2003 – 2004

WAKE COUNTY
PUBLIC SCHOOL SYSTEM

BLOCK SCHEDULING EVALUATION

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ABSTRACT

In 2003-04, 11 Wake County Public School System (WCPSS) high schools moved from a traditional student schedule of six full-year courses to a block schedule of four courses each semester (4x4). Implementation went fairly smoothly, with 90% of teachers trained prior to the change. Academic course opportunities and course enrollment numbers increased substantially (by 24% and 46% respectively) compared to 2002-03, key desired outcomes. Academic success was marked by increases in credits earned, grade promotion rates, and twelfth grade graduation rates as desired. Maintenance of prior status was desired for other outcomes this first year. End-of-course performance and grade point averages of 3.0 or higher actually increased slightly, while Advanced Placement (AP) scores of 3 and greater decreased slightly. Student attendance and suspension rates remained the same. Generally, most of those surveyed and interviewed expressed satisfaction with the change. Exploring modified schedule options for some courses as well as continued professional development are recommended.

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BLOCK SCHEDULING EVALUATION

SUMMARY

BACKGROUND

In 2001, the North Carolina Department of Public Instruction reported that block scheduling had been implemented in almost 40% of America's high schools in 1994 (Cawelti, as cited in Zhang, 2001, p. 1) and that over 71% of North Carolina's high schools utilized a block schedule in 1999-2000 (Zhang, 2001). When defining high schools as those with at least 100 students in grades 9 through 12 (and not including charter, alternative, or "special" schools), there are 338 public high schools now in North Carolina. The Instructional Services Division of the Wake County Public School System (WCPSS) says that about 90% of these schools will be on some form of block schedule as of the 2005-06 school year; 84% currently utilize a block schedule in which students take four courses each semester. A key reason high schools have moved to a block schedule is due to increased graduation requirements, which are easier to meet under a block schedule. Prior to the 2003-04 school year, four high schools in the Wake County Public School System (WCPSS) utilized some form of block scheduling. After extensive discussion and review of national and state research, all of the other high schools implemented block scheduling of courses during the 2003-04 school year (except Enloe, which has a seven-period day as part of their magnet theme). Other advantages of block scheduling include: a) students can earn more credits in the course of a year, b) students have more course options, and c) students can re-take failed courses more quickly with increased opportunities for on-time or early graduation.

Successfully implementing a major change generally takes several years. Therefore, some positive outcomes may not be evident after just one year of implementation. This evaluation focused on implementation, satisfaction, and initial outcomes from 2003-04 by examining changes in indicators from 2002-03 to 2003-04, and by providing a context of the changes compared to the other high schools (which have used the block schedule longer or use a different schedule).

MAJOR FINDINGS

School Implementation

The change to block scheduling went relatively smoothly. While there were challenges related to new scheduling software and working out priorities for scheduling, school schedulers dealt with them successfully, and they were able to schedule nearly everyone without major difficulty. Significant attention was given to staff development, and over 90% of the teachers received some training on implementing the block schedule, most commonly 1-10 hours, with a major emphasis on the use of diverse instructional strategies.

Academic Opportunities

The block schedule resulted in substantial increases in course opportunities as well as enrollment increases in courses overall and in advanced courses specifically:

- The 11 high schools new to the block schedule offered 46 new courses through 502 new sections.
- Course enrollments increased by 24% overall with more opportunities in student schedules (8 versus 6 courses per year).
- Mathematics, arts, and language arts courses had the largest increases in enrollment, while health and physical education course enrollments declined.
- Enrollments in higher-level courses increased 46% (15,069 students).
- 1,897 students took advantage of new re-start opportunities for 29 courses second semester.

Student Academic Success

Expectations were held for a positive impact on indicators of overall success related to greater course opportunities (e.g., credits earned, grade promotion, and graduation rates). The block schedule was expected to result in little change in test scores or class performance in the first year. Expectations were met generally:

- Students in the new block schedule schools earned an average of 6.31 credits in 2003-04 in graded courses (an increase of 1.08 credits compared to the previous year). Other high schools earned an average of 6.35 credits during 2003-04 in graded courses (a 0.37 decrease).
- Grade promotions increased overall (by 1.2%) in the group of new block schedule high schools while slightly decreasing overall (by 0.2%) in the group of other high schools. Promotions increased in number in grades 10, 11, and 12 for the new block schedule high schools (2.3%, 3.7%, and 0.2% respectively) and decreased for grade 9 by 0.6%.
- The number of entering grade 12 students that graduated increased by 3.4% in 2003-04 from 2002-03 in the new block schedule schools while the other high schools showed a decrease of 3.6%.
- Overall EOC scores increased slightly, with Algebra 1 and 2, Chemistry, Physical Science, and Physics showing the most improvement.
- ABCs of Accountability results showed slight improvement from 2002-03 to 2003-04 in performance (from 83.5% at grade level to 83.9% at grade level) and growth (high growth in 9 of the 11 schools, up from 8 the previous year).
- Average weighted GPAs dropped very slightly, but less than in schools not switching to the block schedule in 2003-04. Even so, more students new to the block schedule in 2003-04 earned a GPA of 3.0 or above than in 2002-03 (up 2.7% to 48.2% from 45.5%).
- AP course offerings increased and more students enrolled in these rigorous courses. Fewer students took AP exams in 2003-04, maintaining a stable average score. Scores at Levels 3 through 5 decreased slightly; scores at Levels 4 and 5 increased by 4% in 2003-04.
- Dropout rates increased slightly (less than 1%) for both schools new to the block schedule and other high schools. Data from 2002-03 may have been artificially low due to a change in software data systems and procedures; rates are lower than in 2001-02.

Student Behavior Success

- Attendance remained stable at 96%.
- The percent of students suspended (13.8%) remained the same for 2003-04 as in 2002-03 for students in the new block schedule. The average number of suspensions per student increased slightly in both the new block schedule schools and the other five high schools.

General Satisfaction

- About two thirds of staff (65%) and students (about 70%) responding in surveys agreed or strongly agreed that the change to block scheduling had been positive for them overall. Parents giving their schools a grade of A or B increased from 74% to 77% between spring of 2003 and 2004.
- Common themes mentioned by administrators, teachers, and students of the new block schedule's benefits included:

  - the availability of more course options and opportunities and more credits for students to earn in a year,
  - time for more depth into material and variety of classroom activities,
  - better career planning options with early graduation and mid-year promotion opportunities, and
  - increased opportunities to graduate on time.

CONSIDERATIONS FOR FUTURE STEPS

Overall, the change to the block schedule went fairly smoothly and had the anticipated results. Staff may want to explore reasons for some results and possible ways to refine the block schedule for optimal effectiveness. These include:

- decreased enrollments in health and physical education courses
- decreased numbers of students taking AP exams
- increased 9th grade retentions
- slight decline in SAT participation and overall scores

One general suggestion is continued training in effective use of class time with the longer block periods, focusing in particular on the use of greater variety in instructional methods and strategies.

Finally, some staff and students suggested consideration of: a) changes in the scheduling of some Advanced Placement and music courses to be year-long or on an A/B modified schedule, and b) adjustments in sequencing of some math and foreign language courses. Changes to start times, length of lunch, and time between classes were also mentioned as topics for discussion.

BLOCK SCHEDULING EVALUATION

BACKGROUND

High school principals discussed schedule models and both benefits and challenges for nearly three years, reviewing literature, looking at data, and assessing needs in WCPSS. Teachers were involved in discussions at all schools, and ultimately a community-wide task force reviewed all information regarding possible schedule changes. During this three-year period, two presentations were developed to help inform school patrons, each faculty participated in guided decision-making exercises to help shape decisions, and three presentations were made to the WCPSS Board of Education or Program Committee. In September 2002, the Board authorized schools to move to the 4x4 schedule the following year. Realizing that change can be a painful and controversial challenge and knowing that the full transition could take three to five years (Hawkins, 1993; Imel, 2000; Irmsher, 1990; Siegel, 1995; Talley & Grimaldi, 1995; and Thormann & Others, 1991), the school system worked intensely throughout 2002-03 to prepare for the transition.

Based on findings from earlier North Carolina studies as well as others outside the state (Association for Supervision and Curriculum Development, 2004; Bottge & Gugerty, 2004; Irmsher, 1996; Mutter, Chase, & Nichols, 1997; NCDPI, 1996; NCDPI, 1997), certain reasons and expectations were developed for changing WCPSS high schools to the 4x4 block schedule:

REASONS

- Greater variety of courses
- Greater ability to focus on fewer courses per semester
- Greater opportunities for all students to accelerate studies
- Greater opportunities to keep students at grade level

EXPECTATIONS

- Greater variety in teaching methods used
- More personalization via reduced numbers of teacher-pupil contacts each semester
- Stable student EOC test scores and grade point averages (GPAs)
- Improved school climate:
    - decreased number of classes per day
    - decreased number of students per semester for teachers
    - increased number of possible credits earned by students per year
    - increased student attendance
    - decreased student discipline problems
    - decreased student suspensions
    - increased positive attitude toward school

From the time when WCPSS first began considering changing to block scheduling to the present, grant-development activities at the district's high schools typically included this feature as an

element in grant proposals. Examples of grant awards received by the high schools which incorporate aspects of block scheduling, include (a) a federal Smaller Learning Communities (SLC) award made to Garner High School, (b) a second federal Smaller Learning Communities grant made to another nine of the district's high schools, and (c) an award to East Wake High School with funding from the Bill and Melinda Gates Foundation to create a school-within-a-school with a focus on future careers in the health sciences. The SLC grant provides a recognized approach to block scheduling that provides teacher training in research-based instructional methods and seeks a structure that provides more flexibility for students, increases academic rigor, and helps support further reform. This grant also supports the implementation of a teacher advisory program and ninth grade transition strategies providing a more personalized high school experience in order to further support students and their needs at various stages of their high school career. Teachers are given instructional strategies to guide and enhance student achievement (e.g., participation in a study of the Robert Marzano book, "Classroom Instruction That Works"). A keen focus on personalizing high school undergirds the entire effort.

