	1	2	3	4	5	8
27. My child uses telecommunications in his/her classes	1	2	3	4	5	8
28. I am enthusiastic about my child's school	1	2	3	4	5	8

SECTION 2

Directions: This set of questions relates to your satisfaction with teaching processes and classroom activities at your child's (children's) high school. Please **CIRCLE** the number that best indicates the level of your agreement with each item. Please answer the items based on *your* satisfaction with your child's (children's) classes *this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
1. My general attitude toward my child's school is positive.	1	2	3	4	5	8
2. Generally, I am satisfied with the amount of homework teachers assign my child	1	2	3	4	5	8
3. Generally, I am satisfied with the size of my child's classes.	1	2	3	4	5	8
4. Generally, I am satisfied with the amount of content covered this school year	1	2	3	4	5	8
5. Generally, I am satisfied with the level of academic challenge my child is provided	1	2	3	4	5	8
6. Generally, I am satisfied with the effectiveness of my child's teachers	1	2	3	4	5	8
7. Generally, the teaching methods of my child's teachers are the same as they've always been.	1	2	3	4	5	8
8. Generally, I believe there has been a positive change in the teaching and learning processes in my child's classes this year	1	2	3	4	5	8
9. Generally, I am satisfied with my child's achievement this year as reflected in his/her grades.	1	2	3	4	5	8
10. Generally, I am satisfied with the quality of what my child learns	1	2	3	4	5	8
11. Generally, I am satisfied with the depth of coverage of material in my child's classes	1	2	3	4	5	8
12. Generally, I am satisfied that my child is learning as much this year as last year.	1	2	3	4	5	8
13. Generally, I am satisfied that my child can apply what he/she has learned	1	2	3	4	5	8
14. Generally, I am satisfied with the number of courses available to my child	1	2	3	4	5	8
15. Generally, my child is mastering important concepts	1	2	3	4	5	8

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
16.	Generally, I am satisfied with the completion rate of my child's work	1	2	3	4	5	8
17.	In general, my child's attitude toward school is positive.	1	2	3	4	5	8
18.	Generally, my child is gaining an in-depth understanding of the subject matter in his/her classes	1	2	3	4	5	8
19.	Generally, I am satisfied with the quality of my child's relationships with his/her teachers	1	2	3	4	5	8
20.	Generally, I am satisfied with the amount of input I have in school decisions that affect my child	1	2	3	4	5	8
21.	Generally, my child is learning as much as he/she should be this academic year	1	2	3	4	5	8
22.	Generally, teachers know my child's strengths and weaknesses	1	2	3	4	5	8
23.	In general, my child's attitude toward teachers is negative.	1	2	3	4	5	8
24.	Generally, I wish I had more contact with my child's teachers	1	2	3	4	5	8
25.	Generally, I am satisfied with the amount of help teachers give my child	1	2	3	4	5	8
26.	Generally, I am satisfied with my child's workload	1	2	3	4	5	8
27.	Generally, I am satisfied with the feedback that teachers provide on my child's homework	1	2	3	4	5	8
28.	Generally, I am very involved with my child's teachers	1	2	3	4	5	8
29.	Generally, I am very involved with my child's school activities.	1	2	3	4	5	8

SECTION 3

Directions: This set of questions relates to the **CURRENT CLASS SCHEDULE** at your child's (children's) high school. Please check the box next to the appropriate response for each item.

1. Has your child (children) ever previously attended a high school (including their current high school) that was *not* on a 6-period schedule?
¹ Yes (at the current high school)
² Yes (at a previous high school)
³ Yes (at the current high school and a previous high school)
⁴ No
⁵ I don't know
2. When compared to other schedules, the traditional 6-period school day provides the best opportunity for learning.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
3. The traditional format of approximately 55-minute classes over approximately 180 days is beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
4. There are alternative schedules that are beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
5. I like the current daily schedule of classes at my child's (children's) high school.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
6. Overall, I rate my child's (children's) experiences of attending high school under the current schedule
¹ Excellent
² Good
³ Fair
⁴ Poor
⁵ Terrible
7. Considering all your impressions about the current schedule at your child's (children's) high school, select a response:
¹ I would like my child's (children's) school to continue to use the current schedule
² I would like my child's (children's) school to use a different schedule
³ I have no opinion
⁴ I am undecided
8. If any of your children transferred into their current high school from another high school, how successful was the current high school at accommodating the transfer?
¹ Extremely successful
² Somewhat successful
³ Not very successful
⁴ Extremely unsuccessful
⁵ None of my children transferred
9. If any of your children transferred from another high school, what type of schedule was their previous high school on?
¹ 6 period schedule
² 7 period schedule
³ 7 period block schedule
⁴ 4 x 4 block schedule
⁵ Other schedule (describe _____)
⁶ I don't know the previous schedule
⁷ None of my children transferred

SECTION 4

Directions: This set of questions relates to demographic information. Please check the appropriate response.

1. The person responding to this survey is:
 - ¹ Mother
 - ² Father
 - ³ Stepmother
 - ⁴ Stepfather
 - ⁵ Other (legal guardian, grandparent)

2. What is your age?
 - ¹ 20-29
 - ² 30-39
 - ³ 40-49
 - ⁴ 50-59
 - ⁵ 60 or over

3. What is your racial or ethnic background?
 - ¹ African American
 - ² Asian
 - ³ Caucasian
 - ⁴ Hispanic
 - ⁵ Native American
 - ⁶ Other

4. What is your highest level of education?
 - ¹ High School graduate
 - ² Bachelors degree
 - ³ Bachelors degree plus teaching certificate
 - ⁴ Masters degree
 - ⁵ Doctorate
 - ⁶ Other (specify) _____

5. How many years did YOU attend Chesterfield County public schools?
 - ¹ None (or less than 1 year)
 - ² 1-4 years
 - ³ 5-10 years
 - ⁴ Over 10 years

6. How many years have you lived in the Chesterfield County school division?
 - ¹ None (or less than 1 year)
 - ² 1-4 years
 - ³ 5-10 years
 - ⁴ Over 10 years

7. What was your high school grade average?
 - ¹ A-B
 - ² B-C
 - ³ C-D
 - ⁴ D-F

8. You are currently (check all that apply):
 - ¹ Working full time in a job
 - ² Working part time in a job
 - ³ Working full time in the military
 - ⁴ Working part time in the military
 - ⁵ Going to school full time
 - ⁶ Going to school part time
 - ⁷ Being a full time homemaker
 - ⁸ Other (specify) _____

9. Please indicate the names of the high school(s) in Chesterfield County where you have children enrolled and the number of children at each school.

High School	# of children
_____	# _____
_____	# _____

10. Indicate how many of your children are currently in the following programs in high school (please put each child in only 1 category):
 - _____ # in Honors/Advanced Placement
 - _____ # in College Prep./Academic
 - _____ # in Career Prep.
 - _____ # in Other (specify) _____



ADMINISTRATOR/COUNSELOR/LIBRARIAN SURVEY

The purpose of this survey is to collect your perceptions regarding school policies, processes, and practices, especially as they relate to teaching and learning. ALL RESPONSES ARE COMPLETELY CONFIDENTIAL.

SECTION 1

Directions: This set of questions relates to your satisfaction with teaching processes and classroom activities at your high school. Please **CIRCLE** the number that best indicates the level of your agreement with each item. Please answer the items based on your satisfaction with classes *at your school this year*. If you do not know or do not have enough information to answer any item, please circle 8 for Don't Know.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't Know
1. My general attitude toward my school is positive	1	2	3	4	5	8
2. Generally, I am satisfied with the level of academic challenge teachers provide students	1	2	3	4	5	8
3. Generally, I am satisfied with the effectiveness of teachers	1	2	3	4	5	8
4. Generally, teaching methods are the same as they have always been	1	2	3	4	5	8
5. Generally, I am satisfied with students' achievement this year as reflected in their grades.	1	2	3	4	5	8
6. Generally, I am satisfied with the number of courses available to students	1	2	3	4	5	8
7. In general, students' attitudes toward school are positive	1	2	3	4	5	8
8. Generally, I am satisfied with the amount of input I have in school decisions that affect me	1	2	3	4	5	8
9. Generally, I wish my students' parents had more contact with me	1	2	3	4	5	8
10. Generally, I am satisfied with my workload .	1	2	3	4	5	8
11. Generally, the parents of students are very involved with me	1	2	3	4	5	8
12. Generally, I am satisfied with the amount of interaction I have with my colleagues	1	2	3	4	5	8
13. Generally, I believe attendance in classes is better this year than three (3) years ago	1	2	3	4	5	8
14. Generally, there are more discipline problems this year than last year.	1	2	3	4	5	8

SECTION 2

Directions: This set of questions relates to the **CURRENT CLASS SCHEDULE** at your high school. Please check the box next to the appropriate response for each item.

1. Have you been employed at a high school (including your current high school) that was *not* on a 6-period schedule?
¹ Yes (my current high school)
² Yes (a previous high school)
³ Yes (my current high school and a previous high school)
⁴ No
⁵ I don't know
2. When compared to other schedules, the traditional 6-period school day provides the best opportunity for learning.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
3. The traditional format of approximately 55-minute classes over approximately 180 days is beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
4. There are alternative schedules that are beneficial to quality education.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
5. I like the current daily schedule of classes at my school.
¹ Strongly agree
² Agree
³ Neutral
⁴ Disagree
⁵ Strongly disagree
6. Overall, I would rate my experience of working under the current schedule as
¹ Excellent
² Good
³ Fair
⁴ Poor
⁵ Terrible
7. Considering all your impressions about the current schedule at your high school, select a response:
¹ I would like to remain in the current schedule
² I would like to work under a different schedule
³ I have no opinion
⁴ I am undecided
8. If any students have transferred into your school this year from another school, how successful were you in accommodating these students?
¹ Extremely successful
² Somewhat successful
³ Not very successful
⁴ Extremely unsuccessful
⁵ No students have transferred/I have not had the opportunity to deal with any transfer students

SECTION 3

Directions: This set of questions relates to demographic information. Please check the appropriate response.

1. At which school do you presently work?

2. What is your gender?
¹ Female
² Male
3. What is your age?
¹ 20-29
² 30-39
³ 40-49
⁴ 50-59
⁵ 60 or over
4. What is your racial or ethnic background?
¹ African American
² Asian
³ Caucasian
⁴ Hispanic
⁵ Native American
⁶ Other
5. What is your highest level of education?
¹ High School graduate
² Bachelors degree
³ Bachelors degree plus teaching certificate
⁴ Masters degree
⁵ Doctorate
⁶ Other (specify _____)
6. Do you work:
¹ Full-time
² Part-time
7. How many years have you been in your current profession?
¹ Less than 1 year
² 1 - 2 years
³ 3 - 5 years
⁴ 6 - 10 years
⁵ 11 -15 years
⁶ 16 - 20 years
⁷ More than 20 years
8. Total number of years working at present school:
¹ Less than 1 year
² 1 -2 years
³ 3 - 5 years
⁴ 6 - 10 years
⁵ 11 -15 years
⁶ 16 - 20 years
⁷ More than 20 years
9. What is your present school position?
¹ Central office staff
² Principal or Assistant Principal
³ Teacher
⁴ Guidance Counselor
⁵ Librarian
⁶ Other (paraprofessional/aide; non-instructional support personnel, e.g., bus driver, cafeteria worker, etc.)

Contextual Factors

6. Has there been any significant structural changes in the school besides the schedule?

Implementation

7. Why did your school choose the schedule option it's currently using?

8. Were changes made to solve a problem or to provide an opportunity for new methods of instruction, or more student course offerings?

9. Do school staffs understand the assumptions undergirding the scheduling option they use?

10. Has there been changes in the schedule since it was first implemented? If so, why did these changes occur? Were they successful?

11. What school initiatives did the schedules stimulate?

17. When students graduate early because of the alternative schedule, do they continue to complete vocational programs?

18. Is there a need to continue to offer cooperative education programs?

Special Education

19. What allowances, modifications in the current schedule have been made for special education and 504 students with attention deficits? Have they been successful?

20. In your schedule, is there a possibility of offering 1/2 credit special education classes? For example, 45 minutes of study skills and 45 minutes of computer literacy (writing, coping, etc.)

21. How are students on consultation serviced within these systems?

University Admissions

22. Does the type of school schedule have any bearing on college and university admission decisions?

Thank you for completing this survey!



APPENDIX B

FOCUS GROUP PROTOCOL
AND
SAMPLE COMMENTS

CHESTERFIELD SCHEDULING STUDY

This appendices includes (1) the focus group protocol, and (2) a summary of comments recorded at the focus and individual meetings. The comments are grouped by (a) overall satisfaction, (b) impact on teaching, (c) impact on student performance, and (d) costs and benefits.

FOCUS GROUP PROTOCOL

CASE BOUNDARIES

The purpose of the focus group studies is to identify examples of the impact of alternative schedules on school policies, practices and processes with and emphasis on teaching and learning.

SELECTION

The Chesterfield County Public Schools staff nominated a group of six schools for the study. Their nominations were representative of the differing types of schedules being used in the school division.

PROCESS

A research team composed of two members were identified to visit each school and develop a description and examples for the entire case study team to review.

The site visits include: focus group interviews, and individual interviews. Each visit was coordinated by the school principal and the principal investigator. The visit coordinator was responsible to assure that proper protocols with the school are followed.

Each focus group interview was tape recorded and members of the team also took appropriate notes related to the protocol. The site visit team debriefed following each visit. Each member submitted a brief summary of the vignettes, special testimonials, and examples that illustrate the findings found in the technical report on Form 6 (attached).

DOCUMENTS

No attempt was made to request that information be especially prepared for the site visit except filling out the request for school demographic information.

INTERVIEWS

As appropriate to the site: individual and group interviews were scheduled with the following groups of twelve individuals in each of the following categories who were randomly selected from data bases housed on computers found in the school division central offices. No substitutions were allowed for individuals who could not attend one of the focus group sessions:

Teachers: 2) advanced placement teachers, 2) foreign language teachers, 2) special education teachers, 2) performing arts teachers, 2) math teachers, 2) English teachers, 2) physical education teachers

Administrators, including the principal;

Students: 2) advanced placement students, 2) foreign language students, 2) special education students, 2) performing arts students, 2) students who transferred into the school

Parents: 2) parents of advanced placement students, 2) parents of foreign language students, 2) parents of special education students, 2) parents of performing arts students

AREAS OF INQUIRY

The areas of inquiry will be grouped under the general headings of: Organizational Profile, Curriculum and Instruction Profile, and Results Profile. Each area of inquiry contains a set of focus questions (attached) that guided the discussion and note taking with each focus group. Each session was tape recorded for use by the research team in note taking and in drawing their conclusions. No attempt was made to transcribe the tape verbatim.

The **Organizational Profile** describes the setting, and inquire into the beliefs, visions and planning that are driving the scheduling practices of the school, and inquires into the systems supporting the implementation of the schedule at each school(Forms 1, and 2).

The **Curriculum and Instruction Profile** describes the curricular and instructional policies, practices and processes being used (Form 3).

The **Student Achievement and Behavior Profile** describes the results being attained at each site particularly in regard to student achievement and behavior recorded at each school (Form 4).

The **Teacher, Student, and Parent Satisfaction Profile** describes the satisfaction with the scheduling option being employed at each site.

SITE VISITS

High Schools

Lloyd Bird High School
Clover Hill High School
James River High School
Matoaca High School
Midlothian High School
Monacan High School

Team: John Pisapia and Amy Westfall

ORGANIZATIONAL PROFILE

Demographics

Protocol: Please provide the following information:

School Name: _____

Street: _____

City/Zip: _____

Phone: () _____

Feeder Schools using alternative schedules _____ Feeder

Schools using alternative schedules _____

Faculty _____ Faculty Ave Age _____ Grades _____ Enrollment _____

Enrollment at each grade: 9__10__11__12__

Principal Assistant Principal

Specialist Counselors Library Media

Describe the schedule in detail, including both the times courses are offered and the types of courses offered. (If you have a printed copy of the schedule, you may submit it to the research team.)

ORGANIZATIONAL PROFILE

Form 2

Protocol:

The following areas should be explored: _____ Illustrations, Comments _____

Focus Area: Belief/Vision

Why did your school choose the schedule you are currently using?

Probes: (A,T) What do you want to accomplish with the schedule? (A,T,S,P) Was the schedule changed to solve a problem, or to provide opportunities for new methods of instruction, or more student course offerings?

(T,S,P) What outcomes or benefits did you or do you expect by changing the schedule? (T,S,P) Do you believe that the schedule can improve teaching and learning? What are the best things about your type of schedule? What are the worst things about your schedule? (smaller/larger class size? more time with teachers/counselors? greater/fewer class preparations? greater course options? Longer/shorter planning periods?)

(A,T,P) Who identified the need for the use of technology in your school? Who has the clearest vision for the use of the schedule in your school? Who are the crucial opinion leaders in your school regarding the schedule?

(A,T,P) Does the current schedule provide the best for all students, or is it a lower cost education. Are textbook costs reduced or increased? (by 40% in 4x4?) Are staffing costs reduced or increased?

Focus Area: Planning

Are you familiar with other types of school schedules? Did you use them in planning? How? Where there any helpful hints you received from schools using a schedule similar to yours?

Protocol:

The following areas should be explored:

Illustrations, Comments

Probes: (A,T) What was your approach to planning? Has the school been guided by a division/ school plan? (A,T,S,P) Were teachers, students, parents involved in developing the schedule? When? at the beginning, middle or end of the decision process?

Focus Area: Implementation

What was the greatest barrier to implementing the new schedule? What was the greatest facilitator?

(A,T,S) Have there been any significant changes in the school besides the schedule? Did the schedule stimulate any new initiatives?

(A,T,S,P) What advice can you offer others in implementing an alternative schedule? If you were to start over again what would you do differently?

(A,T,S,P) Have there been changes in the schedule since it was first implemented? Why did these changes occur? Were they successful?

(A,T) what management and coordination issues had to be overcome to implement the change in schedules? How did you overcome them?

1) scheduling procedures - (A,T,S,P) How many transfers into your school are there in a year? Out of your school? What particular problems do transfers create for the school? How have you accommodated transfer students?

2) changes to student information systems - Did you use technology in any way to implement the schedule?

3) staff development - (T,P,S) How long did it take to get comfortable using the new schedule? (T) What was the nature of the training you received? Did the training focus on the possibilities of using different amounts of time in your classroom? Looking back, what type of training would have been most beneficial to you?

4) staffing - What particular staffing problems occurred? How did you solve them? Do some schedules give teachers more or less planning time? Are class sizes smaller or larger? How many teachers does it take to staff schedule? (6 pd:?, 4x4:64, 7pd block:67)

5) University admissions: Does the type of school schedule have any bearing on college and university admission decisions? What evidence is there to support your answer? How are Carnegie units translated? 6) transportation, and 7) food service

CURRICULUM AND INSTRUCTION PROFILE

Form 3

Protocol:

The following areas should be explored: _____ Illustrations, Comments _____

Focus Area: Curriculum

Has the curriculum changed because the schedule did? How? Why?

Probes: (T, S, P) From 1 to 10 (10 being the highest)
How would you rate the success of the schedule for science courses? Why? For English courses? Social Studies courses? Math courses? performing art courses? health/PE courses? foreign language courses? vocational courses? special education courses?

Focus Area: Curricular array

Has the availability of courses increased, decreased or stayed the same?

Probes: (A, T, S, P) Has the academic curriculum been de-emphasized? Do any imbalances in curricular emphasis occur (i.e., an increase in time devoted to the arts)? Are academic and electives balanced? Has the academic curriculum been de-emphasized? What impact is there on elective areas of the curriculum? What is the availability of courses? What new courses and instructional options are available to students? Do the new courses broaden or deepen the curriculum? Did the increased number of course options affect student course selections? What are the attitudes of teachers, students, parents toward increased options? What impact does the schedule have on student opportunity to learn?

Protocol:

The following areas should be explored: Illustrations, Comments

Focus Area: COVERAGE

In schools that have changed their schedules recently, have teachers changed their curricular emphases? How?

Probes: (T,S) Is the course material covered in a timely manner? Do teachers have to hurry to get everything taught? Do teachers cover the same concepts as they did prior to the new schedule?

What is being dropped from the content? From the requirements? (Is writing being given up? Are students reading less?) Are teachers covering the approved county curriculum?

Focus Area: Instructional Delivery

Are teachers using the same teaching style? How?

Probes: (T,S) Are teachers using time differently? How? (long-term projects, socratic dialogue, peer teaching, lecturing, group discussion, subject matter integration, critical thinking exercises, problem solving, reading in class, team teaching, role-playing, field trips, multi-media presentations, tele-computing (e-mail, internet, teleconferencing), doing homework in class, individualizing instruction)

(T,S) Do longer time blocks allow students to know teachers better and teachers to know students better? Do teachers use textbooks differently?

Focus Area: Assessing Student Performance

How do teachers assess student achievement? Have changes occurred? Why?

Probes: (T,S,P) Describe how teachers assess student performance? Are they any different under the current schedule option? Do you use performance-based evaluations? What type? (portfolios, student self-assessments, oral proficiency exams, quizzes, final exams? Interpreted reading, writing essays, timed writing practice) (T,S,P) Do teachers cover the concepts they test students on? Are teacher requirements for students different this year than last year?

STUDENT ACHIEVEMENT AND BEHAVIOR PROFILE

Form 4

Protocol:

The following areas should be explored: _____ Illustrations, Comments _____

Focus Area: Student Achievement

Is student achievement improving or decreasing this year? Why?

Probes:(T,S) Has the schedule had any effect on student achievement? How? Do the teachers cover the concepts students are tested on? (T) How does exam performance correlate with your perception of students' daily learning? (T,S,P) Are students gaining a more indepth knowledge about the subject matter? An increase in problem-solving ability? Greater use of higher order thinking about the subject? (T, S, P) Do students retain as much? How do you know? Or, can students grasp all course objectives?

(A, T, S,P) Have honor rolls increased/decreased? Is learning within an alternative schedule more effective, or is the course content easier? watered down? Or, students learn better because they take fewer courses?

FOCUS AREA: STUDENT BEHAVIOR

Has student behavior changed? How?

Probes: Have their been changes in retention rates, attendance, drop out rates attitudes, discipline referrals, in/out of school suspensions

TEACHER, STUDENT, AND PARENT SATISFACTION PROFILE

Form 5

Focus Area: Satisfaction

Are you satisfied with the schedule currently being used at your school? Why/Why not?

Probes: (A,T,S,P) Are parents convinced that new schedules are superior to the old schedule, particularly in schools with high numbers of college-bound students?

Specific Issues

Form 6

FOCUS AREA: FOREIGN LANGUAGE (If FL teacher present) **School** _____

Probe: In my school:

Courses are taught continuously (each semester)

Are students continuing to upper levels of foreign language learning in the same numbers as previous years?

Students forget what they were taught and become rusty in their skills? There gaps in foreign language learning? Describe? All students have a fully articulated sequence?

There advantages created by the schedules for foreign language instruction? What are they?

Our schedule is more likely to promote learning with through a proficiency model than a literary/grammar translation model of instruction? Explain? Proficiency oriented activities been eliminated in the past year? There are appropriate opportunities for oral proficiency demonstrations in my classes?

Foreign language instruction is content based? integrated?, or community linked? My syllabus is communication based rather than grammatically based?

Students opting out of advanced language study? Or, are enrollments steady? Level 1 and 2 student learning is impeded by our school schedule? 4th and 5th year students learning is enhanced by our school schedule?

Please indicate the types and frequencies of the following assessment practices you use in your classes: (portfolios, student self-assessments, oral proficiency exams, tests, quizzes and final exams?)

Course content has decreased this year? The speaking level of students is negatively influenced by the amount of time I have for instruction? In my school the schedule does not allow students adequate time for listening and /or speaking practice? How much review do you use in a typical week? Students can assimilate, internalize and apply what they have learned? Maintenance courses are used to maintain skills?

Protocol:

The following areas should be explored:
Illustrations, Comments

Focus Area: Performing Arts - (If PA teacher is present)

What portion of the school day is devoted to the performing arts? How many academic courses can you take? 24?

Issue: If you're in band/chorus it takes up to 25% of your time. How many are in band? When you take band 2 semesters, you have to burn an elective and it limits the courses you can take.

Issue: You get 8 credits of band and 4 credits of electives! English is 1/8th of your year and band is 1/4 of your year. 6 academic vs band.

Focus area: Advanced Placement courses (if AP teacher present)

Is all the AP material covered before the AP test which is given in May? Must AP review classes be used to insure students pass tests?

FOCUS AREA: VOCATIONAL EDUCATION

(ve)What are the problems associated with alternative schedules when a vocational/technical center functions separately from the comprehensive high school?

vt-a)What impact has alternative scheduling had on tech-prep initiatives?

(vt-b)When students graduate early because of the alternative schedule, do they continue to complete vocational programs?

(vt-c)Is there a need to continue to offer cooperative education programs?

(vt-d)Does an alternative schedule support a quality school-to-work transition program?

Protocol:

The following areas should be explored: Illustrations, Comments

Focus Area: Special Education

(se)Are students identified for special education services included in the research who are eligible for ED and LD services for more than 10% of the school time (recorded on IEP and information system)?

(sp-a)What allowances, modifications have been made for special education and 504 students with attention deficits?

(sp-b)Have they been successful?

(sp-c)Is there a possibility of offering 1/2 credit special education classes? For example, 45 minutes of study skills and 45 minutes computer literacy (writing, coping, etc.)

(sp-d)How are students on consultation serviced within these systems?

(sp-f)How does it effect students with learning disabilities?

sp-g)How does the scheduling impact students leaving the regular education class for a portion of the block or returning to a class that is underway?

(sp-h)What is the regular education teachers perspective of students leaving the regular education class for a portion of the block?

(sp-i)What is the reaction of special education teachers to the students coming to resource time, impact on assistance with amount of material covered in block and collaborating with the regular education teacher.

FOCUS GROUP SUMMARY SHEET

Protocol: Please summarize examples, testimonials or illustrations that you observed or were told on the site visit. Turn this sheet in to the principal investigator.

ORGANIZATIONAL PROFILE**Guiding Questions**

1. How do schools in this study compare on contextual factors such as size, enrollment, type of community and student characteristics? Has there been any significant structural changes in the school besides the schedule?
2. How do schools in this study compare on the manner in which they structure the school schedule? Why did the schools choose the schedule option they are using? In those schools that changed their schedule recently, were changes made to solve a problem or to provide an opportunity for new methods of instruction, or more student course offerings? Do school staffs understand the assumptions undergirding the scheduling option they use? Have there been changes in the schedule since it was first implemented? Why did these changes occur? Were they successful? What school initiatives did the schedules stimulate?
3. How do the schools in this study compare on management and coordination factors? In schools that have recently changed their schedule, what management and coordination issues had to be overcome to implement a change in schedule (i.e., scheduling procedures, changes to student information systems, food service, transportation, student transfers etc.)? Were there territorial problems to overcome? How did they overcome these management and coordination problems?
4. How does resource allocation compare across the four scheduling models (e.g. staffing, transportation, and staff development)? What are the costs of alternative schedules relative to traditional schedules?
5. Does the type of school schedule have any bearing on college and university admission decisions?

Impressions**CURRICULUM AND INSTRUCTION PROFILE****Guiding Questions**

6. How does curricular array, emphasis and instructional practice compare across the four scheduling models? What impact does the schedule have on student opportunity to learn? In schools that have recently changed their schedules, what new course and instructional options are available to students? Was student course selection affected as a result of an increased number of course options? What are the attitudes of parents, teachers, and students toward increased options?
7. In schools that have changed their schedules recently, have teachers changed their curricular emphases? What impact is there on elective areas of the curriculum? Do any imbalances in curricular emphasis occur (i.e., an increase in time devoted to the arts)? Has the academic curriculum been de-emphasized? Are students reading less?
8. In schools that have changed their schedules recently, have instructional practices changed? Do teachers have more flexibility? How are teachers using the allocated time differently than they were prior to the schedule change? In regard to the four-by-four block schedule, how do teachers teach a challenging course in one semester?
9. What are the problems associated with alternative schedules when a vocational/technical center functions separately from the comprehensive high school? What impact has alternative scheduling had on tech-prep initiatives? When students graduate early because of the alternative schedule, do they continue to complete vocational programs? Is there a need to continue to offer cooperative education programs? Does a alternative schedule support a quality school-to-work transition program?
10. What allowances/modifications have been made for special education and 504 students with attention deficits? Have they been successful? Is there a possibility of offering 1/2 credit special education classes? For example, - 45 minutes of study skills and 45 minutes computer literacy (writing, coping, etc.) How are students on consultation serviced within these systems? Will there be a study time?

Impressions

STUDENT ACHIEVEMENT AND BEHAVIOR PROFILE

Guiding Questions

11. How does student achievement (i.e., grade distribution, test scores - TAP, AP scores, SAT scores, final exam grades) and teacher assessment practices compare across the four scheduling models? What the grade distributions by course, subject area, and grade level? How do teachers assess student achievement? In schools that have changed their schedules recently, Have teachers changed their assessment practices?

12. How does student behavior compare across the four scheduling models (i.e., retention rates, drop out rates, discipline referrals - in/out of school suspensions, attendance, attitudes)?

Impressions

TEACHER, STUDENT AND PARENT SATISFACTION PROFILE

Guiding Questions

13. How does the satisfaction of parents, students, and teachers compare across the four scheduling models? In schools that have changed their schedules recently, are parents, students, and teachers satisfied with the changes? Are parents convinced that new schedules are superior to the old schedule, particularly in schools with high numbers of college-bound students? What are patron perceptions of students getting out of school early so teachers can have more planning time?

Impressions

ALTERNATIVE HIGH SCHOOL SCHEDULES

SUMMARY OF FOCUS GROUP INTERVIEWS

IMPACT OF THE SCHEDULE ON TEACHING

Alternating Block Student Comments:

- ...you get teachers and you get this feeling like they don't have to be really innovative any more. Teachers get this feeling (this is my experience) like, well we have a new schedule, so I don't really have to be innovative or try anything new anymore because we have a new schedule. I've noticed that with some teachers. They say they're going to try new stuff but it never happens.
- ...it works pretty well time-wise, and puts more responsibility on us, but I haven't seen yet any differences in the way teachers use the expanded time, and if you're going to have larger blocks of time, you really need to do some different activities than just lecture and take notes and give it back to them the way you used to. I
- I got one teacher and he's so far behind and so determined to get through there and he's going, bam, bam, bam, bam, and I have no idea what's going on, and he doesn't care. He's just going straight forward... He's setting speed records in there--it's ridiculous.
- ...she's been pushing since day one. And she keeps complaining about how we don't have as many days as we would if we had a 6-period schedule. And towards the end of the year, we start having more assemblies and stuff. So, if we're on a field trip or something and there's only two people in class, she goes on to lecture anyway. She keeps going no matter what.
- I think we're learning the same. I know the areas in the book, and I think it's the same. I don't think we're learning any less.
- Last year they're just learning how to do it too. So I guess with the first year they feel like they weren't moving fast enough...but they're learning now that they need to move a little faster. That's going to happen, no matter what kind of schedule. They are moving faster this year, covering more... they're managing their time better. We can get everything done we needed to and go on to a new thing.
- I think actually they've covered more. Like in math, you don't always get to do everything in the book; they always know you get to that point so they pace themselves out to that point. Now that there's a little more time, they could kind of compact some things and rearrange some stuff so you learn more.

Alternating Block Parent Comments

- I think teachers are demanding more rather than less. There are more books and more writing. In almost every class there is some writing activity, for example, in science class, the student had to read Jurassic Park, draw out of it lessons for science and then write about those lessons.
- Teachers are still rushed to finish material but it was always that way. Teachers are gradually learning to manage their time/material better. Better now than the 1st year in block.
- Things that aren't covered are usually just things you want to do, not required material. That goes hand in hand with the cutting down of content and more focus on quality and learning.
- Teaching is shallower sometimes; feel time pressure in class; gives students 1 extra class;

- ...Being able to go into more depth on a particular subject. To begin and go through a whole process and finish up in one session -- closure...
- the things that are rushing me are the things I like to teach, the enriching types of things
- In social studies we have kind of a special case. We're not only dealing with a new schedule, but also with new curriculum. We completely changed our combination so it's hard to, for instance I'm looking at the county curriculum for the first time and saying "there's no way I can get all this in". The level 1 that we did the year before, it working pretty well, but, so i think ours is more a problem of curriculum change and trying to incorporate than it is so much block scheduling.

Semester Block Student Comments:

- Teachers think they don't have as much time so they...cram everything...they have to plan every minute.
- The amount of content they try to cover is not a problem....it's a matter of getting used to it. That's the way it is in college. I think you have to get used to it.
- I think it's easier because when it comes to our exams...study.
- It doesn't really matter how many hours there are in the day; it's just 30 minutes longer...it's just hard for hard classes to take them only half a year. They don't cover as much. It's impossible. They're just racing through it all the time - beginning to end. (Student was failing Math)
- I don't think they cover things as thoroughly. I think it's better that way because you can get the idea of it. You can get more classes in so you...
- They didn't finish last year and they're not finishing this year. I mean they probably got farther last year...
- We're in the 1970s now. We're going to finish. I'm sure Ms. ____ will make sure she gets everything in!

Semester Block Teacher Comments:

[Interviewer: "Is learning within this block more effective, or is the course content easier?"]

- Are there more choices? I don't think either one of those fits. Course content is not easier.
- It is more effective because it's more concentrated ...
- I don't feel it's watered down at all.
- I would say watered down only because i was teaching different levels, so it's different. I don't hold ... different level kids accountable for the same sorts of thing.
- I'll tell you what it's made me do is to look at what's important and leave out the less important things. I'm not sure that covering 1,2,3,4 is important...I have to look and see what the concepts were, and I've got this amount of time to look at those concepts and it's made me focus on what's really important and I think that's been a positive thing. I have left out some things, but I'm not sure they were necessary. I'm not sure what I left out was ever worthwhile.
- I think it's made us focus on the concepts rather than the little factual things.
- It's a mixed bag. I would say... one of the things I really like to do with honors chemistry, is...have some experience in thinking for themselves and we would do that with essays and there's just not the down time to correct them, or for the kids to do them for that matter, along with the treadmill we're on. You're blasting through this stuff and if you slow down the pace, you're not going to do it and the kids are going to die in the AP. That's a constant -- you have to do a certain amount of work and do it well with the kids. But I just have to

axe that out of my program. That was a good 1/3 of what I took a lot of pride in, so you have some other things where you could develop an idea and really conceptually move with that, but I'm not comfortable overall with what...

- We're experiencing the same thing in **foreign language**. We're not able to cover the curriculum that we used to cover. Not that we liked that schedule either, but this has really put a crunch on us and we feel that after 3 semesters a student would not be as proficient in the language as the student who's taken 3 years of a language. Nowhere near as proficient. And we've also cut a lot of practice time. There's just not the time in the classroom for testing and evaluation, orally, that we used to have.
- We cover what is needed, but what is extra is a problem. That's not at all the case. You can stand up there for 2 days, or for 2 hours and say 'I covered x amount of material' and you didn't cover it--you may have covered it, but you didn't teach it. That's not enrichment. And that's part of the idea to take something sterile and make it real. So I'm concerned about categorizing these different statements into crunching numbers.
- We could make the schedule work, we feel like our curriculum would need to be overhauled to fit the schedule... But the schedule could work if we could change the curriculum to meet it.

Semester Block Parent Comments:

- They could not cover the AP material in AP Biology, I think. They didn't do it in English. Even the English teacher who is very experienced, did not get everything covered. Calculus, I don't think they finished where they should have and she's an experienced teacher. I think it's just trying to pack it all in.
- I think the second semester has gone better than the first and even just the parent night, I could tell that people had adjusted what they were doing, that they had a different idea of how they were going to do it whereas the first one was almost like being a first year teacher again in the sense that some of them hadn't quite gotten into the pacing of it. I have found, been much more pleased, with what's going on this second semester.
- First semester, I felt they weren't doing as many projects. Seemed to me there wasn't enough going on, but second semester has been different. Maybe teachers have adjusted to it.

Six Period Schedule Student Comments:

- We got a whole chapter last night in Science for homework and a quiz on it today. The same thing in Social Studies. My English teacher seems to be where he want to be.

Six Period Schedule Teacher Comments:

- I'm able to cover the county curriculum, (mathematics) I finished May 1.
- I finished (English), May 16. I used this extra time to teach more in-depth in areas I think are important.
- Sometimes I can, and sometimes I can't, I think it depends on the level of student dictates as to how far I get on coverage.

Seven Period Schedule Student Comment:

- They usually say "we don't have no time in class". They try to cram everything in...
- I think they're covering the same because they realize they only have 45 minutes. They're more strict because you have to get certain things fit in.