With a vision of greater opportunities for student success as the driver, block scheduling was implemented in eleven of the WCPSS high schools in Fall 2003:

- Apex
- Athens Drive
- Cary
- East Wake
- Garner
- Green Hope
- Leesville Road
- Millbrook
- Sanderson
- Wake Forest-Rolesville
- Wakefield

For specific reasons, five other high schools were not a part of the change:

- Southeast Raleigh—opened as block as part of magnet theme in 1997-98
- Fuquay-Varina—changed to block schedule in 1996-97
- Middle Creek—opened with block schedule 2002-03
- Broughton (AB)—changed to block schedule in 2001-02
- Enloe—no change since a seven-period day is part of the school's magnet theme

More opportunities and more flexibility were espoused as positive outcomes in block scheduling. The block schedule framework allows a student to take four separate 90-minute courses in each of two semesters (eight courses per year). This framework differs from the traditional schedule that offers six 55-minute courses per year, so that students have the opportunity to take more courses each year with the flexibility to choose more rigorous courses. Highly talented students can "accelerate" and take longer sequences of more rigorous courses. Courses failed in one semester can be repeated the next semester so that the student is more readily able to remain with his/her class cohort and graduate within four years. With greater opportunities for earning more credits more quickly, early graduation and matriculation to higher education is also an option for students.

EVALUATION PLAN

WCPSS wanted to examine many variables to see whether outcomes changed after the change to a 4x4 block schedule. For this evaluation, system level trends based on comparisons of school level data from 2002-03 (before the change) to 2003-04 (the first year of the change) were key. We also included comparisons of data from schools that did not change to the block schedule this past year, primarily for context. **Other WCPSS schools cannot be considered a true comparison group, because four of the five schools were already using a block schedule.** Evaluation questions centered on academic opportunities (course offerings and course enrollment, especially regarding participation in advanced courses), student academic success (End of Course results, SAT scores, and Advanced Placement results; grade point averages; course grades; credits earned; grade promotion and graduation rates), student behavioral success (attendance and out-of-school suspension rates), and general satisfaction as viewed by administrators, classroom teachers, students, and parents. The EDSTAR consulting firm was also under contract to evaluate the Small Learning Communities grant operating in most of the schools new to the block schedule, so E&R staff coordinated data collection efforts with them to optimize resources.

E&R collected data from a variety of departments and data sources, including:

- WCPSS Information Systems Department through the NCWISE student database (student enrollments, course enrollments, GPAs, grades, and credits earned) and the WCPSS mainframe student database (promotion rates, dropout status)
- WCPSS Curriculum and Instruction Department (courses offered and codes)
- Due Process Office (official suspension reports)
- E&R Grants Administration Office (Smaller Learning Communities grant information)
- E&R (Survey manager provided results of annual district-wide surveys of parents, students, and teachers)
- North Carolina Department of Public Instruction (official attendance data)
- College Board (Advanced Placement testing results)
- EDSTAR (Interviews: *WSLC Block Scheduling report*)

Differences in data records in the mainframe and NCWISE databases at the schools required extensive data checks and re-runs of programs before accuracy was ensured. (WCPSS switched to NCWISE as the primary database for school scheduling, enrollment, and other data during the middle of 2002-03 as part of a state pilot. Technical glitches and slow turnaround took some time to resolve, with student ID mismatches continuing to be resolved.)

As final numbers were obtained, analyses were conducted regarding variables of interest (e.g., academic success, AP scores, SAT scores, attendance, enrollment, courses and course sections). EOC results were double checked against results generated by other E&R staff posted on the NCDPI website.

In addition, some data collection was tied directly to this project. A brief description of instruments, procedures, and response rates for data collection conducted specifically for this evaluation is summarized in the table below.

Instrument	Procedures	Response Rate
Assistant Principal of Instruction (API) and Dean of Student Interviews	API and/or Dean responded in semi-structured interview (45 minutes) in fall 2004. EDSTAR and E&R staff conducted.	82% (9 of 11 schools)
WCPSS Intranet Student Survey	Online survey conducted in spring 2004 during one English class period (approximately 30 minutes managed by EDSTAR)	100% (335 students in 8 schools)
WCPSS Intranet Teacher Survey	Online survey conducted in spring 2004 (approximately 30 minutes)	59% (297 of 506 teachers in 11 schools)
Data files from WCPSS Information Systems	SAS frequencies, Microsoft Excel tables and charts, Microsoft Access queries	---
Discussions	Meetings with Senior Director of High School Curriculum & Instruction Dept., E&R Dept. staff, EDSTAR, Inc., High School Principals	---
WCPSS E&R Dept. datasets, Intranet and Internet website reports	Tables and charts	---
NC Dept. of Public Instruction websites	Tables and charts	---

For forced choice items in surveys, the number and percent of respondents giving each answer option was calculated. For open-ended responses, content analysis was used to compile results by theme and to count the number of comments made regarding various themes.

Regarding the annual WCPSS district-wide surveys of parents, staff, and students, the purpose of these surveys is to give as much feedback as possible to schools. Statistical tests for differences were not the intent and cannot be performed for levels of significance.

SCHOOL IMPLEMENTATION

DESIRED OUTCOMES

- Higher level course interest and enrollment would increase.
- An increase would occur in instructional practices reflecting use of tools and training centered on maximizing instructional time available in the 4x4 block schedule format..

To investigate questions revolving around the implementation of the block schedule format, each school's Assistant Principal of Instruction (API) and Dean of Students met with either or both EDSTAR and E&R representatives (with the permission of the school's principal). The E&R Department interviewed one of the schools separately as it is no longer under the Smaller Learning Communities (SLC) grant, which EDSTAR was evaluating. During the interview, information was collected pertaining to general benefits and challenges of the block schedule, especially concerning student course scheduling and registration, higher level course interest and enrollment, restart course offerings and enrollment, and a separate discussion regarding NCWISE issues and recommendations. EDSTAR compiled a report titled *WSLC Block*

Scheduling based on the results of the interviews with school APIs and Deans of Students. A summary of the findings follows.

INITIAL SCHEDULING AND REGISTRATION: FALL 2003-04

The scheduling process for the schools generally changed due to the 4x4 block schedule's allowance for more flexibility, availability, and pairing of courses. The setup of student schedules varied by school. At least one school prepared schedules (including restart courses that allow students to make up a failed course during the school year) during the previous spring, while another structured AP courses to optimize opportunities for students, and still another allowed a few courses to remain year long or on an A/B schedule (which sometimes caused issues in fitting semester-long classes into student schedules). For the most part, more course options were available in number and variety throughout the year. As is normal, course enrollment was generally based on a first-come, first-served basis, but higher priority was usually given to upperclassmen to support their graduating on time or early. For this reason, requested courses were sometimes not available for underclassmen in some schools.

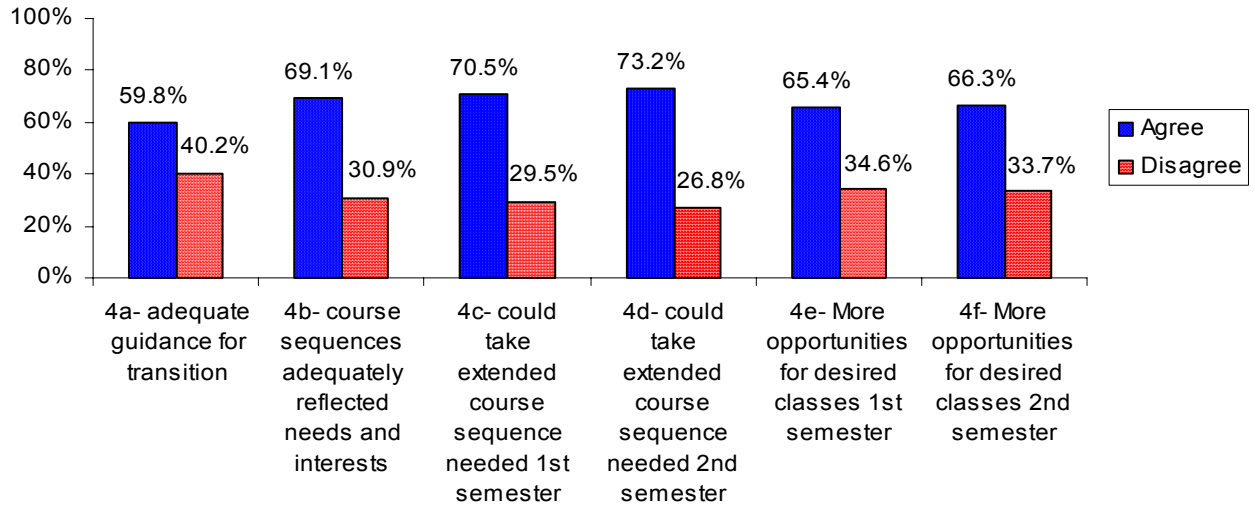
Although students, for the most part, were able to enroll in the course sequences requested (e.g., Algebra I followed by Algebra II, Honors followed by AP courses), some were offered at the same time, making it difficult for students to enroll in both. Students sought pairing of courses (2 academic and 2 elective courses per semester) but this was not always possible. Students transferring in sometimes found full classes in their needed courses or classes in different parts of the curriculum than their former classes.

Of importance to note is the WCPSS switch to NCWISE as the software database for school scheduling, as mentioned earlier, which was a new and complicated system. Scheduling problems encountered may have been due to the change to this new system rather than with the change to the block schedule. In addition, some scheduling conflicts are likely to occur regardless of the schedule used at the high school.