Seven Period Schedule Teacher Comment:

- There is a downside. My classes are not anywhere near as far along this year as last year. Maybe next year, I'll be a little more adept with my subject matter. To add to that, this is my 10th year in the school teaching the exact same level of geometry and my classes are a full 2 chapters behind now, where we would have been the last 9 years, and we just had to pick and choose what material...there is some material these students will not have exposure to.
- I'm at the same level. [English] Maybe that's more conducive to...
- Some of it probably has to be with adapting... in some of my classes I'm behind and in others, I'm even with last year. I think some of it has to do with students adapting and me adapting. Some aspects are easier to adapt than others.
- I think that's true. In my algebra, it's much easier to adapt...in geometry, though, you cannot go on until you "get it".
- Rote memory things do not seem to be affected by this. Things that they have to comprehend and understand and function with, they seem to have more trouble.
- It's been a positive thing for me in English. I have AP students and have been more readily able to **wean them away from _____ the analysis of things as opposed to their doing it.** I'll start it in class and finish it. They can take it home and they do parts of it--that kind of thing--so it kind of weans them away from depending on me for all of the analysis. They have to do it themselves which is what they're supposed to be doing anyway.

Alternating Block Student Comments:

- They lecture and give you notes and then they give...group work, discussion :
- [Interviewer - As a group do they actually lecture for 1-1/2 hours?] Yes. Yes. Yes.
- **My teacher will rush through 3 chapters in one class and then let you watch TV for another week.** Current events and all that.
- ...it's the teachers, it depends on the teacher...
- I thought it worked real well. Like when you do **groups**, you get to...
- ...people lose interest....It's monotonous with an hour and a half of... lecture.
- Some of them [classes] are using more group learning and in some them you just sit there for an hour and a half and you're staring and you fall asleep after a while.
- I thought the idea was for the teachers to change their teaching habits and not all of them changed their teaching habits.
- I remember my [] class, I liked it, but there were some days when you didn't want to sit there and listen to them give you notes and it was like let's get on with the notes for a test next week. I thought the idea was to change the way they taught so there was more interaction between the students so we could do stuff and help each other learn and not for the teacher to stand in front of class and lecture.
- Most of my classes are cooperative learning. Like my math...
- I think English has more of the different concepts in teaching.
- Our government is all lecture.
- who you have as a teacher is the difference.
- He is the best teacher I ever had. ...because he does a lot of that getting kids...involved.
- I think you learn more with group work because you don't get as tired or as bored. You can concentrate on what you're doing in an interactive class, group discussion, cooperative-type learning. Because when you're just listening to a lecture, you stop listening.
- English is good. Works well. There are groups. It was really helpful when working on senior papers. ...and now we're reading...we work in groups at least once a week. I know my teacher's trying new stuff this year. We have seminars and discuss books. She gives

- us a choice; if we want to discuss or read or do a book report.

 - More than likely, you can find a couple of math teachers that are used to doing that because the block schedule is very similar to college schedules and the college teachers are used to teaching that way so I think if high school teachers have any knowledge of how to teach at a higher level, they're going to be a better teacher on a schedule like this. It really does help for a teacher to know what he's doing and how to manage his time rather than some college professors lecture the whole time, tell you to get a book, read this assignment, etc. and there are some teachers here that are the same way. One teacher last year would just basically give you the assignment, tell you to go home and read how to do it, if you don't understand it tomorrow, we'll go over it. If you choose to goof off, you waste your time. It all depends on the teacher.
 - Some teachers are trying to do group work and stuff, but they're not used to it and I found when we do group work, if there's something I don't understand, I learn it from one of the other people in my group. Because if I don't understand something, you learn by working through it. When the teacher explains how to do something and says OK let's take, do your homework, turn in your homework and then OK, let's have a quiz, you don't do well because if you don't know what you're doing, you just thought you knew what you were doing, you get a bad grade. When you work through it with someone else... [Interviewer -So that doesn't happen in math classes?] They're not used to doing it.
 - [Interviewer - what are the kinds of things they do in these classes that work?] Every day we have a little mini-group project we do and answer questions together and kind of brainstorm for ideas which is really good. Then we do sometimes skits in front of the class instead of being lectured and we're learning the same thing. We teach ourselves instead of him sitting up there. He always give us assignment questions and then we get together in our group and act it out.
 - It's one of those things again where it depends solely on the teacher. He just gets up in front of class and lectures away, then gives dittos on it or an assignment out of the book...
 - Every now and then he lets us do group work so it goes pretty quickly... When he does the group stuff, the class learns more.
 - I think bad teachers are just like, we have to get this done. And just keep feeding it to you and feeding it to you and test you on it and keep going. There's not much discussion. I like getting away to labs and doing a little work with 3 or 4 people; I enjoy that, but you don't get a lot of that.
 - We did that once in my English class this year--got in groups, about 4, and we were covering this particular period in literature and each group had a certain part of that era they had to cover and report on it. You were all responsible for putting together that material. Most teachers are like, you're going to do what I tell you to do and I just take the notes and learn the best I can. [Interviewer - Are those the teachers you would say aren't as effective as the others?] Yes. I learn a lot better when I get to read on my own, write my own papers versus taking notes for a week. And, then have a test on Tuesday and Monday night I'll break out the notes and read through them and take the test. I don't really like that.

Alternative Block Teacher Comments:

- The positive aspects of the classroom situation, the fact that you can have more of a unified lesson, you can start out with motivating factors -- and I teach English 12, AP Honors and an x level class, so I have quite a spectrum in there and with my Honors we've got motivating, writing, discussing, vocabulary, we'll make it to whatever book we're going to read, we get to read an entire short story, and then they have some homework to do and

they've got two nights to do it. That's not a problem. But I just like the whole unified factor of it. Instead of coming in and doing a little motivating and discussing, then it's time to go, and they have to do something else at home as opposed to what I have to do at home. I'd like them to be with me for certain things. I'm not finding that the 1 1/2 hours has been any problem as far as attention because it also gives us time to do group work, discussion work and then come back together as a class instead of dividing all of those factors up into 2-3 days because that creates more of a problem with absences,

Semester Block Student Comments:

- It's not too bad..but the teacher's assistant lectures you the whole time and it gets really boring.
- [Interviewer - What would a good teacher using this kind of schedule do as compared to a teacher that's not as helpful to you?]
- Well, one of them just sits there, says to stop stuff one time but doesn't have any control.
- Variety. In my bad teacher's class, we take notes, and then she'll be teaching us how to do something and then nobody will be listening, but she'll be sitting up there teaching anyway so nobody is listening at all, either half are asleep or half are talking and she doesn't do anything about it. She just sits up there and teaches... In my good teacher's class, it's like a big discussion...than like my classes. It's not just sitting there listening to her teach--it's more of a big group thing-that's how my class is. [Interviewer - Are those the ones you think work well?] Yeah, I think it works well when the teacher works with everybody instead of just sitting there lecturing. You learn better that way. Just depends on the teacher.
- ...teaching method. Like some days you go in group, not just the same thing every day; like, variety.
- They don't lecture every single day for 5 days a week, but what else can you do in **history**, it's just notes and you're going to get that everywhere...
- Lectures get boring.
- One thing that would help is to get in a **group** and talk about something and debate it and that helps us understand. [Interviewer - Did you not do those things previously?] No. There wasn't as much time to do things in groups.
- Seems they do the same thing they did last year and I think that's the problem because last year the lecture was most of the period, but it was also short. This year, it's long and it's really boring.
- We've been lectured and videoed to death. I've never heard us have a good discussion.

Seven Period Schedule Student Comments:

- They lecture you or give you something to do so you can get out of their way.
- There was [lecture] more last year.
- My [] teacher is teaching the same stuff, the same style, everything. She might add new stuff, but it's just boring. She makes class period seem like it's still 55. She has a monotone voice and you can tell where she's going because she's so predictable.
- It's either all lecturing or work on the board and work this out. [] is just listening. Some give you a worksheet and go to the back of the room and let you work on it all time long.
- The schedule changed but it didn't really change the way teachers teach.

Six Period Day Student Comments:

- English is about 70/30 (lecturing 70)
- History - we don't a lot of group work, maybe once a week.
- Most of the time is spent on individual projects
- In my [] class, I think last year we did a lot more talking and discussing about the stories and what they meant and this year it's more basic questions about the story. It just depends on the teacher.

Alternating Block Teacher Comments:

- The issues of students not doing homework or any work, they were there long before block scheduling.
- How much responsibility should we take in terms of allowing children to turn in late homework, allowing them to make up work over a very extended time, re-teaching material to children who are not motivated. It's a very difficult call.
- With the slower kids, they never did their homework, so now they have to work with me in class, so there's some learning going on whereas before there was none--they'd come in and not have their work. They still don't have their work, but they do when they're with me.
- I can see some real pitfalls for the average kid. I was concerned that average kids, c-level, they need to meet every day and here's why: homework assignments are easily lost or forgotten about, if not seen every day. Absences really hurt this level of student. Won't hurt the AP student. If they're absent, it hurts, especially with makeup. Then if say this allows for makeup, well you're still slowing down the whole educational process because of students not being present.
- In Spanish...the optimum situation would be that when you teach something and assign it, they go home that night and do their homework that night and then the next night you take all that work out again and go over all the notes you hope they've taken in class, and review their vocabulary and review their flash cards and study so when they see you the next day, they're sharp, they've practiced, just like piano or typing. The typical average kid has either not done their homework at all or if they did it, they did it 10 last night, looked at it and couldn't figure it out because they couldn't remember what you taught, or worse yet, they copied it from somebody else 20 seconds before class started. So I'm finding half the kids know what they're doing because they're sharp and prepared and half the kids don't have a clue. [Interviewer - Wouldn't those kids that didn't get the makeup or didn't do their homework...wouldn't they not be doing their homework if the class met every day? The teacher would have the opportunity to reinforce an expectation every day. So every other day, it reinforces one less day they've had the pressure.
- It's really the pressure the teacher can bring to bear of meeting every day which puts the responsibility on the teacher putting pressure on, and students responding to it, as opposed to the student taking the responsibility.

Alternating Block Student Comment:

- ...feels like you have shorter day; goes by better; only 4 classes to deal with; less homework every night; have a "buffer day"
- They were talking about there being more time to manage things, but for me there's more time to put it off; I mean if you know you're going to have an odd day to do the homework, you mess yourself up because you learn something on the odd days, but you have to do the homework on the even days instead of the next day...
- When you have homework, and a job, it's a lot easier to manage your time.

- It really puts more pressure on you to manage your time? You have to on this kind of schedule because the structure isn't there every day pushing you. You have to sort of create your own...
- They were talking about there being more time to manage things, but for me there's more time to put it off; I mean if you know you're going to have an odd day to do the homework, you mess yourself up because you learn something on the odd days, but you have to do the homework on the even days instead of the next day...
- I think there's less homework. You don't have to do six subjects.
- When I have to go to work and I have lots of homework in every class, it's difficult to get it all done. But now, I know if I do my homework for tomorrow's class, then I won't have to worry about it tomorrow night when I have to go to work. But then again you can take advantage of it, which I do.
- Managing your own time becomes habit after a while. I thought it would be hard, but it wasn't.

Semester Block Schedule Teacher Comments:

- I have heard some students say they like it. Their reasons for liking it don't exactly suit me. One of their reasons are that it is they have less homework. To me that should not be the goal of the students, that things be easier. I thought more knowledge was the object of going to school. So if their notion of success is that it's easier and they have less to learn, then I suppose they'd say it's successful.
- In honors they seem to be more mature and able to handle the outside practice on their own and they seem to do better. But the z-levels, we find that they are totally will not practice outside of class. The y-levels, it's perfect for them because you can do much more, spend more time practicing with them in class and give them less homework, but still they do the little bit that they have to do and they come in ready for the next day. You don't have to cover as much material.
- I generally give them a few minutes at the end of class. If they're good, they can knock out a large portion of it. Because I know the load on them is fairly substantial with homework, even though they have less classes...
- I found that with lower level kids, if they start it in class, the odds of me getting it complete, are so much greater.
- [Interviewer - Are you able to grade the homework on time with this schedule you're on?]
- I generally can.
- I don't always grade homework; I sometimes...the homework I give is not busywork, but sometimes I just check it to see that it's been done. Sometimes I don't do it at all. I always go over it if there's a question, but I don't take a grade on every homework.

Semester Block Student Comment:

- It's a lot easier in one semester and you get more done in two hours and less homework. It's not less homework in a class, but it's less because you've only got 4 classes.
- They check the homework every day. The homework makes a big difference. If you do good on tests and quizzes, but not homework, your grade will be down....
- I can finish more stuff...can finish at your desk. I've got time to do my homework now in class... before you had to do it during class while you're doing other stuff....
- I don't have as much homework as I did last year and I have more time in class to do it. [Interviewer - Do they let you do your homework in class?] Sometimes. It depends on the class.

- I have more homework than last year.
- More in class, but less altogether.
- Depends--last semester I had 2 electives and then 2 classes so I didn't really have that much homework...now I only have 1 elective. I like pretty hard classes.
- There's a lot less homework.
- I didn't have any less homework.
- Probably more, but I get a lot of it done in class whenever the teacher's lecturing.
- I usually don't have that much anyway because I finish in class.
- I don't think my teachers give enough homework and I hate to say that because I hate homework, but some do and some don't. [Interviewer -depends on the teacher I guess.] Depends if they want to grade it.
- Usually they just come around and check it.
- In English, it takes months to get it back.
- In Art, I'm still waiting for some stuff to be graded and it's been finished for quite a while.
- My teachers grade pretty fast this year. I think it's just the teacher.
- I notice that in 6th period they gave it back quicker. I don't know...

Seven Period Schedule Student Comments:

- Less homework I guess because they're trying to make it easy on us....
- I have time in class to do my homework?

Six Period Day Teacher Comment

- Seldom do students do homework in class.

Six Period Day Student Comment:

- On a regular night, I have 2 to 2 1/2 hours of homework. Generally, history. But we get a lot of math, too.
- We get graded but they just come around and check it. We don't normally turn it in. And if, for math, we have to at least try each problem and for those we don't try, we get deductions in the grade.

Semester Block Teacher Comment:

- Have to test them every week; otherwise there's too much material. Scantrons used more often because they are quicker.
- Longer period better for exams because have longer to take it and can ask questions before exam.
- It just occurred to me--I am using more prepared tests, multiple choice particularly, that comes with the text than I have in the past so maybe that's why I'm also using more essay, which takes a whole lot more time to grade, and it hadn't occurred to me until just now.
- I don't think I'm doing as many projects. In terms of the standards and quality of the work they do, if anything, they might be just a little higher here. I don't know, with having them every day for a long period of time, I almost feel I can push them a little harder to produce a little more. I'm not doing as much, but it might be just a little bit better than it was.
- I'm a tougher grader than I was.
- I have had to limit my essays. I tried to compensate with having oral debates with a written component to it. It just doesn't touch it. It seems that we're quizzing every other day and again some of the written work has got to go. They can't be writing as many essays as they normally would.

Alternating Block Teacher Comment:

- I assess students differently than before...they can take the written part of a test and an application in one period; before it was spread out. They test better.
- I can quiz more and that has helped me assess (I call them concept checks, they call them quizzes), but if they don't get the concepts, then we go back and I don't count that concept check so to me, because of the hour and a half, I've got to quiz them more frequently or else there's too much by the time we get to the test. That has worked very, very well for me.

Seven Period Day Student Comment:

- We have more quizzes especially in math.
- Teachers want their grades, they want more grades than they've had...

Alternating Block Teacher Comments:

- I'm not finding that the 1 1/2 hours has been any problem as far as attention because it also gives us time to do group work, discussion work and then come back together as a class instead of dividing all of those factors up into 2-3 days because that creates more of a problem with absences, those who miss the beginning of a unit, and the other thing is that special ed was mentioned...
- In PE it's nice that we have the time to break down the skill, like if we're doing particular skills, we can do that, do some drills and play. On the other hand, once the skills are learned, and we're out there playing, they get bored very quickly. Part of it is because of the various skill levels of the students. With someone who is really skilled and they're matched up with somebody who's not as skilled, the interest level is "how much longer; when are we going in?"
- The trouble with the low level kids is attention span. 90 minutes, most of those kids are TV kids and they're used to half hour TV and even then, they need commercials.
- [Special Education - With the LD students, the teachers seem to feel that it's too much time on one area and my feeling is to just vary the activity, but again we haven't been trained to do all that variation and sometimes that's difficult but I think that's more of a ... I rate the schedule a 10 but my department would probably rate it a 7.

Alternating Block Student Comment:

- She just gives out sheets. That gets boring.
- I don't like the classes we have every day. My classes were too long. All my teachers did was lecture. I'd fall asleep. It was boring.
- It takes an hour and a half to go over things now instead of only...
- The class is too long. When you go in, you think well, I'll learn today. But by the time the first hour goes by, you're ready to go to sleep...it's too long, for me anyway. [How do the rest of you feel about the length?] ...goes pretty fast.

Alternating Block Parent Comment:

- The best thing about this schedule is they don't go to the same class every day. Teachers who don't impress them, they don't have to see every day.

Semester Block Teacher Comments:

- (English) - It's very difficult to deal with lower levels in a block of time like this. Many of them require a great deal of attention which they would get one way or another. It's very taxing and challenging to...try to answer their emotional needs and to try to shift gears academically to make transitions between things. [Interviewer -is it the same under either schedule?] Just more agonizing for them under 85 minutes, but for lower level, I think...although I have a lower level AP science class and they're not having a problem with that. But they're older kids.
- Schedule is very beneficial for lower ability kids; fewer failures; fewer students going to summer school; fewer teachers, fewer subject area help kids, especially kids who have done poorly in the past.
- 86 minute classes - depends on subject matter whether kids like classes or not.

Semester Block Student Comments:

- The best thing about this schedule is that you get all your classes done in one semester. You don't get as bored at the end of the year...distracted by the end of the year, summertime.
- Well, you still might be a little bit bored with school but at least you're into new content, new and different subjects and teachers.
- But I don't sit in my [] class like last year for over an hour taking notes, like I do this year. Some people like that, so you would hate it, even if it were just 50 minutes, plus you get it over with in one semester if you don't like [].
- It really depends on the teacher. - Definitely. -Yeah. -Totally.

Semester Block Parent Comment:

- (Special Education Parent: I think it's been good for him -- it would have been harder for the teachers to get to know the accommodations he needed. Having him longer, I think they know when they're losing him and when has to walk around. I really thought he'd never make a 90-minute period, but he's actually...it has helped his attention span. He can sit through church now for a whole hour now.

Seven Period Day Teacher Comment:

- [Foreign language?] - In my upper level classes, it has not been a problem. We accomplished as much this year as last. Beginning classes have come up short because they need that extra attention from me, one on one and there's not enough time to do it.
- [special education] - For special ed, is better because they are...emotionally disturbed students, the more you give them, the more they grasp. The less time you give them, that's when they get into things they're not supposed to be into and conflicts occur.

Seven Period Day Student Comment:

- My schedule is so predictable and repetitive, it gets boring. We do the same thing every single day.
- My [] teacher is teaching the same stuff, the same style, everything. She might add new stuff, but it's just boring. She makes class period seem like it's still 55. She has a monotone voice and you can tell where she's going because she's so predictable.

Alternating Block Teacher Comment:

- People in my department said please let them know-- we're ones who are more able to get around the room and help individuals than we would be in the shorter time period.

IMPACT OF SCHEDULES ON STUDENT PERFORMANCE

Alternating Block Teacher Comment:

- More, no, but they're understanding more...You don't get as far.

Semester Block Teacher Comment:

- Students are very excited plus, they're making better grades than they ever have before, and not just in business. They're saying in other classes, too. Students in math are not saying that. Ours are moaning and groaning and saying we're going too fast.
- More kids on honor roll because fewer classes to concentrate on and only 4 final exams - not because of watering down. I do provide less diversity/variety of content.

Semester Block Student Comment:

- Exams easier because you just learned the material. Learning better because you can focus better with only 4 classes a semester.

Semester Block Parent Comment:

- My son is working at the same amount as before; his grades are fine/good. No mention of any particular class being better or worse. Actually lots of time to do chemistry labs. Also loved the teacher too. No way to tell if any emphasis on academic or subject.

Alternating Block Student Comment:

- My grades are better, but I don't know if that's because I've learned more. Maybe its because I'm realizing now that college is coming and I, you know, am taking school more seriously.
- Mine are better than before.
- I don't think the block has negatively affected any of my grades.
- I was really killing myself for good grades last year and this year, with this scheduling, I've been able to...it's been a lot easier... because I can manage my time better

Seven Period Day Teacher Comment:

- About the same.
- I have lower grades than normal this year and I don't know whether it's the character of the class or is it time allotment.

Semester Block student comment:

- I think it's better because it's easier and I am learning more Like in history, I learned just as much as I did when I took it in 9th grade--just a shorter time period; you don't have to go through the whole year drawn out...you can get it over with real quick and you learn just as much.
- I just think it's a different kind of...not necessarily that one is better than the other, because if you have 6 periods you have the whole year, but you only have maybe a little every day, but in 4x4 you only have 4 classes, but more homework, so I don't think one is easier than the other one, but I think you learn as much.

- I think I am learning better because I only have a couple classes to worry about. I can focus better?

Six Period Day Teacher Comment

- Student achievement is not improving. They are lowering the grades in the grading scale. Lowering the honor society requirements led towards lower student achievement. We've added study skills in the 9th grade because of failure rates.

Six Period Day Teacher Comment

- Student achievement is not improving. They are lowering the grades in the grading scale. Lowering the honor society requirements led towards lower student achievement. We've added study skills in the 9th grade because of failure rates.

Semester block teacher comments:

- I don't know if I have the papers and that sort of statistical evidence to back it up, but my perception is that they learn perhaps better on certain things and on other things, not nearly as well. I don't know if I have the papers and that sort of statistical evidence to back it up, but my perception is that they learn perhaps better on certain things and on other things, not nearly as well. For example, I think they learn how to (in English when I'm discussing things) function in a seminar situation. It functions better. Because there's more time for that. I think some things do suffer, though, whether it's my fault or the schedule or a combination, but things that might require just sheer repetition; that I sometimes don't do, because I feel like I need to move on to cover additional content. I don't know if those things...
- I see them as thinking a lot more so than in my experience with other...but I don't know if that's true or not, it's just an ending sense that I get. A lot of that comes through discussion.

Semester Block parent comment:

- My son likes the schedule because he gets more in-depth and interesting classes (more involved). When he was first told he would have to transfer because of the boundary change, he was resistant. In fact, he wrote a letter to the superintendent asking him to stay where he was... Now, he would never want to leave for another school.

Alternating Block Teacher Comment:

- I think we went to the alternating block because the data showed that you could have more reinforcement activities. It allowed for re-teaching of concepts, this is I think one of the reasons educationally that county moved in this direction. That goes hand in hand with the cutting down of content and more focus on quality and learning. Being able to go into more depth on a particular subject. To begin and go through a whole process and finish up in one session -- closure...

Now, I think it depends on the subject. I teach an upper level English class and I'm very pleased with it because you can start and finish a discussion and with the block you can do a good discussion.

Alternating Block Student Comment:

- Teachers tend to go more in-depth in an idea, but you still get the feeling toward the end of the year that they put things off and start rushing.
- I think we are getting more in-depth... of the background of it.

Six Period Day Student Comment:

- In English, its a broad brush. I think last year we did a lot more talking and discussing about the stories and what they meant and this year it's more basic questions about the story. (Interviewer -So discussion and conversation equates to going more in-depth?) Yes. (Interviewer - Do you learn more doing that?) I think so. You don't get as much done, but you learn more about that particular thing.

Semester block teacher comments:

- I think I see more of their ability to solve problems...
- I see it as more like problem-solving skills, i.e., what do you do if, and how do you approach that? Rather than facts and data - I don't know, again, whether that's my fault or theirs or where that problem might lie... Interviewer "is it a fault?" Well, I don't know. I feel that it is for some reason.

Semester Block Student Comment:

- Learning more and understanding more than last year. Use stuff learned in math first semester and it was used in science second semester. (would happen at same time with 6 periods).

Semester Block Parent Comment:

- There's two ways of looking at it. I think the number of facts that ended up in her head was probably less, but I think her attitude and what they did equipped her well. She may have lost a few facts, but she gained some other skills -- processing skills...

Alternating Block Teacher Comment:

- I still have terrible grades because that is the nature of the beast, even though my students care... I don't know if they are learning more... I think unfortunately most of us feel like saying no but...
- Sometimes, I think students learn better because they take fewer courses a day. Still, they still have quite a responsibility. I'm not sure...

Alternating Block Student Comment:

- It gives you more time to learn. You'd start to learn something and then the bell would ring before. You never got to finish.
- I think that's a problem with every class [not just FL] because you start something new on Monday and then you don't come back to it until Wednesday...
- If you learn something, it should stick with you, so I mean, it might be hard to remember it for Wednesday, but you need to remember it for longer than Wednesday. That's the purpose of learning, isn't it?
- It forces you to really learn instead of memorizing because you have to know it for a longer time.
- Short-term memorizing is not actually learning it.

Alternating Block Teacher Comments:

- ... more kids skip school and cut classes than before because they have figured out there's a lot of time you get caught too. If you miss a class that meets Tuesday/Thursday, and you skip Tuesday and Thursday Mom writes you a note and you come in on Monday, depending on what the principal's dealing with, it's like any kind of reinforcement, you got caught, but you're willing to take the chance.
- the attendance issue not necessary coming to the first period where you check the attendance, but it's skipping after the attendance is taken. I think kids are more apt to give it a try, where before ... the next day, maybe they'll forget and I'll fall through the cracks. I think kids are more apt to cut than they were before.
- The ones who are there every day are actually making better grades than I thought they would have. But the ones who are absent are, it really affects their grades terribly when they're absent one day.
- when they miss 1 day it's like they missed 2 days worth of material

Alternating Block Student Comments:

- If you miss a day, you miss a week... If you missed a day last year... and if you miss a day this year, it's like 4.
- It makes it a lot easier for people to skip classes. I know that...
- (Interviewer: "Is it easier to make up the work or harder?") Well, you miss all the material. You can't make up a lecture. I wouldn't want to anyway.

Semester Block Teacher Comments:

- Well, I'd like to put in my two cents about the make-up part because I did [taught in] the 7-period every other day schedule, and of course the straight 6 before that. I think with this schedule, it's easier for kids compared to the every other day schedule to make up things because you get them, boom, the next day. If when you're seeing the child every other day and they're absent one day, it's really kind of a nightmare to keep track of, when did I last see you, etc? And that gets to be... your head really can spin on that one.
- Well I remember we had a speaker from N.C. who said you have to be really strict. You can only have a certain number of absences...at first our absences were better, but this semester... But being the first year, not having all the electives that are going to hopefully become available in the future, and hopefully a change in attitude of the kids. In terms of a 4 period day, why is it our problem if they want to cut out early? That's not the fault of the schedule--that's an attendance problem. Yes, but we have to work within Chesterfield County. I wish the county had allowed us to try all the things that the guy from N.C. suggested. Like a few more faculty members, give us an attendance policy; that type of thing.
- That's not the fault of the schedule--that's an attendance problem. Yes, but we have to work within Chesterfield County. I wish the county had allowed us to try all the things that the guy from N.C. suggested. Like a few more faculty members, give us an attendance policy; that type of thing.

Semester Block Parent Comments:

- When my daughter was out with the flu, she did feel a little lost, but she only had 4 things to concentrate on to makeup, so I don't know that it was any worse than if she had...she did feel math was a lost class because she had already missed so many days and they had gone so much farther along.

- My son is far less willing to miss a day of school than before (even for illness) because of all you would miss.
- He doesn't like to miss school at all, so he goes even when he's sick; because of car pool and class commitments.

Semester Block Student Comments:

- (Context -In one of the focus groups a student who transferred in from a semester block school in another state indicated that Karms High School in Tennessee improved their attendance problem by instituting a "time for time" policy. Time for Time is a session to make up your classes. As the student explained,

If you miss 5 days, you wouldn't get that credit because you've missed a lot, unless you make it up and there is a place, at school, to make it up before and after school two days a week. That's "time for time". If you got sick for a week, this was the big problem, and it got close to where school or the semester was about to get out, so they'd have to write the Board and ask permission to make it up. If you miss 2 days, that's 8 time for times you have to make up and you have to stay before or after school 8 times. Students didn't like that so it gave more reason for them to stay in. That's where that 99% good attendance came from.

You're making up work, you have to let your teacher know you're going to time for time and they send the work up to the classroom and then you're there for an hour and a half and then you just get one class. You can make up one class in one time for time. It sounds awful, but it kept a lot of people in school. Attendance was real good. 99% for the school. I didn't miss a day and if I did, I was quick to make it up. 3 tardies was equal to 1 absence so you had to...

- This school has a lot of restrictions, like the tardy policy. You don't get to go outside.; too many rules; school is like a "jail".
- if you miss school you know you'll have a lot of work to make up.

Alternating Block Teacher Comment:

- As far as behavior problems, if I were more tense, I wouldn't be able to handle the situation as well as when I'm more relaxed. That has a lot to do with my decorum and also with how the students are feeling. There is a sense of calm, not as frantic as before, and the children move from task to task and I think they are nicer people to be around and...I'm not sure that they don't learn as much because when you're dealing with a lot of conflict in your classroom, that is very disruptive to the learning process...
- With fewer passing times in the hall and a less hectic pace in the entire day, this year quieter.
- It helped our discipline problem because in those 7-8 minutes when 2,000 are trying to get from one end of the school to another.
- I feel this year as opposed to last year, I have more tardies, more students being late to class. Now it's because they have so much more time that they take for granted they have extra time. Last year we only had five minutes between classes and this year we have eight and I'm all the way up on this end of the building so we're quite a trek from the other side of the building but I'm having a big problem with tardies this year that I didn't have last year.
- Discipline problems seem to be down; since there are less changes in the hall, there is less opportunity for fighting & altercations;

Alternating Block Student Comment:

- More kids skip class and school now because of a "lag time" in getting caught.

Semester Block Teacher Comment:

- When they're good, they're very good and when they're bad, they're awful. If you've got someone who is off the wall and is a real discipline problem, 90 minutes is a long time. If you really have a kid with a lot of problems, on a shorter schedule, you kind of grit your teeth and make it to the end, but they can be extremely disruptive and really throw off your teaching. But for the most part, my kids have been really pretty good.
- I think it's calmer than on a regular 6-period day where they're changing classes so often. They're not in the hall as much. I think because of the newness, people haven't been sure of the ground rules and I think there's been some consternation about that, but in the beginning of the year, it was a little wild and woolly, but I would have to say it's generally pretty calm.
- Well, in business, I think it has really improved. We have had the fewest number of detentions and things like that. So it's been great.
- We've had a horrible time in the math department this semester. It's all levels. I don't know what it is. All I know is that I've got 3 teachers who have a great deal of experience who generally had no problem before who are now having tremendous problems.
- We get a 12-minute break between 1st and 2nd period and that seems to... I didn't like the idea when it was first proposed. I was dead set against it, but it seems to have calmed them down; gives them a mental break, physical break. I have actually had kids come talk to me during that 12-minute break which I found very unusual. Pleasantly surprising.
- I found the kids calmer.

Semester Block Student Comments: (These comments are the general consensus at all schools) (Interviewer: How do students know in what classes they can get away with things?)

- The teacher. Test the teacher.
- I think it's the teacher's personality. ...whether they discipline their students or not.
- Teachers with discipline problems before with shorter class periods are still having discipline problems?

Seven Period Teacher Comment:

- You now have extra coverage all day long in the halls. We don't...it's been a positive thing in some ways. We don't have problem kids in the hallways. If you see 1 or 2, that's a rarity. Last year in the hallway, there were kids everywhere. It's been a very good year...because there's always a teacher stationed in the hall at all times.
- Student behavior is a lot better because of our administrative duties.
- There's no time for fights.

COSTS AND BENEFITS OF SCHEDULES

Alternating Block Teacher Comments:

- ...we were looking for an opportunity to give the students a chance to take more electives. At one point we had tried just adding another period to the day on a voluntary basis; it didn't seem to work very well, so I think one of the driving forces was the idea that the student had very little opportunity to get in electives by the time they take, particularly college prep kids, course for the higher levels. This was an attempt to give them an opportunity to... [Interviewer -And has this schedule met that expectation?] I think it has.

- I think a lot of kids...I might lose because they would have to take more college prep classes. Also another way to look at it is I think some of my kids have crossed over into another field of elective which, in turn, is going to help him...some of the kids may have gone into a drama class which in turn is going to help with English class which is going to help critical thinking, you know. I think it helps in a lot of ways, not just in the fine arts, but ... class they may not have anything to take; taking an extra year of foreign language if they want to or that extra year of math if they want to.
- I think the nice thing about it is they are taking things that might interest them more in school, whether engineering drafting or key boarding or music or anything, something they might like better than English, etc. That excites them to take their choices. That is a surprise aspect of the block - [she's referring to the opportunity for students to choose their interests]

Alternating Block Student Comments:

- I took something I wanted to take but wouldn't have been able to take.
- I wanted to take something other than academic course so I'm taking a marketing class to learn something other than academics.
- I'm taking photography which I thought was really neat because my schedule wouldn't let me take just any class.

Semester Block Teacher Comments:

- It gives them more opportunities to become more well-rounded individuals and I think that's true no matter how smart they are.
- I think that's interesting because, and I haven't developed this thought, but somebody told me that what's happening is people are becoming much more specific in what they do, and I agree, I think being well-rounded.
- ... some courses aren't offered both semesters. Single periods. Certain classes have conflicts galore. So it does kind of defeat the purpose... and some of the electives are jam-packed.
- [First teacher] Teachers were not given an opportunity to ask for new electives to add to the program. Sometimes some electives, they were not able to take them. The ones that _____ found because you don't have the flexibility with the 4 period day. When you've got 4 and only 4 periods, and something's offered first period, then you've got to have these things. You can't work things into the kids' schedules and so even though we've got one elective first period, it can't touch it.

[Second teacher] But that's the same thing with the 6 period day where a student in my class and third day of school, transferred out to take band or chorus or whatever...so the same thing occurs in 6 period days...

[First teacher] ...but not as often... you have 6 choices instead of 4.

[Second teacher] Actually we've got 8 choices.

- Well some students are not opting to take the electives. I think we have a lot of kids leaving early, coming late...incredible number of aides roaming the halls. Too many are opting not to do anything. They come late or leave early or they are student aides. ...which really defeats the entire objective. In social studies there were two electives that did not make it and that just absolutely floored us. Because that was one of the major reasons behind the scheduling.

The parent gives them permission to get out and then they have nothing to do but be an aide or something. ... I think we have a lot of kids leaving early, coming late...incredible number of aides roaming the halls. Too many are opting not to do anything.

- One of my students finished in the middle of the year and she went on off to VCU to take classes. We have one student whose mail and everything else comes to me. I think he takes one class here and I never know where he is. Anyway, the "unscheduled periods" tables was the busiest in there, just about.
- We might have to reevaluate what our graduation expectations are for the kids; right now, we're sort of trying out this schedule to see if it works and after we see if it works or not, then we'll have new expectations for the kids and new requirements.
- For me, it's been absolutely wonderful. [Performing Arts] I have been allowed to have two year-long courses and those kids have had all kinds of opportunities they didn't have before.

Semester Block Student Comments:

- It definitely gives you more opportunities?
- Before...basically you have one elective, if you were lucky--either in band all four years, chorus all four years, or you took keyboarding, and that stuff. Now you can be in chorus and take keyboarding. I'd like foreign language too.
- Yeah it does give you more chance to take foreign languages. I mean you can take 2 foreign languages in one year so I guess that's good.
- The biggest thing is the opportunity because before I was just involved with chorus so I could never...whenever I did my schedule, I'd always have to think about going to summer school for this or that because I wanted to take chorus all four years, but yet, and I like science, so I wanted to take Earth Science and Biology and other things, and I wouldn't have the opportunity to take advanced sciences, such as AP chemistry or something, so I think the opportunity....

Seven Period Day Teacher Comments:

- There are more opportunities, more electives; we were having some problems with enrollment dropping and the arts, music, and other electives...
- Enrollment in band is going up and we're talking about life skills which were being cut out with the other classes...family life, so obviously enrollment has increased.
- We've noticed an obvious improvement in band and chorus. It works for our school because we're small. With only one elective class offered, if it was offered at the same time as an AP class that they had to take, they had no choice.
- I had a lot of academic-oriented students who were complaining about not having the opportunity to take some of the things that the other students were taking.

Seven Period Day Student Comments:

- We have more chances to take electives like art, music and yearbook, creative writing, etc.
- I've been able to take 2 extra electives.
- It gave me a study hall. And I need it.

Six Period Day Teacher Comments:

- In [] fine arts program, there's three times the number of students than in Midlothian; and Midlothian can't compete with the students who are going to school on these kind of schedules any more in fine arts because they can't draw from the big pool.

- We have high summer school rates, because that's where students pick up electives. In looking at this area, we should look at whether the reason for going is to pick up an elective for remediation.