Scheduling Process

The majority (60% to 73%) of 327 respondents made by surveyed students agreed or strongly agreed that the handling of class scheduling was adequate. They expressed satisfaction with the guidance received, course sequencing that reflected their needs and interests, and the ability to take the extended sequence needed for both first and second semester. Also, the majority felt that they were presented with more opportunities to take the classes they wanted in both first and second semester (see Figure 1).

Figure 1
Class Scheduling Views
(321-327 responses)



Strongly Agree	15.6%	12.6%	16.1%	13.7%	22.0%	21.1%
Agree	44.1%	56.5%	54.4%	59.5%	43.4%	45.2%
Disagree	28.8%	20.7%	20.4%	18.0%	22.3%	21.1%
Strongly Disagree	11.4%	10.2%	9.1%	8.8%	12.2%	12.7%

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

Students generally requested four courses per semester; 59% of the students responded that they were placed in their four requested courses for first semester and 58% of the students were placed in their four requested courses for second semester. Approximately 17% of the students reported that they were placed in three of their requested courses in both first and second semester, while approximately 12% of the students were placed in two of their requested courses in both first and second semester (see Figure 2). *No comparative data are available to determine how the percentages compare to the previous year, so it is not clear to what extent this is a block schedule, an NCWISE software, and/or a normal scheduling issue.*

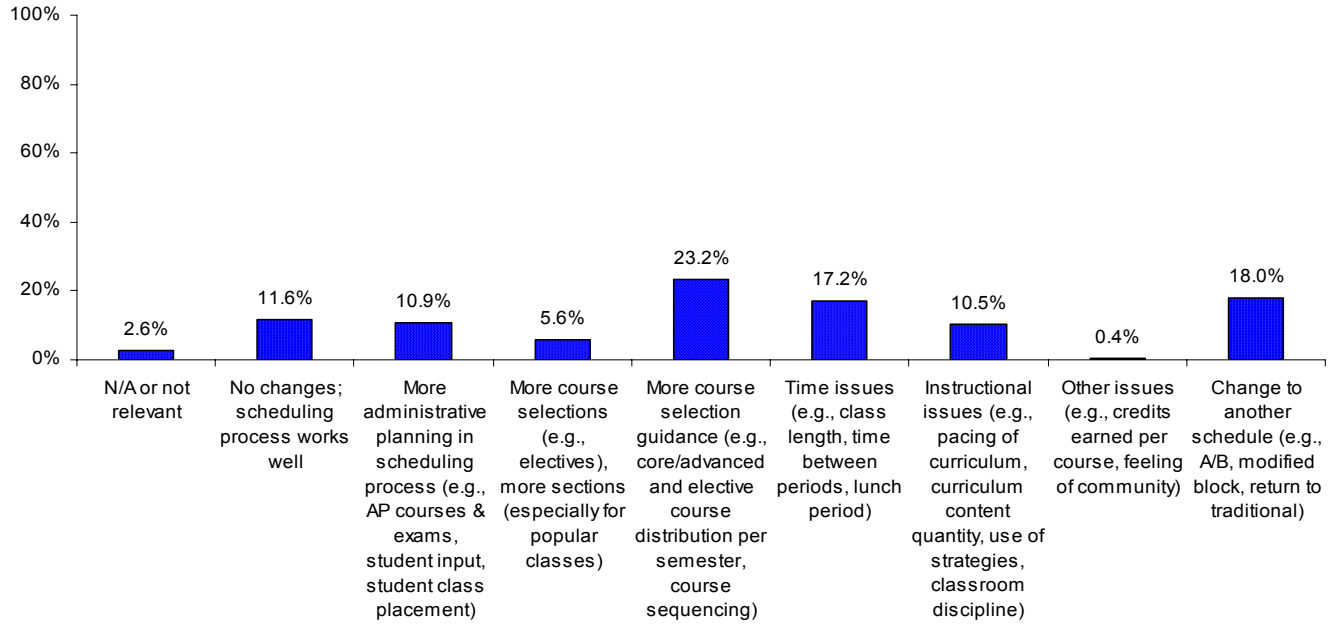
Figure 2
Student Placement into Requested Courses

Number of Courses	1	2	3	4	5 or more
5a- requested courses scheduled into 1st semester	6.7%	11.8%	17.3%	59.4%	4.8%
5b- requested courses scheduled into 2nd semester	7.9%	12.2%	16.7%	58.1%	5.1%

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

Students in the new block schedule schools were asked to make suggestions for improving the scheduling process. Figure 3 displays the comments and suggestions made.

Figure 3
Student Suggestions for Improving Scheduling Process
(247 respondents with 267 responses)



Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

- Almost one-fourth (62) of the 267 comments in the survey of students mentioned the need for more guidance in course selection, distribution, and sequencing. For example:
  - "Better arrangement of classes so that all the difficult classes don't end up in one semester, with all the easy classes another semester"
  - "More information/ choice of what classes you take for each semester; more detail of what is involved"
- About 17% (46) of the comments talked further about time issues, such as the length of class periods, between-class time, and lunch periods. An example from this group suggested, "…giving us a little more time between classes,"
- Another 18% (48) of the comments recommended a change in the block schedule format. An example of a comment from this group was to "go back to our old schedule like last year".
- About 12% (31) of the comments stated they felt no changes were needed in the scheduling process because it appeared to work well. For example, "I don't think there are any steps that need to be taken due to block scheduling because it's just a matter of adjustment."

Higher Level Course Interest and Enrollment

With the possibility for students to earn more credits within a one-year period, the block schedule allowed students to take advantage of the increased opportunity to take more advanced courses. Also, with fewer courses in the semester block schedule, students were able to concentrate their efforts to achieve. School staff generally stated that more students pushed themselves into more difficult coursework and excelled. An AP Task Force made recommendations (e.g., open enrollment vs. teacher recommendation, administer PSAT for free, using "AP Potential" software to identify students) that could be used to encourage students to

challenge themselves more rigorously. Most of the new block schedule schools implemented some of the recommendations.

Advance Placement Instructional Changes

The teachers of honors and AP courses were asked if the change to block scheduling changed the way that they taught AP courses and were asked to describe the changes, if so. Of the 64 responding participants to this query, 66% said they had made changes in their teaching of AP courses. Of the 29 teachers who described the changes they had made:

- About 40% indicated that most changes revolved around time issues, included pacing and prioritizing (about 20%), and *fewer* labs, hands-on or small group activities, and projects (14%). (In contrast, about 3% indicated *greater* use of labs, hands-on activities, and projects.)
- A few teachers (7%) stated that they used more quizzes and tests as checks on student knowledge, and more EOC practice tests as checks on student readiness for the EOC tests. One teacher described use of more labs, hands-on activities, projects, and small group work.

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Advanced Placement (AP) exams are given during the first part of May each year. Because a course can be completed in the fall, teachers that taught the 195 AP courses in the eleven new block schedule schools this past year were queried regarding procedures they may have used to prepare their first semester students for the spring exams. Of the 33 responses:

- 58% reported using school-based procedures such as student self-preparation (e.g., additional assignments, online reviews, portfolio preparation, AP guides), as well as review sessions held in the school.
- Nine teachers (27%) expressed strong concerns against the block schedule format regarding AP exam preparedness.
- A few of the teachers (15%) said students likely took advantage of the review sessions provided by the school system.

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

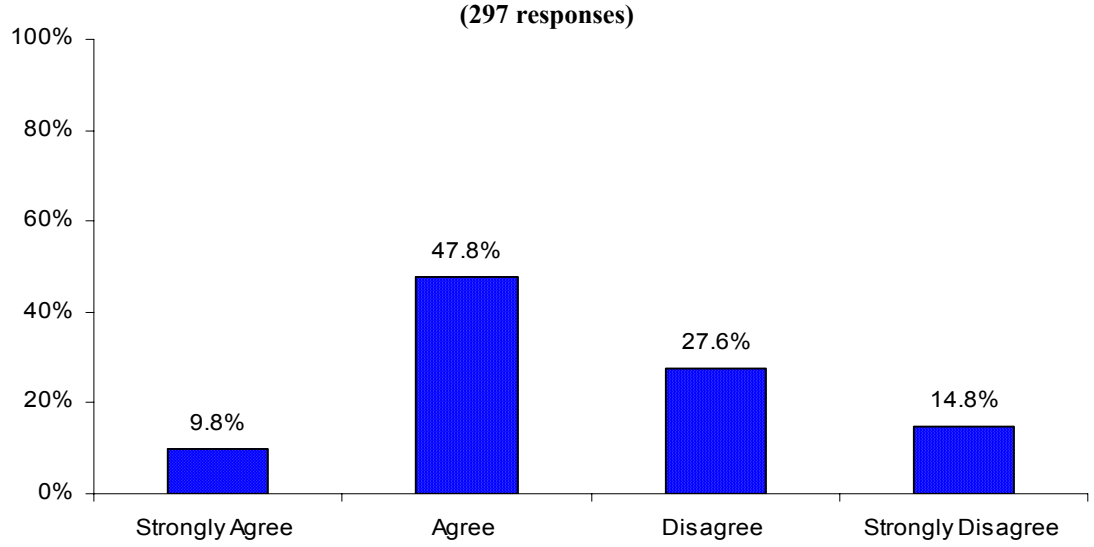
INSTRUCTIONAL PRACTICES

A major part of the changeover to the block schedule format included the development of instructional pacing guides and significant staff development. The guides were developed for teacher use to support covering the North Carolina Standard Course of Study within the new timeframe. Training sessions and workshops addressed the need to use a variety of instructional methods and strategies and to make best use of the pacing guides. Teachers provided feedback on the guides and on the significance of the training and its transfer into instructional practices in the classroom. Students responded as well with their views on instructional delivery.

Pacing Guides

Teachers received pacing guides in order to help plan instruction that would cover the curriculum by the close of the year in the block schedule. Of those responding to the survey, 58% agreed or strongly agreed that the pacing guides were helpful (see Figure 4).