Six Period Day Student Comments:

- It's really hard to have an elective each year and get all your stuff in--I have to go to summer school this year just to graduate next year because my schedule would be so tough so I took a study hall instead. Which, since I'm a major in dance and theater, is not too good.
- You need 23 credits to graduate, there's not much you can do.
- ...I've been pretty disappointed with it this schedule because of wanting to do more and I would have rather gone to [] have more options next year.

Alternating Block Teacher Comment:

- ...the biggest problem has been with reinforcement. You can do everything you want in class. I've got time to give a little lecture demonstration or an activity based on the topic. I teach a science. Then there's still time to go over example problems related to what they're doing. The next time they look at it is for the next class which in some cases is from Friday to Tuesday and that's a huge jump. They forget how to do everything and go "I don't remember how to do this" and you have to basically go back and reinforce everything anyway. When I had 7th period last, it was simple, give them a topic, they don't know how to do it, pretend they do their home work but they don't know anything and they'll say "I didn't get 1-12 out of 12" so you give it to them again. That's two opportunities and the other group only had 1. If they didn't get it, I go over it again. They may kind of have this barely tenuous grasp of it but then it's gone again because they won't touch it for another two days.
- If you're going to teach on the block the way you have for years when you met every day, you probably get more done meeting every day. We were probably told and I think it's true, that the block had a lot of advantages, but not to be business as usual. I think we probably have not been given the opportunity to explore -- we haven't had the training to fully use the block. We've gone to buzz groups, but it's hard, to really develop the block you need a lot of time to plan...our planning is pretty much as usual, maybe less than years ago. I think if you're going to do business as usual, as we've done in the past, you're going to get more done meeting every day.
- The block does allow opportunities. I teach low level and AP, nothing in the middle. Block works great for me because the AP allows me to start something and finish it. With the slow kids, they never did their homework, so now they have to work with me in class, so there's some learning going on whereas before there was none--they'd come in and not have their work. They still don't have their work, but they do when they're with me. I can see some real pitfalls for the average kid.
- The teacher would have the opportunity to reinforce an expectation every day. So every other day, it reinforces one less day they've had the pressure. It's really the pressure the teacher can bring to bear of meeting every day which puts the responsibility on the teacher putting pressure on, and students responding to it, as opposed to the student taking the responsibility.
- I think they have to do more work on their own. I don't know that this has given them...I think it's made my students do more work....the work I felt like I should have been doing.

Alternating Block Parent Comment:

I have two sons who were there. For the first 2 weeks, I had absolute panic at my house. Those boys were just terrified because of the amount of homework that was put to them in the first 2-3 days. They didn't know what to do. I think as the year has gone through, they have liked it. They like not having the same courses every single day. They have learned to manage and know exactly when they need to have their work done.

Six period day schedule Teacher Comment:

I think it's an advantage. It's a reinforcement. The best thing about the 6 period day is that it allows teachers to introduce material, review and practice the material. Secondly, the kids meet every day.

APPENDIX C

ALGEBRA 1 TEST

math



CHESTERFIELD COUNTY PUBLIC SCHOOLS

Superintendent Thomas R. Fulghum

TO: Larry Elliott

FROM: Ron Gunter *Ron*
Instructional Specialist, Mathematics

DATE: August 16, 1995

SUBJECT: RESULTS FROM ALGEBRA I TESTING IN JUNE

The results of the Algebra I testing that occurred in conjunction with final examinations at six Chesterfield high schools are summarized in the attached charts.

You will recall that six schools participated in the testing: Bird, Clover Hill, James River, Manchester, Midlothian, and Monacan. All students were administered the same 45 item multiple choice test that was designed jointly by most of the teachers whose classes were involved in the process. The administration was in conjunction with the final examination and all students were allowed 45 minutes to complete the common 45 item test.

Please call if you have any questions.

Attachments

INSTRUCTION DIVISION CENTER
Mathematics Department
2318 McRae Road • Richmond, Virginia 23235
(804) 560-2760 • FAX (804) 560-2798 • TDD (804) 748-1638
Equal Opportunity Employer

Algebra I Test

Discussion about various high school schedules often centered on questions about the achievement of students. The recurring questions were whether or not a common body of content was covered and whether or not students were learning as much from schedule to schedule. In order to provide some data on this question, an Algebra I test was planned. Algebra I is a course which appears to have a high degree of consistency in curriculum and instruction from classroom to classroom and from school to school.

Representative Algebra I teachers from Bird, Clover Hill, James River, Manchester, Midlothian and Monacan High schools were invited to participate in a day-long session to develop a set of questions reflecting the major concepts in the Algebra I curriculum. Teachers from each school participated and developed a 45 item multiple choice test. The test was administered in conjunction with the Algebra I final examination in at least three sections of Algebra I in each of the participating schools. Students were allowed 45 minutes to complete the test. Original answer sheets were sent to the mathematics specialist for scoring and analysis.

ALGEBRA 1 EXAMINATION RESULTS
Common 45 Item Instrument Administered at 6 High Schools
Two Schools Using Each of the Scheduling Alternatives

SCHOOL	N =	Mean	Median	Mode	Standard Deviation
L. C. Bird	108	30.30	30	30	6.90
Clover Hill	166	28.07	29	30	6.71
James River	67	28.90	30	31	6.29
Manchester	169	29.54	30	35	5.66
Midlothian	126	28.70	26	29	5.66
Monacan	73	30.06	31	37	6.38

Composite (All Participating Schools)	709	29.25	30	30	6.26
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Comparison of Mean Scores by Type of Schedule

Scheduling Alternative Used	N =	Mean Score	Standard Deviation
Standard 6 Period	295	29.18	5.69
7 Period Block	274	29.12	6.77
4 by 4 Block	140	29.67	6.38

ALGEBRA I EXAMINATION

Solve each problem as indicated in the question. Then, from the four answers you are given, select the BEST response and mark it in the proper place on your answer sheet.

1. Evaluate: $17 - [8 - (3 + 1)]$

- A. 11 B. -15 C. 5 D. 13

2. Evaluate: $5 + 3^2 - 4 \div 2$

- A. 12 B. 5 C. 30 D. -5

3. If $a = 4$ and $b = -3$, then the value of $-2a - 3b$ is

- A. 17 B. -1 C. 1 D. -3

4. If $x = 8$, then the value of $\frac{2x - 1}{x - 3}$ is

- A. 3 B. 5 C. $\frac{1}{3}$ D. 6

5. $|3| - |-2| =$

- A. 5 B. -1 C. 6 D. 1

6. $-3(5 + 2x) =$

- A. $-15 + 2x$ B. $-15 - 6x$ C. $-21x$ D. $21x$

7. Name the property illustrated by the following statement:

$$5 + (2 + 3) = (5 + 2) + 3$$

- A. Commutative B. Closure C. Associative D. Transitive

8. Solve for x: $x - 19 = -2$

- A. -17 B. 0 C. 17 D. 21

9. Solve for x: $\frac{2}{3}x = 12$

- A. -1 B. 8 C. $11\frac{1}{3}$ D. 18

10. Solve for x: $7x - 6 = 4x + 3$

- A. $\frac{9}{11}$ B. 12 C. -1 D. 3

11. In the coordinate plane, which point lies on the y-axis?

- A. (-2,3) B. (0,1) C. (-8,8) D. (2,0)

12. Which of the following points is in Quadrant IV?

- A. (0,1) B. (-1,4) C. (-1,-1) D. $(2, -\frac{1}{3})$

13. Which of these lines is parallel to the y-axis?

- A. $x = 6$ B. $y = 7$ C. $x + y = 1$ D. $y = 3x - 6$

14. What is the slope of the line passing through the points (2,-1) and (4, 3)?

- A. - 2 B. $\frac{1}{2}$ C. 2 D. 1

15. The slope of the line $y = -\frac{2}{3}x + 1$ is

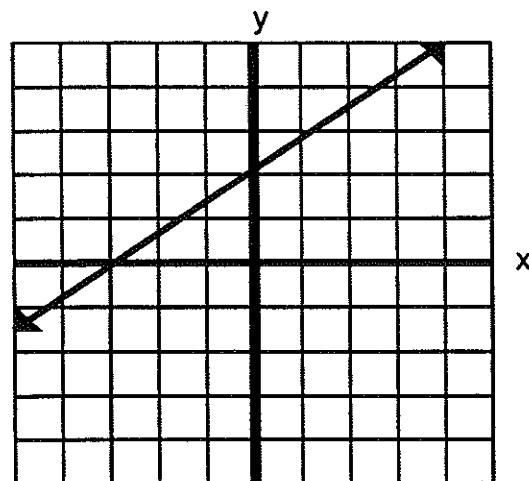
- A. $-\frac{2}{3}$ B. $\frac{2}{3}$ C. $-\frac{3}{2}$ D. 1

16. Which point is on the line $y = 4x + 1$?

- A. (0,4) B. (-1,-3) C. (2,3) D. (-1,5)

17. The slope of the line shown in the graph at the right is

- A. $\frac{3}{2}$
B. $-\frac{2}{3}$
C. - 3
D. $\frac{2}{3}$

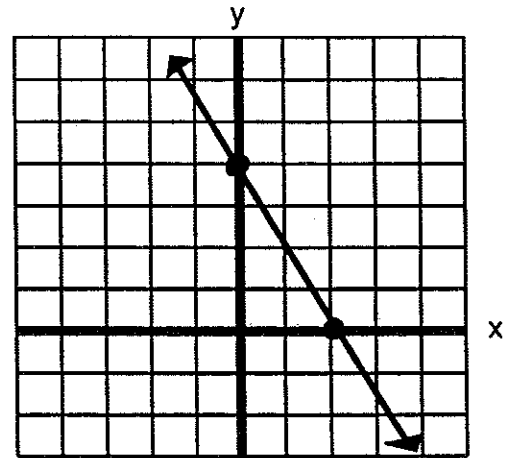


18. Given that the slope is $\frac{3}{4}$ and the y-intercept is 4, write the equation of the line.

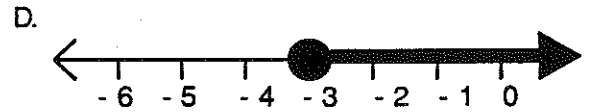
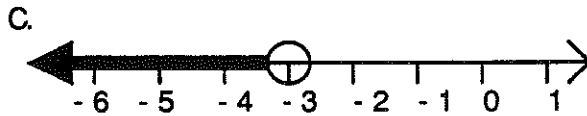
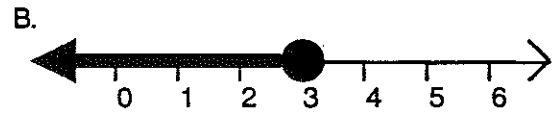
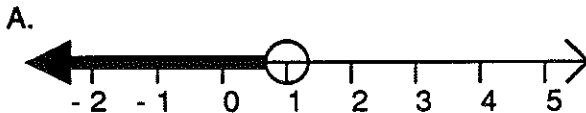
- A. $3x + 4y = 12$
B. $y = 4x + \frac{3}{4}$
C. $4y = \frac{3}{4}x$
D. $y = \frac{3}{4}x + 4$

19. Refer to the graph shown at the right.
Which of the following statements is TRUE?

- A. The x-intercept of the line is 2.
- B. The slope of the line is 2.
- C. The equation of the line is $y = 4$.
- D. The equation of the line is $y = -2x$.

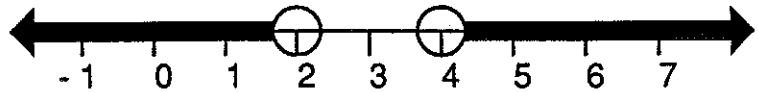


20. Select the figure that shows the graph of $x \leq 3$.



21. Which of the following statements has the graph shown in the figure below?

- A. $2 < x < 4$
- B. $x > 4$ or $x > 2$
- C. $x < 2$ or $x > 4$
- D. $2 < x > 4$



22. Solve the following open sentence: $-2x + 3 \geq 9$

- A. $x \leq -6$
- B. $x \leq -3$
- C. $x \geq -3$
- D. $x \geq -6$

23. $x^2 - 3x + 1$ is a
A. monomial B. binomial C. trinomial D. none of these

24. Add: $3x^2 - 2x + 7$ and $-x^2 + 5x$.
A. $2x^2 + 7x + 7$ B. $2x^2 + 3x + 7$
C. $5x^6 + 7$ D. $2x^4 + 3x^2 + 7$

25. Simplify: $(4x + 10y - z) - (4x - 12y + 2z)$
A. $-2y + z$ B. $8x - 2y + z$
C. $22y + 3z$ D. $22y - 3z$

26. Express the product using a single exponent: $(5^3)(5^7)$
A. 25^{10} B. 5^{10} C. 25^{21} D. 5^{21}

27. Simplify: $(3x^2y^3)^3$
A. $9x^6y^9$ B. $27x^5y^6$ C. $27x^6y^9$ D. $9x^5y^6$

28. Multiply: $-3x(2x^2 + 5x - 3)$
A. $-6x^3 - 15x^2 + 9x$ B. $-6x^3 + 15x^2 - 3$
C. $6x^2 - 15x + 9$ D. $-6x^3 + 15x^2 - 9x$

29. Multiply: $(2x + 4)(3x - 2)$
A. $6x^2 + 8x + 8$ B. $6x^2 - 16x - 8$
C. $6x^2 + 16x + 8$ D. $6x^2 + 8x - 8$

30. Find the greatest common factor (GCF) of $24x^2y$ and $16x^2y^2$.

- A. $4xy$ B. $4x^2y$ C. $8x^2y$ D. $8xy$

31. Factor: $x^2 - 16$

- A. $(x - 4)(x - 4)$ B. $(x + 4)^2$ C. $(x - 4)^2$ D. $(x - 4)(x + 4)$

32. Factor: $x^2 - x - 30$

- A. $(x + 6)(x - 5)$ B. $(x + 5)(x - 6)$ C. $(x - 5)(x - 6)$ D. $(x + 5)(x + 6)$

33. Simplify the expression below. Assume that no denominator is 0.

$$\frac{-4xz^4}{-48xy^2z^3}$$

- A. $\frac{z}{12y^2}$ B. $\frac{1}{12y^2z}$ C. $12y^2z$ D. $\frac{-z}{12y^2}$

34. Factor: $2x^2 + 5x + 3$

- A. $(x + 3)(2x + 1)$ B. $(2x - 1)(x + 6)$ C. $(x - 6)(2x + 1)$ D. $(x + 1)(2x + 3)$

35. Solve: $x^2 + 6x + 8 = 0$

- A. $x = -4$ B. $x = -2$ C. $x = -2$ or $x = -4$ D. $x = 2$ or $x = 4$

36. Simplify: $\frac{-x + 1}{3 - 3x^2}$

A. $-3(1+x)$

B. $\frac{1}{3(1+x)}$

C. $-\frac{1}{3}$

D. $\frac{1}{3}$

37. The least common denominator (LCD) of the fractions $\frac{x-1}{x^2-4x+4}$ and $\frac{5}{3x-6}$ is

A. $3(x-2)(x-2)$

B. $3(x-2)$

C. $5(x-1)$

D. $x^2 - x - 2$

38. Divide: $\frac{6}{x-2} \div \frac{21}{3x-6}$

A. $\frac{42}{(x-2)^2}$

B. $\frac{14}{3(x-2)^2}$

C. $\frac{7}{6}$

D. $\frac{6}{7}$

39. Add, then simplify: $\frac{x^2}{x-2} + \frac{6-5x}{x-2}$

A. $x+3$

B. $x+2$

C. $x-3$

D. $3-x$

40. Find the ordered pair which is the solution of the system of equations below:

$$\begin{cases} 3x - y = 1 \\ -x + y = -9 \end{cases}$$

A. (2,-8)

B. (3,0)

C. (2,0)

D. (-4,-13)

41. Find the ordered pair which is the solution of the system of equations below:

$$\begin{cases} x = 5y \\ y = 3x + 14 \end{cases}$$

- A. (-5,-1) B. (5,1) C. (3,14) D. (3,5)

42. Solve for x: $x^2 - 11x + 24 = 0$

- A. { 2, 12} B. { - 3, -8} C. { 3,8} D. { 3, -8}

43. Solve for x: $x^2 + 5x - 2 = 0$

- A. { 5, -2} B. { - 5,2} C. $\left\{ \frac{5 \pm \sqrt{33}}{2} \right\}$ D. $\left\{ \frac{-5 \pm \sqrt{33}}{2} \right\}$

44. Simplify: $\sqrt{11} \cdot \sqrt{5}$

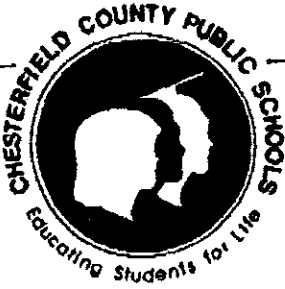
- A. 55 B. $\sqrt{55}$ C. $2.5\sqrt{11}$ D. 27.5

45. Simplify: $2\sqrt{8}$

- A. 8 B. 16 C. $4\sqrt{2}$ D. $6\sqrt{2}$

APPENDIX D

SUMMER SCHOOL DATA



CHESTERFIELD COUNTY PUBLIC SCHOOLS

Superintendent Thomas R. Fulghum

TO: DR. JOHN PISAPIA
FROM: HOLLY RICE *HR*
DATE: AUGUST 28, 1995
RE: SUMMER SCHOOL DATA FROM CHESTERFIELD

ATTACHED IS A MEMO FROM THE SUMMER SCHOOL OFFICE CONCERNING THE NUMBER OF STUDENTS WHO REPEATED CLASSES IN SUMMER SCHOOL THIS YEAR. THE LIST IS BROKEN DOWN BY HIGH SCHOOLS AND ACCOUNTS ONLY FOR CLASSES THAT STUDENTS TOOK FOR CREDIT--NO STATISTICS ON ENRICHMENT CLASSES WERE GATHERED.

THE INFORMATION FROM 1994 IS NOT AVAILABLE AT THIS TIME. THE SUMMER SCHOOL STAFF IS PLANNING ON GOING INTO OLD FILES AS SOON AS THEY CAN TO DIG OUT THE NUMBERS FROM LAST SUMMER.


ALSO INCLUDED IS THE COUNT OF SUMMER SCHOOL GRADUATES WE HAVE HAD FOR THE PAST THREE YEARS.

IF YOU HAVE QUESTIONS, PLEASE DON'T HESITATE TO CALL ME AT 560-2792.

INSTRUCTIONAL SUPPORT SERVICES
2318 McRae Road • Richmond, Virginia 23235
(804) 560-2792 • FAX (804) 560-5709 • TDD (804) 748-1638
Equal Opportunity Employer



Summer School

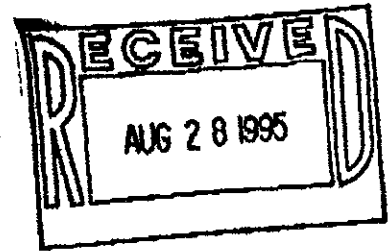
TO: Holly Rice, Director of Instructional Support Services
FROM:  Frank Clay, Coordinator of Summer School & Adult Education
DATE: August 28, 1995
SUBJECT: 1995 Statistical Data for New and Repeat Students in Credit Classes

Home School	New	Repeat
James River High School	26	11
Monacan High School	21	16
Clover Hill High School	40	17
Midlothian High School	66	30
Matoaca High School	13	7
Bird High School	49	101


FC/tsb



Summer School



TO: Holly Rice, Director
Instructional Support Services

FROM:  Frank Clay, Coordinator
Summer School & Adult Education

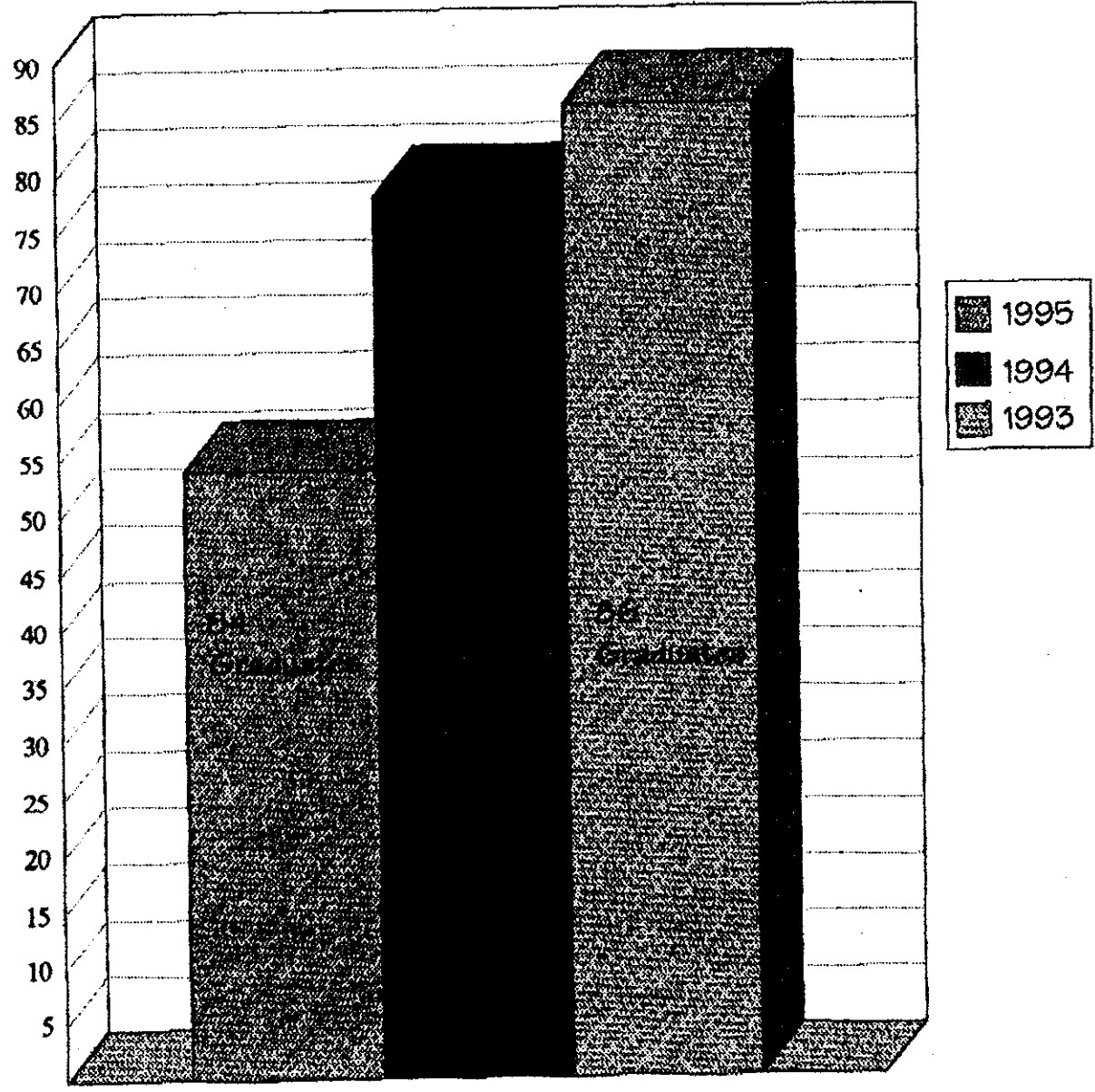
DATE: August 29, 1995

SUBJECT: 1995 Summer School Graduates

Listed below is comparative data for Summer School Graduates for this year as well as last.

Home School	1995	1994	1993
L.C. Bird High School	11	16	13
Meadowbrook High School	12	12	13
Matoaca High School	3	1	2
Thomas Dale High School	9	17	15
Total Graduates for the Southern End of County:	35	46	43
Clover Hill High School	2	7	11
Manchester High School	11	13	11
Midlothian High School	3	4	8
Monacan High School	2	8	11
Total Graduates for the Northern End of County:	18	32	41
Amelia County High School	1	0	0
Huguenot Academy High School	0	0	1
Powhatan County High School	0	0	1
Total Summer School Graduates:	54	78	86

SUMMER SCHOOL GRADUATE COMPARISON



APPENDIX E

FINDINGS NOT RELATED TO THE SCHEDULE



REPORT ON THE SIGNIFICANT FINDINGS NOT RELATED TO THE SCHEDULE

Significant Findings: Parental Involvement.

Involvement with school activities. Teachers at Midlothian ($m=.0377$), James River ($m= -.0820$), and Clover Hill ($m= -.1977$) report higher degrees of parental involvement in school activities than teachers at Matoaca ($m= -.9565$) and Bird ($m= -.7529$).

Midlothian teachers report higher degrees of parental involvement in school activities than teachers at Monacan ($m= -.4355$).

Teachers at Monacan report higher degrees of parental involvement in school activities than teachers at Matoaca ($F=11.8156$; $d.f.=5, 392$; $e.s.=.1324$). Specifically, social studies teachers at James River ($m=.4286$) report higher levels of parent involvement than in school activities than social studies teachers at Matoaca ($m= -1.0000$) ($F=2.1026$; $d.f.=5, 47$; $e.s.=.2002$). Math teachers at Midlothian ($m=.5714$) report higher levels of parent involvement in school activities than Matoaca ($m= -.8333$) and Bird ($m= -.7143$) ($F=3.3623$; $d.f.=5, 41$; $e.s.=.3183$). Performing Arts teachers at Midlothian ($m=1.5000$) report higher levels of parent involvement than Performing Arts teachers at Matoaca ($m= -1.5000$) ($F=3.5638$; $d.f.=5, 21$; $e.s.=.5269$). English teachers at Midlothian ($m=.1111$), James River ($m=.1111$), and Clover Hill ($m= -.2857$) report higher degrees of parental involvement in school activities than English teachers at Bird ($m= -1.4118$) ($F=5.8233$; $d.f.=5, 65$; $e.s.=.3267$). Foreign Language teachers at Midlothian ($m=.5000$) report higher degrees of parental involvement in school activities than Foreign Language teachers at Monacan ($m= -1.1667$) ($F=3.0242$; $d.f.=5, 38$; $e.s.=.3142$).

Graph 10 About Here

Contact with teachers. Specifically, Foreign Language teachers at Midlothian ($m=3.1667$) and Clover Hill ($m=3.0000$) report higher levels of contact with their students parents than Foreign Language teachers at James River ($m=1.9000$) ($F=3.4578$; $d.f.=5, 42$; $e.s.=.3185$).

Descriptive Findings: Parental Involvement. The surveys further inquired into the parent, teacher, student relationship by asking questions related to parental involvement in school and with teachers. The three questions found on Table seventeen, Report of Perceptions of Parental Involvement, provide views on parent involvement with teachers and school activities. It further inquired into the desire for more contact between parents and teachers.

Table 13 About Here

There is a general consensus among all those teachers, parents and students who responded to this statement that parents are not very involved with teachers. Judging from total percent of respondents in the agree or disagreed category, there were many survey respondents who were undecided on this issue. For example, the highest total percentage agreed and disagreed was eighty one percent (81%) in the student sample. The parent category highest total percentage agreed - disagreed was seventy four percent (74%). Among teachers the highest percentage agreed - disagreed was seventy six percent (76%). The statement asked "Generally, parents are very involved with their child's teachers." Evidently, many individuals (20% to 25%) who felt some involvement, but not 'very involved'. In any event the intensity of parental involvement with teachers appears to be moderate as viewed by all respondents.

Similar response types were found for the statement, "Generally, parents are very involved with their child's school activities." Many individuals (60% in the case of teachers and students) who chose to respond "undecided" to the statement. Parents who responded to this question where in strong agreement that they were very involved with their child's school activities. Students and teachers were less sure of the level of involvement.

Similar ambiguity was found on the statement related to whether the respondents wanted more contact with parents and teachers. Teachers were unsure if they wanted more contact, parents were sure they did, and students were sure they didn't desire any more contact between parents and teachers.

Technology

Significant Findings.

Technology Use. Special education teachers at Bird ($m=2.5000$) report higher use of technology for drill and practice than special education teachers at Monacan ($m=1.0000$) ($F=2.8890$; $d.f.=5, 28$; $e.s.=.3858$). Special education teachers at Clover Hill ($m=2.5000$) and Bird ($m=2.5000$) report higher uses of technology for wordprocessing than special education teachers at Matoaca ($m=1.0000$) ($F=3.8989$; $d.f.=5, 28$; $e.s.=.4588$). Special education teachers at Clover Hill ($m=2.0000$) report higher uses of technology computer graphics than special education teachers at Midlothian. ($m=.0000$) ($F=3.3979$; $d.f.=5, 28$; $e.s.=.4248$).

English teachers at Matoaca ($m=2.0000$), Bird ($m=1.4737$) report higher uses of computer applications for drill and practice than english teachers at Monacan ($m=.1000$) and James River ($m=.3000$). English teachers at Clover Hill ($m=1.3077$) also reports higher use of computer applications for drill and practice than English teachers at Monacan ($m=.1000$) ($F=7.1747$; $d.f.=5, 69$; $e.s.=.3592$) English teachers at Matoaca ($m=1.7143$) and Clover Hill ($m=1.3077$) report higher uses of technology for problem solving and/or simulated learning activities than English teachers at Monacan ($m=.2000$) and James River ($m=.2000$) ($F=1.5934$; $d.f. =5, 69$; $e.s.=.2641$). English teachers at Clover Hill ($m=1.2857$) report higher use of computer data bases than English Teachers at Monacan ($m=.1000$) ($=2.3530$; $d.f.=5, 68$; $e.s.=.1574$). English Teachers at Bird ($m=2.3684$), Midlothian ($m=2.1429$), Matoaca ($m=2.1429$), Clover Hill ($m=2.1429$) and James River ($m=1.6000$) report higher uses of wordprocessing than English teachers at Monacan ($m=.3000$) ($F=7.8957$; $d.f.=5, 69$; $e.s.=.3815$).

Science teachers at Monacan ($m=.9000$) report higher uses of spreadsheets than science teachers at Clover Hill ($m=.0000$) ($F=3.2181$; $d.f.=5, 56$; $e.s.=.2398$).

TABLE 17

REPORT ON PERCEPTIONS OF PARENTAL INVOLVEMENT

PARENTS	BIRD			CLOVER HILL			JAMES RIVER			MONACAN			MATOACA			MIDLOTHIAN																				
	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %	N #	A %	D %																		
1	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> Generally, parents are very involved with their child's teachers. </div>																																			
STUDENTS																			457	11%	69%	479	11%	66%	376	11%	68%	409	10%	69%	170	17%	59%	454	9%	72%
PARENTS																			207	13%	61%	217	14%	59%	310	16%	59%	139	16%	58%	66	26%	38%	174	13%	62%
TEACHERS																			94	20%	56%	90	27%	36%	67	19%	55%	75	19%	36%	52	13%	52%	62	24%	34%
ADMINISTRATORS																			4	25%	25%	4	75%	0%	3	67%	0%	3	100%	0%	3	0%	67%	3	100%	0%
COUNSELORS/LIBRARIANS	4	75%	25%	4	25%	25%	6	50%	0%	5	20%	40%	4	25%	50%	5	60%	0%																		
2	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> Generally, parents are very involved with their child's school activities. </div>																																			
STUDENTS																			466	29%	45%	490	24%	44%	392	36%	38%	418	32%	45%	171	34%	42%	461	29%	46%
PARENTS																			205	47%	24%	217	48%	26%	309	58%	20%	137	55%	20%	65	55%	18%	172	52%	25%
TEACHERS																			85	8%	66%	86	21%	41%	61	34%	30%	62	13%	47%	46	2%	76%	53	32%	30%
3																			<div style="border: 1px solid black; padding: 2px; display: inline-block;"> Generally, I wish parents had more contact with teachers. </div>																	
STUDENTS	469	10%	62%	491	10%	58%	392	10%	60%	412	9%	54%	171	12%	57%	461	9%	61%																		
PARENTS	206	67%	13%	218	59%	14%	307	54%	16%	138	52%	16%	65	49%	18%	172	62%	15%																		
TEACHERS	94	31%	28%	91	28%	22%	67	19%	39%	74	22%	36%	51	61%	14%	61	16%	21%																		
ADMINISTRATORS	4	25%	0%	4	25%	25%	3	0%	33%	3	33%	33%	3	100%	0%	3	0%	67%																		
COUNSELORS/LIBRARIANS	4	25%	50%	4	75%	25%	5	40%	20%	5	40%	0%	3	67%	0%	5	20%	20%																		

N = number, A = % of respondents agreeing with the statement, D = % of respondents disagreeing with the statement
 Percentages may not sum to 100 due to respondents with no opinion or undecided, and to rounding error.

ALTERNATIVE HIGH SCHOOL SCHEDULES:

A REPORT TO THE CHESTERFIELD COUNTY BOARD OF EDUCATION

A WORK IN PROGRESS

NOT FOR DISTRIBUTION

Background

Currently there are four scheduling models being used in Chesterfield County high schools: (1) the six period day, (2) the seven period day, (3) the seven period alternating block, and (4) the eight period semester block. The Six Period Day schedule uses fifty-one (51) minute class periods which meet daily for a full year. Midlothian High school uses this schedule and was chosen for this study. The Seven Period Day schedule uses forty five (45) minute class periods which meet daily for a full year. Matoaca High School uses this schedule and was chosen for this study. The Seven Period Alternating Block schedule uses three eighty eight (88) minute class periods; and one (45 minute) class period; all classes meet for a full year. Three of the longer classes meet on even days and the other three on odd days. Two schools, L.C. Bird High School and Clover Hill High School use this schedule and were chosen for this study. The Semester Block schedule uses eighty five (85) minute class periods. Four classes meet daily for one semester and a second group of four classes meets daily for the second semester. Two schools, James River High School and Monacan High School uses this schedule and were chosen for this study.

Purpose

The purpose of this study was to determine the impact of the high school schedule on: (1) satisfaction levels of parents, students, and teachers, (2) instructional practices, and (3) student performance.

Research Questions

The following questions guided the inquiry. In schools that have changed their schedules:

1. Are parents, students, and teachers satisfied with the changes?
2. What is the impact of the scheduling models on instructional delivery?
3. What is the impact of the scheduling models on student performance?
4. What are the costs and benefits of the four scheduling models?

Methodology

Three types of data were collected. Surveys were used to gather student, teacher, parent, administrator, counselor, and librarian perceptions of their satisfaction and changes in instructional and student behavior. (Administrator, Counselor and Librarian views are reflected in the technical report.) Focus group and individual interviews were also used to collect information. Statistical databases on grades, attendance, standardized test scores and fiscal information provided by the Chesterfield School Division were analyzed for trends.

Participants. Students returned 6,839 surveys, an overall return rate of eighty two percent (82%). L. C. Bird High School returned 1,429 student surveys for

a return rate of seventy six percent (76%). Clover Hill High School returned 1,288 student surveys for a return rate of eighty seven percent (87%). James River High School returned 1,104 student surveys for a return rate of eighty seven percent (87%). Matoaca returned 558 student surveys for a return rate of eighty two percent (82%). Midlothian High School returned 1,214 student surveys for a return rate of 89%. Monacan returned 1,246 student surveys for a return rate of seventy eight percent (78%).

Responses were received from 1,121 parents for an overall return rate of sixteen percent (16%). Fourteen percent (14%) of the parents (208) at Lloyd C. Bird High School returned surveys. Two hundred and twenty (220) Clover Hill High School parents responded to the survey for a eighteen percent (18%) response rate. Three hundred and twelve (312) parents responded from James River High School for a response rate of twenty nine percent (29%). One hundred and forty five (145) Monacan High School parents returned surveys for a eleven percent (11%) return rate. Sixty six (66) parents from Matoaca High School returned surveys for a twelve percent (12%) return rate. One hundred and seventy five (175) parents from Midlothian High School returned surveys for a fifteen (15%) response rate.

Responses were received from four hundred and forty six (446) teachers participating in the study for an overall response rate of eighty nine percent (89%) return rate. Ninety six (96) teacher surveys (87% return rate) were received from L. C. Bird High School (hereafter Bird); 91 surveys (100% return rate) were received from Clover Hill High School; 67 surveys (89% return rate) were received from James River High School; 52 surveys (95% return rate) were received from Matoaca High School; 62 surveys (78% return rate) were received from Midlothian High School; and 76 surveys (84% return rate) were received from Monacan High School.

Data analysis. The survey data were analyzed through descriptive and inferential statistics to determine significant differences in group satisfaction levels and perceived changes in instructional and student behavior. The study utilized more rigorous statistical controls than normally used in descriptive studies to produce reliable results and isolate the effect of the schedule as much as possible. Three tests for statistical significance were conducted (ANOVA, Tukey, and Eta Squared).

The data were analyzed by establishing (1) a satisfaction scale by computing a mean score from the total agreeing, undecided, and disagreeing responses, (2) a process change scale by computing a mean score from the total always, most of the time, sometime, seldom, and never responses, and then (3) applying the tests for statistical significance of the means of the respondent groups from each school. Before declaring a statistical effect 'real' we required it to be statistically significant (at the conventional $p \leq .05$ level), and also to exceed an effect size criterion of Eta squared of .05 (5%) or higher. Where the results that follow meet these criteria they are described as statistically significant. Where they are not statistically significant, but worthy of reporting, they are described through descriptive statistics.