Figure 4
Pacing Guides Provided for Block Scheduling Were Helpful
(297 responses)



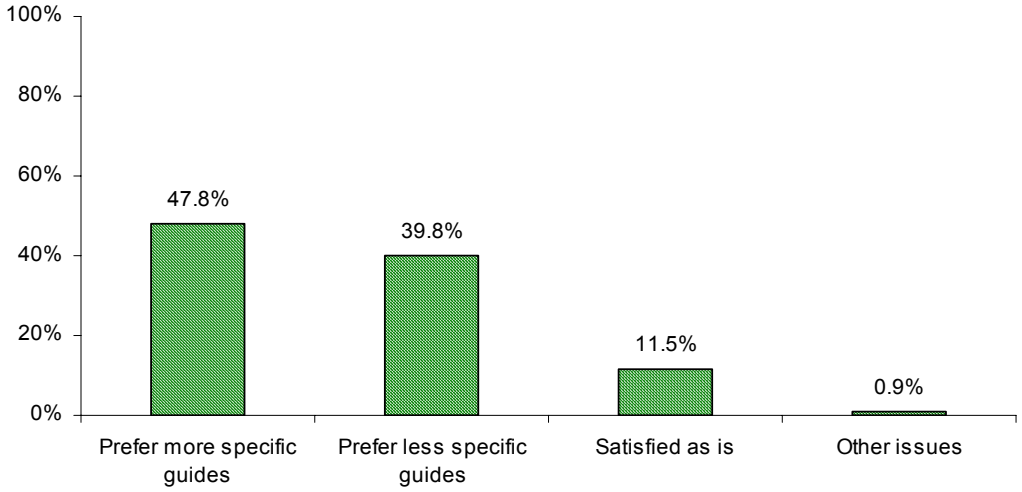
Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

The guides were designed to be revised/updated each year. Teachers offered suggestions for changes that would make the guides more helpful. Of the 113 suggestions made:

- About 48% centered on requests for more specificity and for more information within the guides (e.g., "Include a breakdown of individual activities and their timing. Require less curriculum to be covered, so that what is studied is learned well").
- Around 40% expressed a desire to move away from an adherence to the rigidity of a guide (e.g., "Be realistic about the amount of material that students, especially lower-achieving students, can absorb in one day").
- A little more than 11% of the suggestions expressed full satisfaction with the pacing guides as they were (e.g., "The pacing guides are great. They have been invaluable for a first year teacher like myself").

Figure 5 displays responses related to pacing guide suggestions.

Figure 5
Suggestions to Make Pacing Guides More Helpful
(113 suggestions)

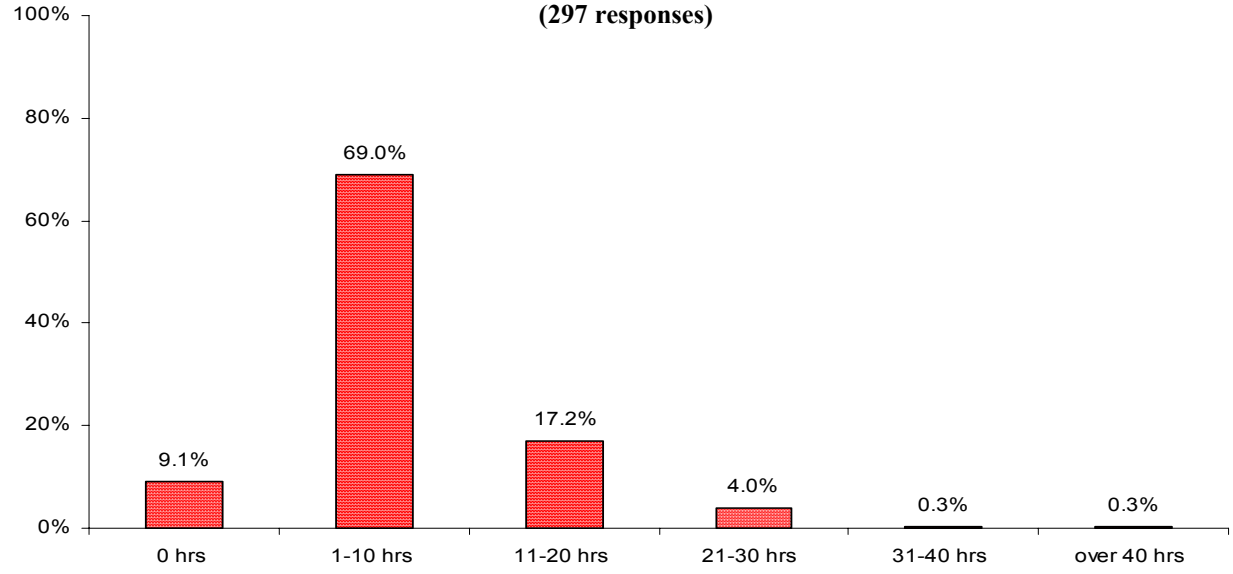


Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Staff Development

Extensive training was provided in order to support the transition to the block schedule format. The greater majority of respondents (69%) stated that they had participated in one to ten hours of training. With 17% reporting participation in 11 to 20 hours of training, 5% said they had participated in 21 or more hours of block scheduling training activities, and 9% of the respondents reported receiving no training at all. Because most training was conducted at the individual school sites, it is assumed that teachers who reported receiving no training were new hires or absent on training days (see Figure 6).

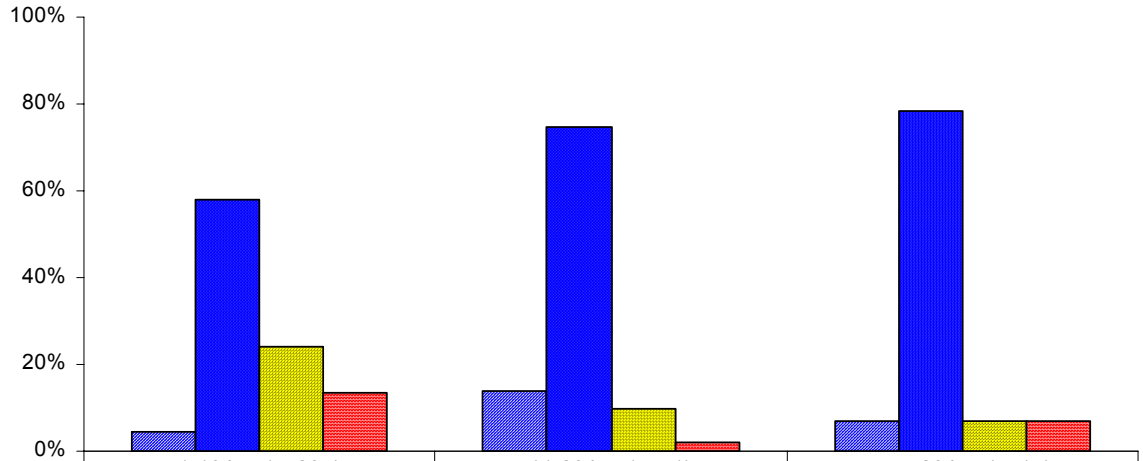
Figure 6
Block-Schedule-Related Training Hours Completed in the Last Year
(297 responses)



Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Of the 270 teachers who reported receiving block schedule training, over two-thirds agreed or strongly agreed that the training had been beneficial, with more positive attitudes among those receiving 11 or more hours of training (see Figure 7).

Figure 7
Block Schedule Training Beneficial in the Block Schedule Implementation
(297 responses)



	1-10 hrs (n=205)	11-20 hrs (n=51)	over 20 hrs (n=14)
Strongly Agree	4.4%	13.7%	7.1%
Agree	58.0%	74.5%	78.6%
Disagree	23.9%	9.8%	7.1%
Strongly Disagree	13.7%	2.0%	7.1%

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Regarding additional staff development that would be helpful in implementing the block schedule:

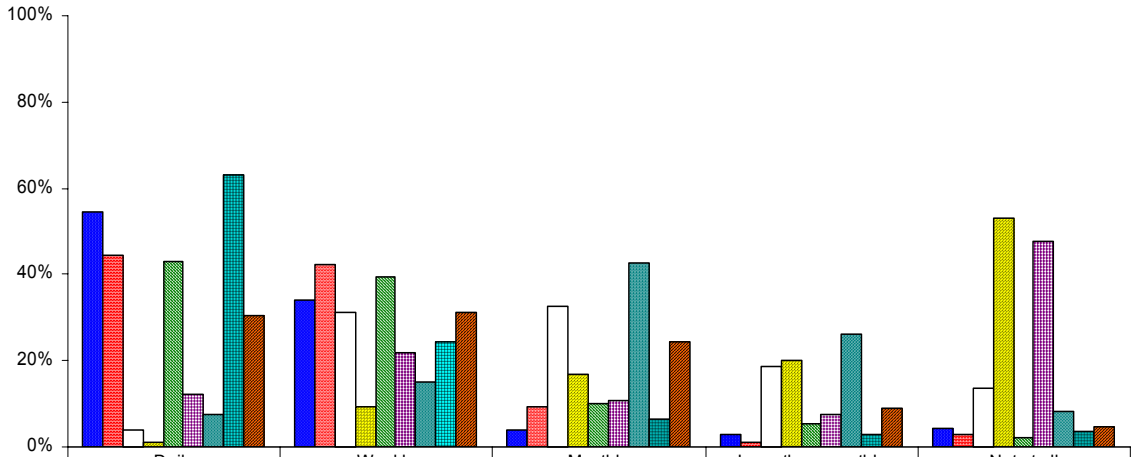
- Most suggestions (62% of the 105 made) requested more differentiated instructional strategies and sharing of best practices (e.g., "more instruction in variety of materials/instruction for 90 minute periods," "more 15-20 min. best practices and collaborative learning activities for students to practice skills," and "more instruction in variety of materials/instruction for 90 minute periods").
- Time issues were expressed by 20% of the respondents (e.g., "time to work with other teachers to plan and to create hands-on activities for classroom use…").
- About 10% of the teachers felt as though training already received had been helpful and felt no additional training was necessary (e.g., "none needed; the school did a good job."
- Nine teachers expressed differing negative attitudes regarding the block schedule.