The focus group and individual interview data were used to provide insights and

illustrations in analyzing and describing the findings. The statistical data were analyzed through a trend analyses. Two criteria were employed. Was there a rise or decline the year after the change in schedule? And, was the data demonstrating a trend or an annual fluctuation? If three data points were in the same direction a trend was established. If there were rises and declines in the data points they were judged as annual fluctuations. Three years of statistical data were reviewed to determine the existence of trends.

Finally, as a final hurdle each documented observation was judged against the criteria: "Is this finding related to the 'bell schedule' or some other factors?" Those findings that met this final criteria are reported as our best estimate of the impact of the differing scheduling models on teaching and learning at the six high schools studied.

Summary of Major Findings and Conclusions

In this section, and throughout this report, the schools are discussed by the type of schedule they utilize rather than school name to keep the focus of the findings on the schedule. Where two schools using the same schedule differed in their responses, the data are presented by school name. The specific data supporting these findings and conclusions are found in the technical report.

OVERALL SATISFACTION

Overall satisfaction with the schedule was first examined through survey items related to attitudes and enthusiasm for school, and then the item regarding retention of the schedule.

Attitudes Toward School

In general, teachers (over 81%) and parents (over 72%) express positive attitudes towards schools. Student attitudes toward school are lower (50%) and vary by school.

At the Semester Block schools, students report significantly more satisfaction than students at other schools with the exception of Clover Hill. Parents at James River also report significantly more enthusiasm for their school than parents at all other schools with the exception of Monacan. Teachers at James River report significantly higher levels of enthusiasm for their school than teachers at Clover Hill and Bird.

At the Seven Period Day school, teachers report significantly more enthusiasm for their school than teachers at Bird, Clover Hill and Monacan.

Retention of the Schedule

On the survey item related to the retention of the schedule, the data suggest that a clear majority (over 60% in all cases) of the students, parents, and teachers at James River, Monacan, and Clover Hill wish to retain their current schedules. The responses at Bird, Matoaca and Midlothian are inconsistent. Teachers generally tend to favor the current schedule. Parent and student responses generally prefer a change in the schedule. At Midlothian, the data indicates that many parents, students, and teachers desire a schedule that will

provide students with more course opportunities. In particular, forty seven percent (47%) of the parents, and thirty six percent (36%) of the students at Midlothian reported that they desired a change in their current schedule. Thirty one percent (31%) of the parents and thirty nine percent (39%) of the students wish to retain the current schedule.

As indicated above, the data suggests that a majority of teacher responses at all six schools were favorable towards retaining their current schedule. However, differences by subject area were expressed. For example:

At the **Semester Block schools**, the responses of Science (over 80%), Social Studies (over 70%), Special Education (over 60%) and performing and practical arts teachers indicate a desire to retain the schedule. On the other hand, the responses of Math, English and Foreign Language teacher were inconclusive, depending upon the school. For example, at James River seventy one percent (71%) of the Math teachers favored retention of the schedule. At Monacan fifty percent (50%) favored retention of the schedule. At James River thirty percent (30%) of the English teachers favored retention of the schedule and thirty percent (30%) wished to teach under a different schedule. Forty percent (40%) of the English teachers at James River were undecided on the matter. At Monacan, fifty five percent (55%) of the English teachers wished to teach under a different schedule, thirty six percent (36%) wished to retain the current schedule, and eight percent (8%) of the teachers had no opinion on the matter. The responses of Foreign Language teachers at James River were also inconclusive. For example, forty four percent (44%) favored retention, twenty two percent (22%) wished to teach under a different schedule, and thirty four percent (34%) were undecided. Foreign Language teachers at Monacan responded similarly. One teacher wished to retain the current schedule, two teachers wished to teach under a different schedule and three teachers were undecided on the matter.

At the **Alternating Block schools**, most Foreign Language teachers (over 70%) wish to retain the schedule. However, English, Science, Social Studies, Special Education, and Performing and Practical Arts teachers at Bird view the issue of retention of the schedule differently from their colleagues at Clover Hill High School. For example, English teachers responded in a inconclusive fashion to the question of retention of the current schedule. At Bird, forty two percent (42%) of the English teachers favored retaining the current schedule, forty seven percent (47%) wished to teach under a different schedule, and eleven percent (11%) were undecided on the matter. At Clover Hill, eighty six percent (86%) favored retaining the schedule. At Bird, fifty percent (50%) of the Science teachers and at Clover Hill seventy five percent (75%) favored retaining the schedule. At Bird, fifty five percent (55%) and at Clover Hill ninety one percent (91%) of the social studies teachers favored retaining the schedule. At Bird, thirty three percent (33%) and at Clover Hill one hundred percent (100%) of the Special Education teachers favored retaining the schedule.

At the **Seven Period Day school**, the responses of English, Social Studies, Science, and Special Education teachers (over 60%) indicate a desire to retain the current schedule. However, Math (50%) and Foreign Language (50%) teacher responses are unclear as to whether they wish to retain the schedule. Other teachers, such as Business and Art seem to desire a change in schedules.

At the Six Period Day school, for example, English (82%), Foreign Language (100%), Social Studies (67%), and Science (67%) teachers wish to retain the schedule, while Math (40%) Special Education (0%) and Performing Arts (0%) teachers wish to retain the schedule.

IMPACT OF THE SCHEDULE ON TEACHING

Changes in Instructional Approaches

In general, teachers (over 55%) at schools using longer blocks of time report that teaching methods have changed, as compared to teachers (less than 47%) at schools using shorter blocks of time.

The data suggest that students, teachers, and parents at Semester Block schools report significantly more positive changes occurred in teaching and learning processes and teaching methods this past year than their peers in schools that use shorter class times.

In the Alternating Block schools, the results are inconsistent. On the one hand, students, teachers, and parents at Clover Hill report significantly more positive changes occurred in teaching and learning processes, and teaching methods this past year as compared to their peers in schools using shorter class times. On the other hand, teachers at Bird report the use of new instructional approaches and positive changes in teaching and learning, but they are not validated by student and parent responses.

In schools using shorter class times, students, parents (less than 31%) and teachers (less than 47%) report few changes in teaching methods this past year. These responses are significantly lower than their peers in block scheduled schools.

Content Coverage

Three pieces of information were reviewed to provide information on coverage. First, the surveys inquired into teacher, student and parent perceptions on the amount of content covered, the depth of the coverage, the level of academic challenge provided to students, and the teachers ability to cover the material in the amount of time available. Second, teachers were also asked to indicate if they were able to cover the approved county curriculum. Finally, a test was designed and administered to determine if whether or not a common body of content was covered and whether or not students were learning this common body of content.

In the Spring of 1995, an Algebra I test was designed and administered by teachers in five of the six high schools in this study to determine if students were learning a common body of content. The results indicate that students tested at each of the five high schools scored comparably. These results imply that, no matter which schedule a school utilized, a common body of Algebra I content was covered by teachers and learned by students.

The data also suggest that most school communities indicate they are satisfied with the level of academic challenge provided to students (over 60%), and believe

that teachers are able to cover the material in the time provided most of the time (over 65%). Most teachers at all schools (over 64%) believe they can deliver the content in the amount of time provided.

Student responses at the Semester and Alternating Block schools express significantly more satisfaction with their teachers ability to cover the material in the amount of time provided than students in schools with shorter class periods. However, teachers at these schools report significantly more difficulty with content coverage than teachers at schools using shorter amounts of class time.

In general, Semester Block teachers, however, express more satisfaction with their ability to cover the approved county curriculum than Alternating Block teachers. For example, sixty percent (60%) of the teachers at James River, and seventy two percent (72%) of the teachers at Monacan believe they are able to cover the approved county curriculum. At Bird, fifty two percent (52%), of the teachers and at Clover Hill fifty eight percent (58%) of the teachers believe they are able to cover the approved county curriculum.

At schools using shorter class times, Seven Period Day teachers believe they can cover the approved county curriculum. For example, sixty seven percent (67%) of the teachers at Matoaca and eighty one percent (81%) of the teachers at Midlothian express satisfaction with their ability to deliver the approved county curriculum.

Instructional Practices

The survey items referring to instructional practices were analyzed through the process change scale. Survey items asked respondents how often a practice occurred. Some items used the satisfaction scale to determine not only how often a practice occurred but also if respondents were satisfied with the practice. In general, the descriptive statistics indicate that teachers use most instructional practices in all schools. The inferential statistical analyses indicate that teachers suggest that teaching in Block scheduled schools differs significantly from teaching in non Blocked schools. For example,

In the Semester Block Schools the responses were consistent at both schools,

- Teachers reported using group instruction, a variety of instructional activities, and assessment procedures (multiple choice tests, portfolios), and take team approaches to teaching more often than teachers at schools using shorter class periods.
- Teachers use whole class instruction, whole class lecture, textbooks as the primary tool of instruction less often than teachers using shorter class periods.
- Students express more satisfaction with feedback on homework, quality relationships with teachers, less boredom in classes than students in schools using shorter class periods and at Bird.
- Parents express more satisfaction with quality relationships with teachers, and teacher helpfulness than parents at all other schools.

In the Alternating Block Schools,

- Teachers use team approaches to teaching more often, and whole class instruction, whole class lecture, multiple choice, and true/false

questions less often than teachers in schools using shorter class periods. They also use multiple choice, true/false questions and portfolios less often than teachers in Semester Block schools.

Other responses from these schools are variable. For example,

- At Clover Hill, teachers use group instruction, a variety of instructional practices, and integrated approaches to teaching more often, and use essay questions less often than teachers at schools using shorter class periods, and at Bird. Students express more satisfaction with quality relationships with teachers than students at schools using shorter class periods, and at Bird.
- At Bird, teachers use whole class lecture, whole class instruction, essay questions more often, and a variety in instructional practices less often than teachers at Semester Block schools, and at Clover Hill. Students express more satisfaction with teacher helpfulness than students at other schools with the exception of students at Matoaca.

In the Seven Period Day School,

- Teachers use whole class instruction, whole class lecture, and text books as the primary tool of instruction more often than teachers at schools using longer class times, with the exception of teachers at Bird. They also report higher uses of a variety of instructional activities than teachers at the Six Period Day school.
- Teachers use group instruction, rubrics, essay questions, and team and integrated approaches to instruction less often than teachers at most schools using longer class periods.
- Students express more satisfaction with teacher helpfulness than students at other schools, with the exception of students at Bird.

In the Six Period Day School,

- Teachers use whole class instruction, whole class lecture, textbooks as the primary tool of instruction, and rubrics more often than schools using longer class periods, with the exception of teachers at Bird.
- Teachers use group instruction, a variety of instructional activities, and team and integrated approaches to instruction less often than schools using longer class periods, with the exception of teachers at Bird.

Homework

The data indicate that a clear majority of teachers at all schools believe students can seldom complete their homework at school. In the inferential comparisons, no significant differences were found among teachers, students, and parents at all schools.

On the other hand, in the focus groups some teachers indicated that there was some merit in the practice of at least starting homework in school for some students. For example, several teachers pointed out, "I found that with some kids, if they start it in class, the odds of them getting it back to me are so much greater." On the other hand, as several teachers related, "The issues of students not doing homework were there long before block scheduling."

Attention Spans

Students in schools with shorter class times and Bird express less interest in classes. In general, students in all schools report higher levels of inattention and boredom in their classes **than their parents or teachers report for them.** However, students also report significantly lower levels of boredom in classes at the Semester Block schools and one Alternating Block school. The focus group data indicate that for many students, boredom equates with whole class lecture.

Collegial Practices

The data indicate that teachers at three of the four schools employing longer blocks of classroom time believe strong collegial relationships are developing. For example, Clover Hill, James River, and Bird, report collegial practices such as forming informal discussion groups, team approaches to teaching and integrating instruction across subject areas occur significantly more often than teachers at other schools. Contrasted with these schools, teachers at other schools continue individual approaches to their work.

Teacher responses for integrating the delivery of instruction are more similar than those reported above. Over sixty percent (60%) of the teachers at the Block schools work to integrate instruction across subject areas. In the schools using shorter blocks of time, the range of the teachers working to integrate instruction across subject areas is from forty nine percent (49%) to fifty five percent (55%).

IMPACT OF SCHEDULES ON STUDENT PERFORMANCE

Learning

In Semester Block Schools, satisfaction levels indicate that students, teachers, and parents are satisfied that learning is being positively affected. At both schools,

- Students and parents are significantly more satisfied that learning is being favorably impacted overall than students and parents at all other schools.
- Students and parents are significantly more satisfied with learning as reflected in grades than students and parents at all other schools with the exception of Clover Hill.
- Students are significantly more satisfied that they are learning important concepts, and gaining an in-depth understanding than students in all other schools. They are also significantly more satisfied that they are learning as much as they should be, than students at other schools with the exception of Clover Hill.
- Teachers are significantly more satisfied with learning as reflected in grades than teachers at Bird. Over fifty seven percent (57%) of the teachers at both schools are satisfied that students are learning as much this year as last year. This level of satisfaction is significantly less than teachers at other schools with the exception of Bird.

At James River,

satisfied than their peers in other Blocked schools. Teachers also express significantly less satisfaction on many achievement survey items when compared to teachers in other schools.

Bird teacher satisfaction levels with survey items are as follows: learning as reflected in grades (45%), mastering important concepts (69%), gaining an in-depth understanding (53%), application of learning (58%), quality of learning, (64%), the completion rate of work (41%) and learning as much this year as last year (53%).

- Bird student satisfaction levels with survey items are as follows: learning as reflected in grades (41%), mastering important concepts (51%), gaining an in-depth understanding (48%), application of learning (50%), quality of learning, (43%), the completion rate of work (46%) and learning as much this year as last year (44%).

In the Seven Period Day school, teachers are significantly more satisfied that learning is being positively affected than teachers at other schools. However, students and parents are significantly less satisfied that learning is being positively affected than students and parents at other schools.

- Teachers satisfaction levels with survey items are as follows: learning as reflected in grades (56%), mastering important concepts (77%), gaining an in-depth understanding (53%), application of learning (67%), quality of learning, (65%), the completion rate of work (67%) and learning as much this year as last year (57%).
- Student satisfaction levels with survey items are as follows: learning as reflected in grades (50%), mastering important concepts (59%), gaining an in-depth understanding (54%), application of learning (63%), quality of learning, (51%), the completion rate of work (65%) and learning as much this year as last year (51%).

In the Six Period Day school, teachers are significantly more satisfied that learning is being positively affected than teachers at other schools. However, students and parents are significantly less satisfied than their peers in other schools (except Bird) that learning is being positively affected.

- Teacher satisfaction levels with survey items are as follows: learning as reflected in grades (72%), mastering important concepts (87%), gaining an in-depth understanding (58%), application of learning (72%), quality of learning, (89%), the completion rate of work (84%) and learning as much this year as last year (78%).
- Student satisfaction levels with survey items are as follows: learning as reflected in grades (41%), mastering important concepts (44%), gaining an in-depth understanding (43%), application of learning (50%), quality of learning, (42%), the completion rate of work (xx%) and learning as much this year as last year (48%).

Grades

GPAs were examined to determine if grades at schools which changed their schedule

improved the year after a schedule change. The rise or decline of GPAs were also analyzed to determine if the data should be interpreted as trends, or annual fluctuations. These criteria were used to examine student performance on all statistical performance data analyzed for this study. For example, the year after their schedule changed,

- GPAs decreased at Clover Hill only to rise from 2.85 in 1994 to 2.95 in 1995. On the other hand, GPAs substantially rose from 1994 to 1995 at Monacan (2.67-2.87), and Matoaca (2.29-2.39). The year after the change, Bird GPAs rose slightly (2.49 -2.51). James River reports comparably high GPAs, (2.94) but no trend analysis could be conducted since it has no previous history.
- A trend line at Monacan was established. Grades began to improve two years prior to the change in schedules and continued after the change. At Clover Hill and Matoaca the evidence is also in a positive direction. However, a trend could not be established because in both cases, 1994 GPAs were lower than 1993 GPAs. At this point they are considered as annual fluctuations. Midlothian GPAs over the same time period (1993-95) remained stable (2.82-2.78-2.79).

The GPAs of a cohort of students from Bird, Clover Hill, Monacan, Matoaca, and Midlothian who entered the ninth grade in 1993 were followed for three years. Over all the GPAs of these students rose each year with the exception of Midlothian. In the year after the schedule changed, GPAs rose at Monacan, Bird and Matoaca, and were stable at Clover Hill.

Grades were also examined in the same manner by student achievement levels. These analyses indicate that most students' grades have benefited from schedule changes. However, until trends are established rises and declines are considered as annual fluctuations. For example,

- The grades of honors students rose the year after schedule changes at Monacan, Matoaca, and Bird. They declined slightly at Clover Hill. For comparative purposes, they also declined at Midlothian in 1995. Honors GPAs were the highest at Monacan and James River in 1995.
- The grades of students exceeding grade level expectations rose the year after schedule changes at Clover Hill, Monacan, slightly at Matoaca, and declined at Bird. For comparative purposes, they also declined at Midlothian in 1995. James River GPAs for students exceeding grade level expectations were the highest of the six schools in 1995.
- The grades of students meeting grade level expectations rose the year after schedule changes at Monacan and Matoaca and declined at Bird and Clover Hill. At Clover Hill, they rose again two years after the schedule change. For comparative purposes, they rose at Midlothian in 1995. James Rivers GPAs for students meeting grade level expectations were the highest of the six schools in 1995.
- The grades of students not meeting grade level expectations rose the year after the schedule change at Bird, Monacan and slightly at Matoaca and declined at Clover Hill. At Clover Hill, they rose again two years after the schedule change. For comparative purposes, they also declined at Midlothian in 1995. Monacan's 1995 GPAs for students not meeting grade

- teacher satisfaction levels with survey items are as follows: learning as reflected in grades (78%), mastering important concepts (75%), gaining an in-depth understanding (55%), application of learning (69%), quality of learning (70%), the completion rate of work (65%), and learning as much this year as last year (57%).
- student satisfaction levels with survey items are as follows: learning as reflected in grades (63%), mastering important concepts (65%), gaining an in-depth understanding (62%), application of learning (68%), quality of learning, (66%), the completion rate of work (64%) and learning as much this year as last year (64%).

At Monacan,

- teacher satisfaction levels with survey items are as follows: learning as reflected in grades (78%), mastering important concepts (83%), gaining an in-depth understanding (60%), application of learning (71%), quality of learning, (80%), the completion rate of work (69%), and learning as much this year as last year (59%).
- student satisfaction levels with survey items are as follows: learning as reflected in grades (68%), mastering important concepts (58%), gaining an in-depth understanding (50%), application of learning (58%), quality of learning, (57%), the completion rate of work (63%), and learning as much this year as last year (50%).