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Instructional Delivery

Instructional delivery methods varied with the block schedule. The most popular methods used on a daily basis were discussion (63%) and lecturing (55%). On a weekly basis, the most used methods were small group work (42%) and hands-on activities (39%), while projects (43%) and video demonstrations (33%) were the favored monthly methods used. The most frequently used methods on a less than monthly basis were projects (26%) and seminars (20%). Approximately half of the teachers reported that they did not use seminars (53%) or lab work (48%) instructional delivery methods at all (see Figure 8).

Figure 8
Teacher Use of Instructional Delivery Methods
(297 responses)

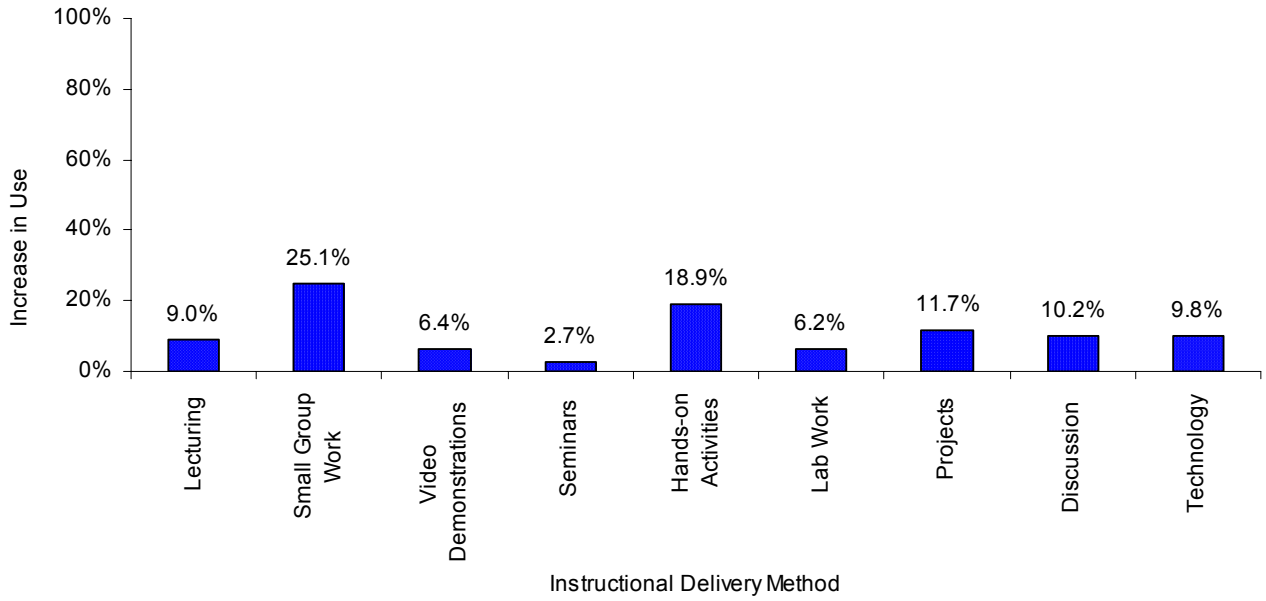


	Daily	Weekly	Monthly	Less than monthly	Not at all
Lecturing	54.5%	34.0%	4.0%	3.0%	4.4%
Small Group Work	44.4%	42.4%	9.4%	1.0%	2.7%
Video Demonstrations	4.0%	31.3%	32.7%	18.5%	13.5%
Seminars	1.0%	9.4%	17.0%	20.0%	53.0%
Hands-on Activities	43.1%	39.4%	10.1%	5.4%	2.0%
Lab Work	12.1%	21.9%	10.8%	7.4%	47.8%
Projects	7.4%	15.2%	42.8%	26.3%	8.4%
Discussion	63.0%	24.2%	6.4%	2.7%	3.7%
Technology	30.6%	31.3%	24.2%	9.1%	4.7%

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Some teachers reported an increase in their use of certain instructional delivery methods. One-fourth of the teachers stated that their use of small group work increased, while 19% reported their increased use of hands-on activities. Seven other methods showed an increase in use ranging from 3% to 12% (see Figure 9).

Figure 9
Increase in Teacher Use of Instructional Delivery Methods
(297 responses)



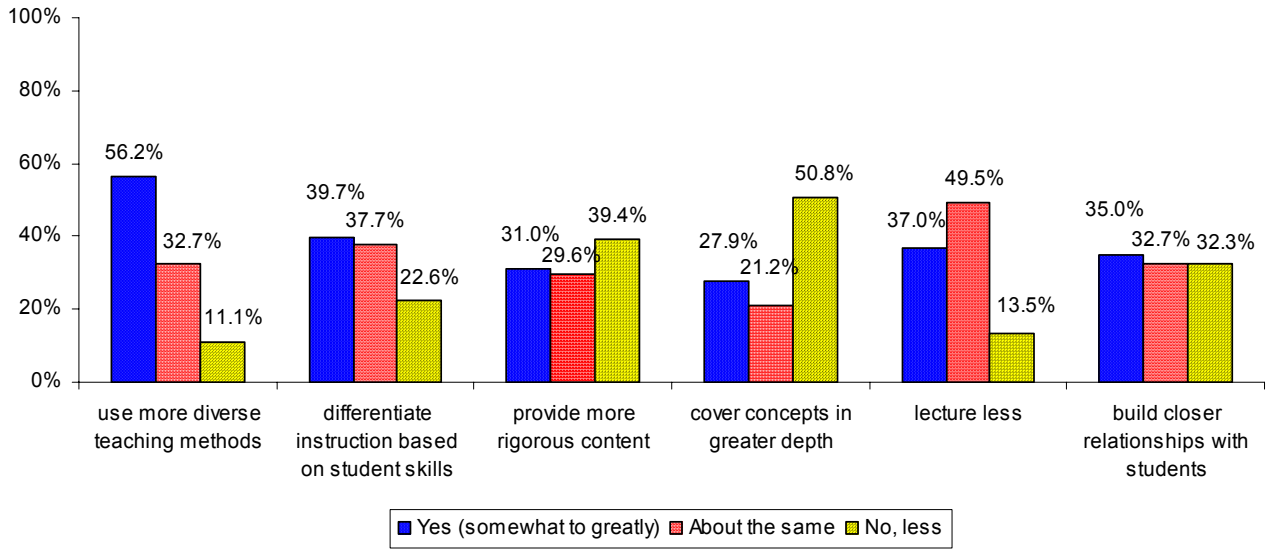
Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

In the first year of the block conversion, teacher opinions varied on whether the block schedule allowed them to improve instruction and relationships with students. Attitudes and practices will hopefully improve as teachers become more accustomed to the change:

- Over half of the teachers (56%) stated that the block schedule allowed for the use of more diverse teaching methods.
- About 40% felt the schedule allowed them to more easily differentiate instruction based on student skills, with 38% seeing this as remaining the same. About 60% felt that rigorous content provided through the block schedule remained the same or was greater than the past year. About half of the respondents acknowledged using the same amount of lecturing, with 37% said they were able to lecture less compared to last year's traditional schedule.
- An almost evenly divided 3-way split ('Yes, somewhat and greatly', 'About the same', 'No, less') existed regarding attitudes about building closer relationships with their students.
- Slightly more than 50% indicated that the block schedule did not allow them to cover concepts in as great a depth as under the traditional schedule.

Figure 10a displays the percentage of the responses by combining the 'Yes, greatly' and 'Yes, somewhat' categories. The Figure 10b table shows the response percentages for each of the four separate response categories.

Figure 10a
Block Schedule Format Allows the Teacher to…
(297 responses)



Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

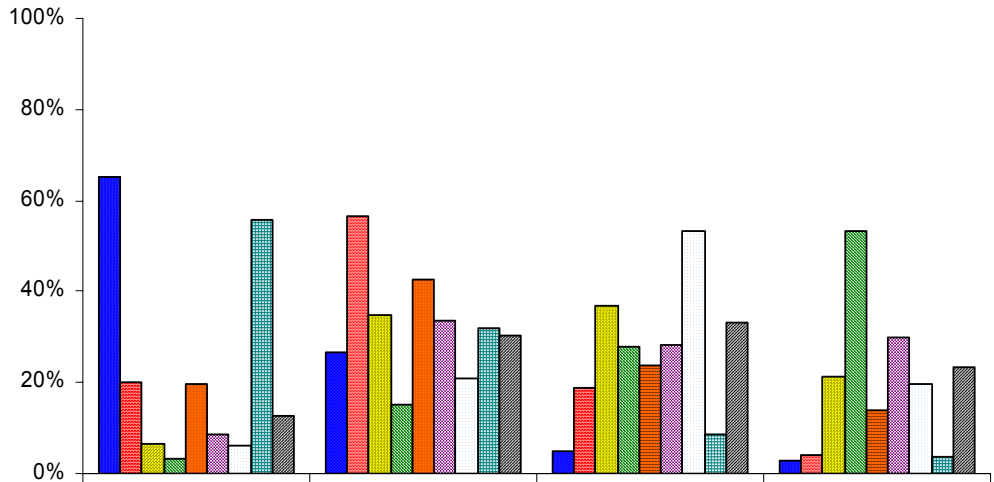
Figure 10b
Block Schedule Format Allows the Teacher to…
(297 responses)

	Yes, greatly	Yes, somewhat	About the same	No, less
Use more diverse teaching methods	20.88%	35.35%	32.66%	11.11%
Differentiate instruction based on student skills	12.12%	27.61%	37.71%	22.56%
Provide more rigorous content	11.11%	19.87%	29.63%	39.39%
Cover concepts in greater depth	10.77%	17.17%	21.21%	50.84%
Lecture less	7.74%	29.29%	49.49%	13.47%
Build closer relationships with students	14.81%	20.20%	32.66%	32.32%

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Students were surveyed about the frequency of various methods of instructional delivery used by their teachers. On average, 324 students reported that the methods most used on a daily basis were lecturing (65%) and discussion (56%). On a weekly basis, the methods used most frequently by teachers were small group work (57%) and hands-on activities (43%), while projects (53%) and video demonstrations (37%) were most frequently used on a monthly basis. Seminars (53%) were the most frequently used method on a less than monthly basis. Figure 11 displays the frequency of instructional delivery methods used by teachers as reported by students responding to the survey.