In Alternating Block Schools, the satisfaction levels are inconsistent.

- The Clover Hill school community, (students, teachers, and parents) is significantly more satisfied that learning is being positively affected. For example, students and parents are significantly more satisfied with learning as reflected in grades than students and parents at schools using shorter class times and Bird. Teachers are significantly more satisfied that students are learning as much this year as last than teachers in the Semester Block schools and Bird. Teachers are also significantly more satisfied that students are learning as much as they can than teachers at Bird.

Clover Hill teacher satisfaction levels with survey items are as follows: learning as reflected in grades (68%), mastering important concepts (81%), gaining an in-depth understanding (66%), application of learning (75%), quality of learning, (77%), the completion rate of work (65%) and learning as much this year as last year (74%).

Clover Hill student satisfaction levels with survey items are as follows: learning as reflected in grades (54%), mastering important concepts (53%), gaining an in-depth understanding (55%), application of learning (53%), quality of learning, (53%), the completion rate of work (58%) and learning as much this year as last year (56%).

- The Bird school community (students, parents, and teachers) reports that learning is not being positively affected. On almost every survey item dealing with achievement, students and parents are significantly less

level expectations were the highest of the six schools in 1995.

- The GPAs of students who were not grouped for instruction are demonstrating substantial growth over the three years of analyses. Positive trend lines were established at Monacan and Clover Hill over the 3 year period. Monacan's trend began the year prior to the schedule change. The year after a schedule change, the grades of these students rose at Bird, Clover Hill, Monacan and Matoaca. For comparative purposes Midlothian's GPAs also rose in 1995. Clover Hill's GPAs for non-grouped students were the highest of the six schools in 1995.

The percentage of students achieving Honor Roll status the year after a schedule change was examined by school. Then students achieving Honor Roll status were examined by subject to assess which subjects were influencing the Honor Roll numbers. The data suggest that most increases in Honor Rolls are attributable to more students enrolling in Performing Arts classes. For example, at James River four hundred and five students (405) enrolled in Performing Arts Classes and eighty four percent (84%) received grades of 3.5 or better. At Monacan, student enrollment in Performing Arts Classes increased from one hundred and eighty one (181) students in 1994 (83% received grades of 3.5 or better) to three hundred and fifty one (351) students in 1995 (92% received grades of 3.5 or better). The number of students taking Performing Arts classes also rose at Clover Hill (96% at 3.5 or better), Bird (79% at 3.5 or better) and Matoaca (74% at 3.5 or better)

The GPAs, Honor Roll level, and failure rates were examined for each subject. While there were rises and declines the year after the schedule change, there were few significant changes in Honor Roll levels for those subjects. It appears that Science Honor Rolls at Monacan, and Math Honor Rolls at James River are benefiting most by the change in schedules. The analyses for each subject area are as follows:

- English GPAs rose the year after the schedule change at Monacan and declined at Bird, Clover Hill, and Matoaca. For comparative purposes, Midlothian's English GPAs rose in 1995. Clover Hill English GPAs were the highest of the six schools in 1995. James River's English GPAs were lower than Midlothian's but comparable.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change at Monacan, and declined at Clover Hill, and declined slightly at Bird and Matoaca. For comparative purposes, Midlothian's English Honor Roll rose in 1995. Clover Hill's English Honor Roll was the highest of the six schools in 1995.

The percentage of students failing English rose the year after a schedule change at Bird, Clover Hill and Matoaca, and was stable at Monacan. For comparative purposes, Midlothian's English failure rate was stable in 1995 and Matoaca's was the highest.

- Math GPAs did not rise the year after the schedule change at any school. They remained the same at Monacan and declined at the other schools where schedules were changed. For comparative purposes, James River's Math GPAs were the highest of the schools reviewed.

The percentage of students scoring at the honor roll level of 3.5+ rose slightly the year after a schedule change at Monacan, and was stable at Clover Hill, Bird and Matoaca. For comparative purposes, Midlothian's Math Honor Roll declined in 1995. James River's Math Honor Roll was the highest of the six schools in 1995.

The percentage of students failing Math rose the year after a schedule change at Bird, Clover Hill and Matoaca, and was stable at Monacan. For comparative purposes, Midlothian's Math failure rate declined and Matoaca's was the highest in 1995.

- **Science GPAs** rose the year after a schedule change at Monacan and Matoaca and declined slightly at Bird and Clover Hill. At Clover Hill they rose two years after the schedule change. For comparative purposes, Midlothian's Science GPAs slightly declined in 1995. Monacan's Science GPAs were the highest of the six schools. James River Science GPAs were comparable to Monacan's.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change rose Monacan, Clover Hill, Bird and Matoaca and was stable at Bird. For comparative purposes, Midlothian's Science Honor Roll declined in 1995. Monacan's Honor Roll was the highest of the six schools in 1995. James River's Science Honor Roll was comparable to Monacan's.

The percentage of students failing Science rose the year after a schedule change at Bird, and was stable at Clover Hill, Matoaca, and Monacan. For comparative purposes, Midlothian's Science failure rate was stable in 1995. Matoaca and Bird Science failure rates were the highest in 1995.

- **Social Studies GPAs** rose the year after a schedule change at Bird, Monacan and Matoaca and declined at Clover Hill. Clover Hills social studies GPAs rose two years after the schedule change. For comparative purposes, Midlothian's Social Studies GPAs declined in 1995. James River's Social Studies GPAs were comparable to Clover Hill's.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change rose Clover Hill, and Matoaca. They were stable at Bird and declined at Monacan. For comparative purposes, Midlothian's Social Studies Honor Roll declined in 1995. James River's Social Studies Honor Roll was the highest of the six schools in 1995.

The percentage of students failing Social Studies rose the year after a schedule change at Bird, declined at Matoaca and was stable at Clover Hill, and Monacan. For comparative purposes, Midlothian's Social Studies failure rate was stable in 1995. Matoaca and Bird Social Studies failure rates were the highest in 1995. James River's Social Studies failure rate was comparable to Clover Hill's, Monacan's and Midlothian's in 1995.

- **Foreign Language GPAs** rose the year after a schedule change at Clover Hill and declined at Bird, Monacan, and Matoaca. For comparative purposes, Midlothian's Foreign Language GPAs declined in 1995. Clover Hill's Foreign Language GPAs were the highest at Clover Hill, and second highest

at James River in 1995.

The percentage of students scoring at the honor roll level of 3.5+ rose the year after a schedule change at Clover Hill, and Matoaca. It was stable at Bird, and Monacan. For comparative purposes, Midlothian's Foreign Language Honor Roll declined in 1995. Clover Hill's Foreign Language Honor Roll was the highest and James River's was the second highest of the six schools in 1995.

The percentage of students failing Foreign Language rose the year after a schedule change at Bird, Matoaca, declined slightly at Monacan, and was stable at Clover Hill. For comparative purposes, Midlothian's Foreign Language failure rate declined slightly in 1995. Matoaca failure rates were the highest in 1995. Clover Hill and James River's Foreign Language failure rates were the lowest in 1995.

Standardized Tests

Many of the schools in this study perform well above the national averages on standardized tests. The data suggest they are still performing at those high levels. However, the impact of alternative schedules is inconclusive on standardized measures. For example, Clover Hill, which is in its second year of implementation, is demonstrating growth on Iowa Tests of Basic Skills (TAP), Scholastic Aptitude Tests (SAT) and Advanced Placement Tests (AP). On the other hand, the results for Bird, and Monacan, which are just beginning their first year of implementation, are less impressive on these measures. The clarity of the results on these standardized measures was further diluted because James River does not have a senior class and therefore was not compared on any measure other than the TAP scores.

TAP data for the three year period, 1993-95 indicates that on the composite scale Midlothian, the school that did not change its schedule, has experienced a slight decline over the three years. Bird, Matoaca, and Monacan, where schedules changed, also experienced similar declines. The decline at Bird and Matoaca occurred the year after the schedule change, however since no trend line are established, these declines are reported as annual fluctuations. The decline at Monacan appears to be a three year trend which began two years prior to the schedule change. Clover Hill has maintained a stable score each year. And, James River students scored at the level of Midlothian in 1995. The data suggest several trends should be monitored. However, until the data is clearer where declines have occurred they are interpreted as annual fluctuations, or not directly attributable to the schedule changes.

SAT scores were examined over the same three year period (1993-95). The results on the verbal portion of the examination demonstrate yearly fluctuations. However, at Clover Hill, where the schedule changed two years ago, and Midlothian where the schedule did not change there is an upward trend on verbal SAT scores. Matoaca scores indicate that more students took the test in 1995 than 1994 and 1993 and their scores rose the year after the schedule change. Monacan's verbal scores rose the year after the schedule change. While these are promising results, a trend has not been established for the rise in scores. Therefore, it is considered a year-to-year fluctuation.

On the Math portion of the test, the scores at Clover Hill are interpreted as year to year fluctuations. The year that Clover Hill changed its schedule the Math portion scores rose rather significantly only to return to previous levels in their second year of the schedule change. Monacan Math scores slightly declined the year after the schedule change and are considered as annual fluctuations. Bird scores slightly rose the first year of their schedule change. However, until a trend can be established, it must be considered a year-to-year fluctuation. The results at Matoaca are more enlightening on year to year fluctuations. For example, on the verbal and math portions, results rose in 1994 from the previous year and returned to previous levels in 1995. The results on the Math portion at Midlothian were stable over the three year period.

To be sure that schedule changes were not negatively affecting student performance on the SAT, the scores of the top ten percent of the senior class were examined. Clover Hill SAT scores for the top ten percent of the class rose the year after the schedule change, Matoaca and Monacan declined, and Bird remained stable the year after the change in schedules. However, Midlothian which did not change its schedule also experienced a drop in verbal and math scores in the top ten percent of the graduating class. Considering the boundary changes, and shifting student populations at both Monacan and Midlothian, and the schedule change at Monacan, these measures should continue to be monitored.

Advanced Placement Tests (AP). All schools except Bird are experiencing fewer students sitting for advanced placement tests. This decline is likely related to the fact that colleges and universities are requiring students to score at the 4 or 5 level rather than the traditional 3 level for college credit, and fewer students are taking the courses and the exams.

On the composite scale, the AP scores are consistently even in four of the five schools with a senior class. For example, Bird (77%), Clover Hill (79%), Monacan (77%) and Midlothian (77%) each experienced similar numbers of students scoring a three or better on the test. (Three has traditionally represented college credit). Matoaca scores were not used in this analysis because of the number of students sitting for the examinations (3) were not comparable to other schools. James River was also not included because the comparisons would not be comparable since no seniors were available for the examinations.

On the English portion, scores rose at Clover Hill the year after the schedule change. The number of students and scores declined two years after the schedule change. At Bird and Monacan, the number of students sitting for the exam and scores declined the year after the schedule changed. At Midlothian the number of students sitting for the exam declined but the scores remained the same.

Attendance

In schools that changed their schedule, perceptions regarding attendance fluctuated. For example, in the Semester Block schools, over fifty two percent (52%) of the teachers report attendance is better this year than last year. This satisfaction level is higher than teachers at other schools. In the Alternating Block schools, teachers at Bird (20%) and Clover Hill (37%) report that attendance is better this year than last year. At the Seven Period Day school, teachers (32%) report that attendance is better this year than last year.

The anecdotal data suggest that in Block schools, students do not like to miss school because they miss too much work. However, it is relatively clear that overall attendance has not been positively effected by the change in schedules.

For example, average daily attendance declined at Bird and Monacan the year after the schedule change, rose at Clover Hill, and was stable at Matoaca.

Discipline

Respondents at schools that changed their schedule report fewer discipline problems this year. Over sixty percent (60%) of the teachers at all schools disagreed with the survey item "student discipline problems have gotten worse this year." The general response at schools that changed their schedule was that the school was "calmer", and fewer discipline referrals were being made by teachers.

University Admissions

The impact of school schedules on university undergraduate admissions was examined by interviewing Counselors and Administrators at each school and asking them to respond to an open ended question on their survey. An inquiry was also made in focus group meetings. Finally, a poll of colleges and university admissions offices was conducted.

The data indicate that, at this time, colleges and universities do not use the school schedule as a criteria in admission decisions. Grades, and types of courses taken, are the lead criteria used followed by SAT scores, extra curricular activities and reputation of the high school. The specific rank depends on the college or university. The reputation of the high school is used to determine how low in class rank they will select students. The schools reputation is established over time by judging the performance of students in high school with their performance at the college or university. Therefore, schedules that positively impact those criteria would be beneficial to students.

COSTS AND BENEFITS

Costs

The analyses of current year budgeted costs and credits suggest that Semester Block schedules are more cost effective than the other three scheduling models studied on a cost per course credit basis. Using a hypothetical staffing formula, the Six Period Day is the most cost effective for staffing purposes, the Semester Block schedule the second most cost effective, and the seven period schedules the least cost effective.

Some cost savings result from the Block schedules. Students enroll in summer school for remedial and elective purposes. Summer school (1995) data indicate that fewer students enrolling in summer school classes from Block scheduled schools. The data on grades also indicate that there are fewer students failing three or more subjects from Block schools. The cost savings result from students being able to take classes during the regular school year they would normally take in summer school, or not at all. These cost savings, however, generally accrue to the students' parents rather than the school division.

On the one hand, the professional costs due to Semester Block schedules appear to be higher than other schedules. For example, hypothetically the average teacher workload is one hundred and fifty students as opposed to one hundred and twenty five students in schools not employing a Semester Block schedule. A review of actual average teacher workload indicates on average this level is not reached. However, the focus groups and survey indicate that some teachers approach and exceed the one hundred and fifty student level. On the other hand, this level when reached is balanced by a semester workload of seventy five students each semester.

There are other professional costs resulting from Block schedules. For example, work routines, such as scheduling students, also must be conducted twice a year instead of once a year. Adjustments to content delivery must be made in all schools that changed their schedules. Additionally, pace of work is also considered a professional cost that must be borne at the Semester Block school but not at schools using other schedules. The pace of work is faster for teachers and students with little leeway for non task oriented activity. Students seem to have adapted quickly to this pace. Teachers, on the other hand, are still in an adjustment phase and are exhibiting some strain due to the pace.

At the Alternating Block schools the pace is slower and both students and teachers report it is an advantage due to the schedule. Also, at the Alternating Block and Seven Period Day schools, the workload issues are fewer since teachers have a planning and duty period as well as a teaching load of five classes. At the Six Period Day school, the pace is more routine. Teachers have long since adjusted to the pace of their work and its associated workload concerns. On the other hand, the six period day schedule is limited in its ability to deliver course opportunities for students. The seven period and six period day schedule also limit the variety of instructional strategies that teachers can employ.

Benefits

Teachers, parents, and students report that a significant benefit of Block schedules are the increased number of course opportunities for students. The Semester Block schedule provides the most course opportunities. In fact, students, parents and teachers at Semester Block Schools express significantly greater satisfaction with the number of student course opportunities available than the school communities at other schools. Alternating Block schedules are also able to provide more course opportunities than schools not utilizing block schedules. Seven Period Day schedules provide expanded course opportunities, but respondents expressed less satisfaction with course opportunities than respondents from the Block schools. Six Period Day schedules provide the fewest course opportunities and respondents expressed the lower satisfaction with the number of student course opportunities than respondents from the Block schools.

The changes in instructional delivery associated with schedules using longer blocks of class time are considered a benefit by those responding to this survey. Respondents from those schools feel they are learning as much as before and enjoying it more. In schools where teachers: (1) use a greater variety of instructional strategies including more small group instruction and less whole class lecture, and (2) engage in more collegial activities such as taking a team approach to instruction, integrating content across subjects, students and their

parents perceive:

- greater satisfaction with their school,
- positive instructional changes are being made,
- greater improvements in learning, and
- less student boredom with school.

These activities and perceptions were found to a greater extent in Semester Block schools and in one Alternating Block school than in schools that employ shorter amounts of class time.

It should also be noted that changing the length of class time does not automatically produce better results. For example, in one of the Alternating Block schools, teachers have changed their teaching strategies as described above and the results are as described above. At the other Alternating Block school, teachers use more whole class instruction and whole class lecture and engage in fewer collegial activities, and their students and their parents perceive (1) less satisfaction with their school, (2) fewer positive changes in instructional strategies, (3) fewer improvements in learning, and (4) students express more boredom with school. These effects were also evident in the responses from those schools using shorter allocations of classroom time.

The schedules also impact the responsibilities of teachers and students. Some view this as a benefit, others might view it as a cost. For example, the Semester Block and Alternating Block schedules require that students take more responsibility for their education. They, as well as their teachers, have to manage their time better. In the Semester Block schools, students have flexibility in adjusting their workload from semester to semester. While students are still adjusting to this responsibility, they perceive this as a strength of their schedule. In the Alternating Block schools, students must adjust to different courses on different days. Alternating classes require students to manage their homework and course assignments to a greater extent than previously necessary. On the other hand, in the schools utilizing shorter blocks of time, students are less responsible for their own education. Teachers are more directive, and there is little flexibility in scheduling opportunities.

In summary, the respective characteristics of each scheduling model as revealed by this study are displayed on the matrix on the following page. The characteristics described for the Alternating Block schools assume that teaching practices change.

CHARACTERISTICS OF HIGH SCHOOL SCHEDULES

Schedule Characteristic	SB	AB	7 period	6 Period
Adjustment to longer classes	x	x		
Daily reinforcement of student learning	x		x	x
Ease of attendance monitoring	x		x	x
Easier to make up work			x	x
Fewer student/teacher classes per day	x	x		
Fewer student/teacher classes per semester	x			
Greater student satisfaction	x	x		
Greater parent satisfaction	x	x		
Greater teacher satisfaction		x	x	x
Improved grades	x	x		
Increased teacher collegial relationships	x	x		
Less student boredom	x	x		
More immediate student testing	x		x	x
More students per teacher per year	x			
More student responsibility for education	x	x		
New beginnings each semester	x			
No course coverage adjustment required				x
Opportunity to individualize instruction	x	x		

Opportunity to take more courses	x	x	x	
Opportunity to use a variety of teaching strategies	x	x		
Scheduling twice a year	x			
Teacher comfort with established routines				x

SB = Semester Block AB = Alternating Block

The percentage of the student body on the Honor Roll is twenty one percent (33%) at Bird, (38%) at Clover Hill, James River(39%), and Monacan.(37%), Matoaca (19%), and Midlothian (29%).