Figure 11
Student Views on Instructional Delivery Methods Used
(317 to 327 responses)



	Daily	Weekly	Monthly	Less than monthly
11a- Lecturing	65.2%	26.7%	5.1%	3.0%
11b- Small Group Work	20.1%	56.8%	18.9%	4.2%
11c- Video Demonstrations	6.7%	35.0%	36.8%	21.5%
11d- Seminars	3.4%	15.2%	28.0%	53.4%
11e- Hands-on Activities	19.6%	42.6%	23.6%	14.1%
11f- Lab Work	8.5%	33.4%	28.3%	29.8%
11g- Projects	6.0%	21.0%	53.5%	19.5%
11h- Discussion	55.6%	32.0%	8.8%	3.6%
11i- Technology	12.7%	30.5%	33.2%	23.6%

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

ACADEMIC OPPORTUNITIES

DESIRED OUTCOMES

- Number of new course and restart course offerings would increase.
- Overall course enrollment would increase.
- Enrollment in advanced courses would increase.
- Students who failed a course first semester would re-take the course second semester.
- Trend in all course enrollments (including SAT preparation) would be positive.

One of the objectives of the transition to the 4x4 block schedule was to offer students more opportunities to enroll in an increased number of courses during their high school years. With additional courses available, enrollment was expected to increase, with hopes that more students would enroll in the more rigorous advanced courses. Another bonus of the block schedule format would be the chance for students failing courses to be able to retake those courses as soon as feasible. Taking advantage of this bonus, struggling students might still be able to graduate on

time, dropout rates might decrease, and test scores might increase. A look at student test scores could indicate academic success levels.

COURSE OFFERINGS

The 2003-04 school year introduced new standard curriculum courses as well as new Advanced Placement (AP), honors, and other advanced courses.

New Courses Offered This Year

The eleven schools new to block scheduling offered 499 courses in the 2003-04 year. Of these, *46 were new offerings beyond the 2002-03 school year*. The North Carolina Department of Public Instruction (NCDPI) opened four new special education courses; the block schedule format changed the health/physical education curriculum so that 8 new courses became available; 12 new advanced courses were offered, and 22 new courses became available due to the new block schedule format (e.g., combining courses that were previously offered in two parts). Figure 12 displays the type of new courses offered and the course discipline for each.

Figure 12
Number of 2003-04 New Block Schedule School Courses
by Type, Academic Level, and Discipline

Type of Course	Academic Level	Course Discipline	Number of Courses
New Advanced (12)	2 - Other Advanced	Health and Physical Education	2
		Language Arts/English	2
	5 - Honors	Miscellaneous	1
		Science	1
		Social Studies	5
	7 - Advanced Placement Courses	Social Studies	1
New Block (22)	2 - Standard	Arts Education	2
		Computer Science	1
		Language Arts/English	4
		Miscellaneous	2
		Science	3
		Social Studies	7
	2 - Other Advanced	Computer Science	1
		Mathematics	2
New Block & New Curriculum (8)	2 - Standard	Health and Physical Education	8
New DPI (4)	0 - Special Education	Occupational Course: Disabilities	4
Total New Courses			**46**

Source: WCPSS Information Systems, 0203-0304 Enrollment (1/30/04)
WCPSS High School Curriculum & Instruction Dept.

During the 2002-03 school year, students enrolled in 3,472 course sections. The 2003-04 school year added another 502 course sections from which students enrolled in 3,966 of the sections. Of these 2003-04 course sections, 399 were due to new courses. Of the 12 new advanced courses,

10 had enrollees with 70 sections; of the 22 new block schedule courses, 21 had enrollees with 196 sections. The four new NCDPI special education courses were available in 63 sections throughout the new block schedule schools, while 70 sections were made available in the eight new health and physical education courses (see Figure 13).

Figure 13
2003-04 New Courses and Sections with Enrollees in the New Block Schedule Schools

	New Advanced Courses	New Block Courses	New NCDPI Courses	New Curriculum Course Changes	Total
New Courses Offered	12	22	4	8	46
New Courses with Enrollees	10	21	4	8	43
Number of Course Sections w/ Enrollees	70	196	63	70	399

Source: WCPSS Information Systems, 0203-0304 Enrollment (1/30/04)
WCPSS High School Curriculum & Instruction Dept.

Restart Courses

Prior to the implementation of the block schedule format in the 2003-04 school year, courses generally completed at the end of a two-semester period. Because courses taken in the block schedule format are generally completed in one semester, students can choose to retake failed courses from the prior semester. *The block schedule allowed students to restart 29 courses during the 2003-04 school year (9 in math, 5 in English, 4 in science, 3 in social studies, and 8 in other courses); 1,897 students were "restarted" in this manner.*

COURSE ENROLLMENT

Overall Enrollment Patterns

With a greater number of courses available to students in an increased number of sections in the new block schedule schools, *course enrollment went up overall from 130,236 for 19,943 students in 2002-03 to 161,018 for 21,066 students in 2003-04.* This was a 24% increase in course enrollees (30,782) compared to a 5% increase in course enrollees in the five other high schools from one year to the next.

Advanced Course Enrollment

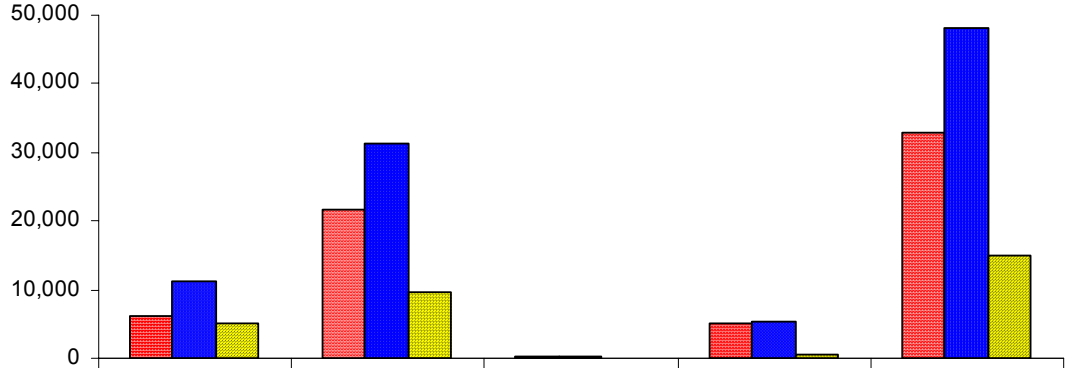
Looking at all advanced courses in the new block schedule schools, course enrollment did increase from 2002-03 to 2003-04 by 15,069:

- A little over 5,400 enrollees were in Advanced Placement course sections, an increase from 2002-03 of 467 (a 9.4% increase compared to a 0.4% increase in the five other high schools).
- The number of honors enrollees per course section in the new block schedule schools was 31,330 (up 9,738).
- An increase of almost 5,000 enrollees brought the other advanced courses up to 11,129 enrollees for 2003-04.

- Advanced career and technical education course sections in the new block schedule schools held 182 enrollees (less by 135 from the previous year)

Figure 14 shows the course enrollment changes from 2002-03 to 2003-04.

Figure 14
2002-03 to 2003-04 Course Enrollment Changes in the New Block Schedule Schools



	2 - Other Advanced	5 - Honors	6 - Advanced Career and Technical Ed	7 - Advanced Placement	Total Advanced Enrollment
2002-03 Enrollees	6,130	21,592	317	4,947	32,986
2003-04 Enrollees	11,129	31,330	182	5,414	48,055
Difference	4,999	9,738	-135	467	15,069

Source: WCPSS Information Systems, 0203-0304 Enrollment (1/30/04)
WCPSS High School Curriculum & Instruction Dept.

Assistant principals of instruction (APIs) and deans of students supported these increases in enrollment in interviews, saying that more students did push themselves to take more difficult coursework and excelled. They also indicated that students were more willing to commit to more rigorous courses because of the opportunity to re-take failed courses.

Overall Advanced Course Enrollees

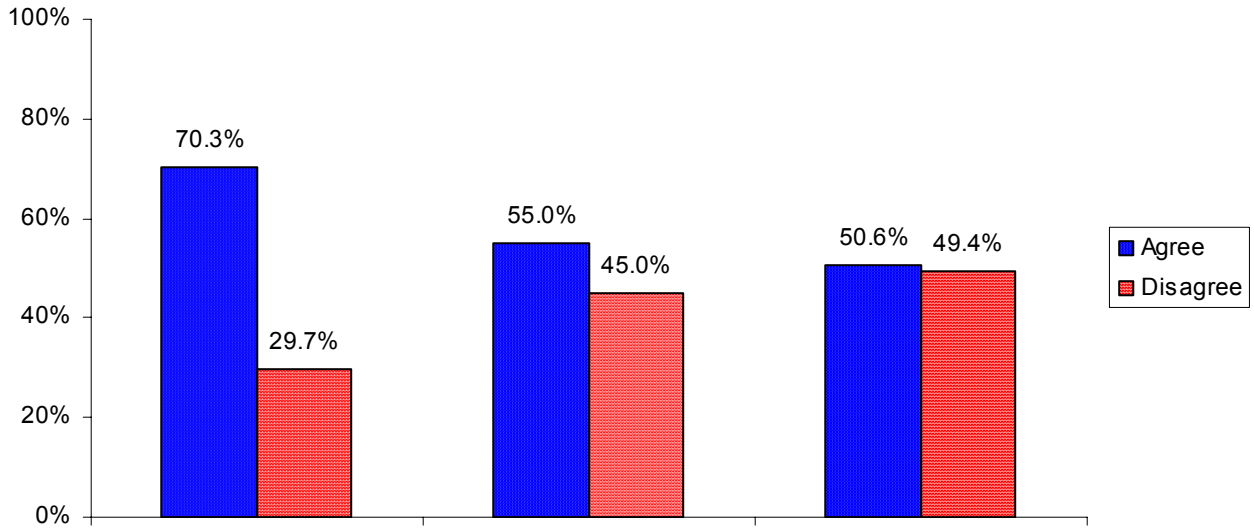
Based on 20th-day enrollment in 2002-03, students in the schools new to the block schedule in 2003-04 enrolled in 1.65 advanced courses on average. In 2003-04, students in the new block schedule schools enrolled in 2.28 advanced courses on average, an increase of 0.63 courses, with an increase in advanced course enrollment in each of the eleven schools.

Students in schools not new to the block schedule enrolled in 2.43 advanced courses on average in 2002-03. In 2003-04, students in these five schools enrolled in 2.54 advanced courses on average, an increase of 0.11 courses per student, with an overall enrollment increase in each of the advanced course types except advanced placement (a decrease of 0.04 student enrollees on average).

Most students surveyed (70% of the 220 AP/Honors course respondents) agreed or strongly agreed that the new schedule provided more opportunities to take AP/honors courses. A little

over half (55%) said they were able to keep up with the pace of the AP coursework. There is a lapse of time between the end of a first semester AP course and the May AP exam. Eighty-three courses involving 2,345 course enrollees were taught first semester in the new block schedule high schools. Students (182 respondents) were fairly evenly split on their agreement when asked about the impact of the time lapse between the end of the course and the time of the test (see Figure 15).

Figure 15
Impact on Advanced Placement (AP) Students
(182-221 responses)

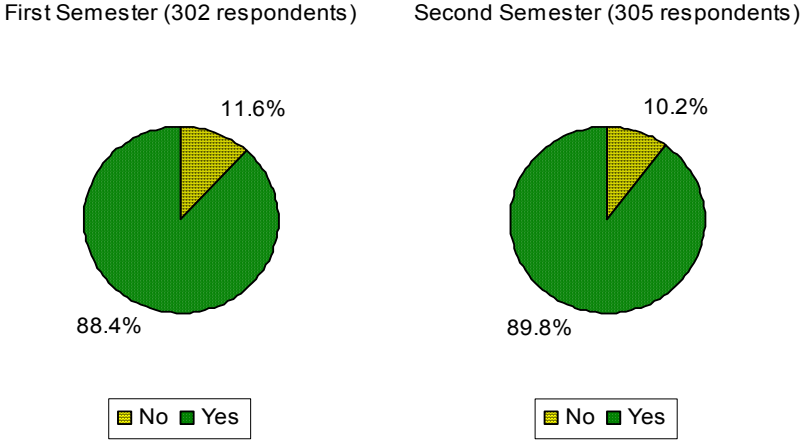


	7a- more opportunities to take AP/honors courses	7b- able to adjust to the pace of courses	7c- No impact of time lapse between the AP course and the AP exam
Strongly Agree	18.3%	12.7%	13.3%
Agree	52.1%	42.3%	37.2%
Disagree	19.2%	26.8%	27.2%
Strongly Disagree	10.5%	18.2%	22.2%

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

Another concern was whether or not students were able to enroll in requested AP/Honors courses in the first and second semesters. Most (just under 90%) said that they were able to do so (see Figure 16).

Figure 16
Ability to Enroll in Requested AP/Honors Courses

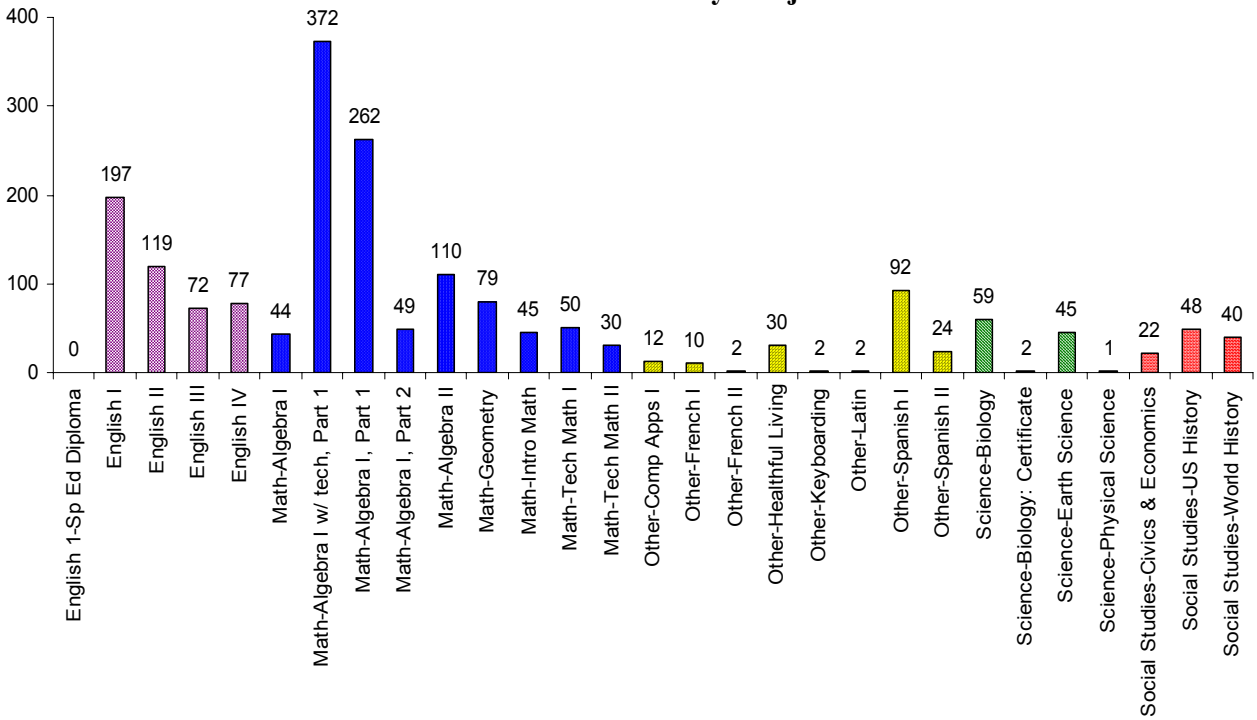


Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

Restart Course Enrollment Per Section

With restarts as an option in 2003-04 for the first time, *1,897 students elected to take advantage of the opportunity and enrolled to retake courses*, the majority of which were in the mathematics area (1,041 enrollees) followed by English (465 enrollees) and then by science (107 enrollees) and social studies (110 enrollees). Other subject areas had 174 enrollees (see Figure 17).

Figure 17
Number of 2003-04 Course Restarts by Subject Area and Course



Source: WCPSS High School Curriculum & Instruction Dept.

Interviewed staff at several schools noted students extending themselves more with the block schedule, some speculating that students were more willing to commit to more rigorous courses because of opportunities for restart. One school reported that, of the 158 students eligible for restarting a course, 87% were actually enrolled in the courses needed. With full classes keeping the remaining students from enrolling, those students were given another scheduling choice.

SAT Preparation Enrollees

Of interest is that *387 more students enrolled in SAT preparation classes in 2003-04 than the 170 enrollees in 2002-03*:

- Two schools enrolled students in SAT preparation classes in 2002-03 only, for a total of 54 students.
- Five schools enrolled students in 2003-04 only, for a total of 269 students.
- Three schools enrolled students in 2002-03 (116 enrollees) and in 2003-04 (288 enrollees), an increase in 2003-04 of 172 students.
- One school did not enroll any students in SAT preparation courses in 2002-03 or in 2003-04.

All Course Enrollment Growth Comparisons

With an increase of 30,782 in overall course enrollment for the new block schedule schools in 2003-04 compared to 2002-03, it is interesting to note that the highest increases were in the mathematics, arts, and language arts/English subject areas. Although the least, and even negative, enrollment growth in courses centered around the health/physical education, computer science, and career development subject areas, growth increased in the similar areas of health occupations, marketing, trade/industrial, business, and technology education.

Figure 18 shows the number of enrollees by discipline during the 2002-03 school year compared to the number enrolled in 2003-04.

Figure 18
Difference in Number of 2002-03 and 2003-04 Course Enrollees by Discipline

Discipline	2002-03	2003-04	Difference
Agricultural Education	320	580	260
Arts Education	5,601	10,896	5,295
Blocked Course: Disabilities	1,485	1,641	156
Business Education	4,054	6,957	2,903
Career Development	90	152	62
Computer Science	513	409	-104
Family and Consumer Sciences	2,762	4,970	2,208
Foreign Language	11,580	14,358	2,778
Health and Physical Education	14,948	13,374	-1,574
Health Occupations Education	525	859	334
Language Arts/English	21,538	24,709	3,171
Marketing Education	881	1,616	735
Mathematics	20,372	28,188	7,816
Miscellaneous	1,324	1,939	615
Non-classroom activities	1	62	61
Occupational Course: Disabilities	896	1,558	662
Science	19,041	21,347	2,306
Social Studies	20,973	22,244	1,271
Technology Education	481	645	164
Trade and Industrial Education	2,851	4,514	1,663
Total Enrollees by Course Discipline	130,236	161,018	30,782

Source: WCPSS Information Systems, 0203-0304 Enrollment (1/30/04)
WCPSS High School Curriculum & Instruction Dept.

STUDENT ACADEMIC SUCCESS

DESIRED OUTCOMES

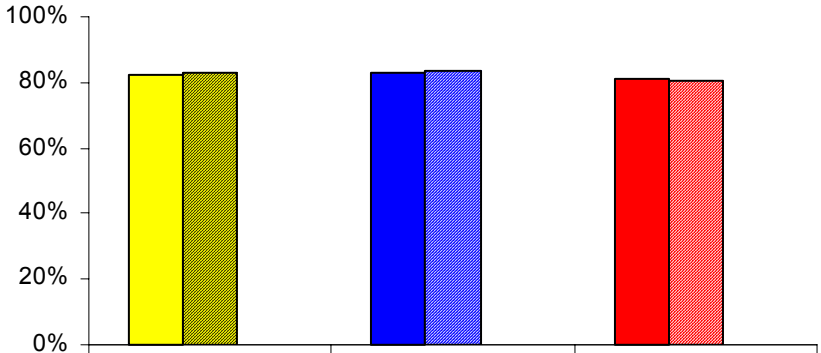
- EOC test scores at Levels 3 and above would be maintained.
- The percent of students with GPA of 3.0 or greater would be maintained.
- Credits earned would increase compared to previous year.
- The grade promotion rate would increase.
- The graduation rate would increase.
- The dropout rate would decrease.
- SAT scores would be maintained.
- Advanced Placement exam results would be maintained.

EOC TEST RESULTS

North Carolina State End-of-Course exams are administered to students at the close of each course to ascertain understanding of the courses taken. The school system showed a 0.3 percent gain in students at Levels III and IV in 2003-04 over the previous year; the new block schedule schools showed a 0.2 percent gain, and the other five schools showed an overall decrease of –0.1. Overall, when comparing the new block schedule schools to other high schools during 2003-04, the eleven new block schedule schools out-performed the five other high schools by 2.7 percent

more students at Levels III and IV, an increase of 0.3 points over the 2.4 point difference in 2002-03 (see Figure 19).

Figure 19
2002-03 to 2003-04 Overall EOC Results in WCPSS, Block Schedule and Other High Schools
(Percent of students at Levels III and IV)



	WCPSS (2002-03 n=38,604) (2003-04 n=45,134)	New Block (2002-03 n=26,563) (2003-04 n=31,514)	Other (2002-03 n=12,041) (2003-04 n=13,620)
2002-03	82.5%	83.2%	80.9%
2003-04	82.8%	83.4%	80.8%
2002-03 to 2003-04 Change in EOC Results	0.3%	0.2%	-0.1%

Source: WCPSS E&R Dept. 0203-0304 EOC Results

Figure 20 shows the average percent of students at Levels III and IV by subject areas for 2002-03 and 2003-04 EOC results.

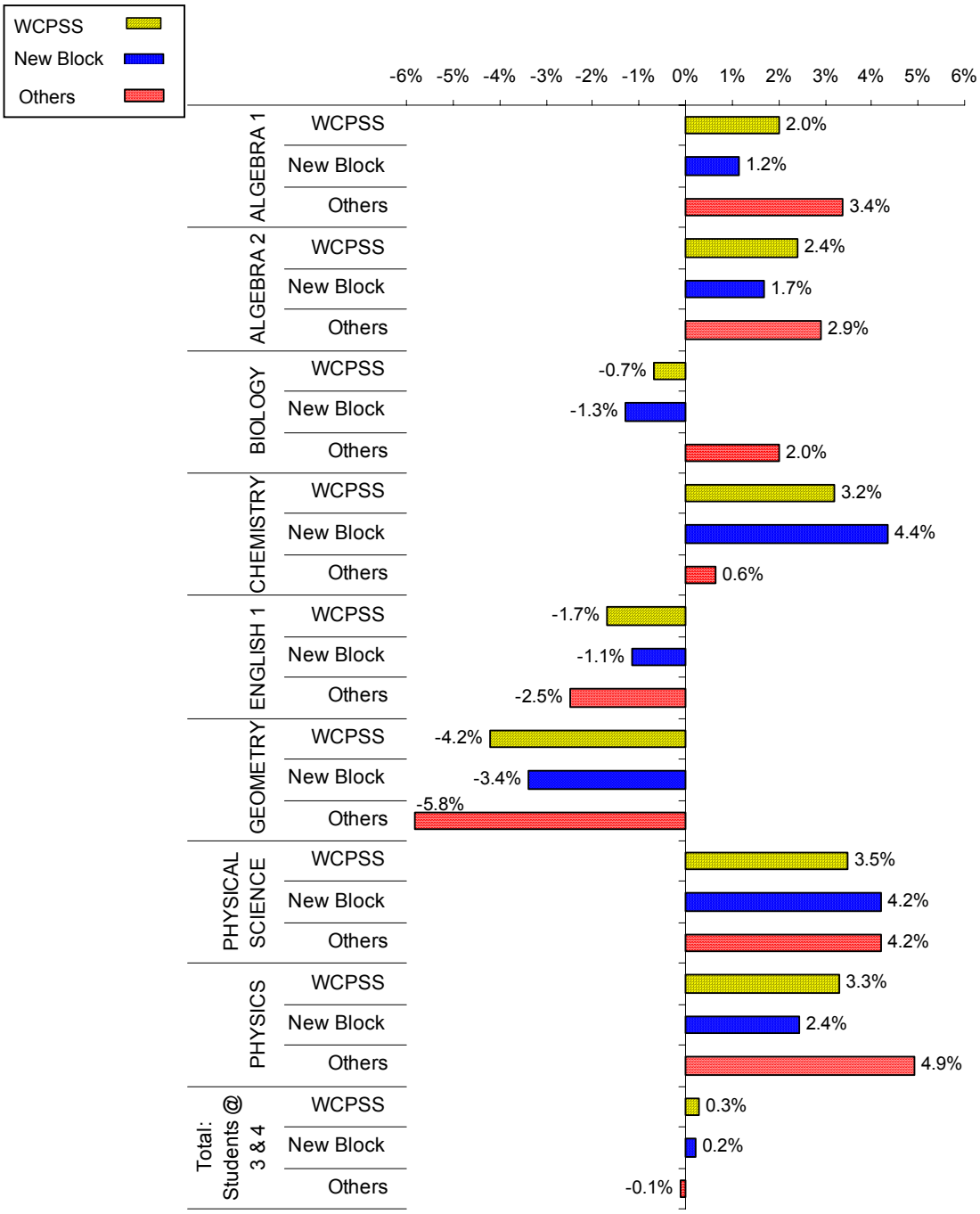
Figure 20
2002-03 to 2003-04 EOC Results by Subject Area
(Percent of students at Levels III and IV)

		Year		
EOC Subject	Data	2002-03	2003-04	Change
ALGEBRA 1	WCPSS	84.50%	86.50%	2.0%
	New Block	87.06%	88.21%	1.2%
	Other	78.92%	82.28%	3.4%
ALGEBRA 2	WCPSS	85.60%	88.00%	2.4%
	New Block	88.41%	90.10%	1.7%
	Other	79.77%	82.66%	2.9%
BIOLOGY	WCPSS	74.80%	74.10%	-0.7%
	New Block	76.40%	75.11%	-1.3%
	Other	71.27%	73.27%	2.0%
CHEMISTRY	WCPSS	85.50%	88.70%	3.2%
	New Block	85.70%	90.06%	4.4%
	Other	85.05%	85.69%	0.6%
ENGLISH 1	WCPSS	89.20%	87.50%	-1.7%
	New Block	88.09%	86.96%	-1.1%
	Other	91.59%	89.12%	-2.5%
GEOMETRY	WCPSS	82.00%	77.80%	-4.2%
	New Block	82.32%	78.95%	-3.4%
	Other	81.13%	75.32%	-5.8%
PHYSICAL SCIENCE	WCPSS	62.30%	65.80%	3.5%
	New Block	62.59%	66.80%	4.2%
	Other	61.47%	65.66%	4.2%
PHYSICS	WCPSS	89.20%	92.50%	3.3%
	New Block	90.54%	92.97%	2.4%
	Other	86.86%	91.77%	4.9%
Total: Students @ 3 & 4	WCPSS	82.49%	82.78%	0.3%
	New Block	83.22%	83.44%	0.2%
	Other	80.87%	80.76%	-0.1%

Source: WCPSS E&R Dept. 0203-0304 EOC Results

Looking at the change from 2002-03 to 2003-04 in subject area EOC results, the school system showed improvement in five of the eight subjects measured. The new block schedule schools showed improvement in the same five subjects, while the other schools improved in six of the eight. Changes ranged from –4.2 percentage points to +3.5 percentage points for the school system, –3.4 to +4.4 points for the new block schedule schools, and –5.8 to +4.9 for the other schools (see Figure 21).

Figure 21
Percent Change in EOC Results by Subject Area from 2002-03 to 2003-04



Source: WCPSS E&R Dept. 0203-0304 EOC Results

ABCS OF ACCOUNTABILITY RESULTS

The high school ABCs formulas are based on many measures, including EOC results, College or Tech Prep diploma completers, competency passing rates, and dropout rates. EOC tests in U.S. History and in Economic, Legal, and Political Systems (ELPS) were discontinued in 2003-04. By removing the numbers of students taking these two EOC tests from the 2002-03 results, a more accurate comparison could be made across years:

- The 11 schools new to the block schedule in 2003-04 showed improved performance and growth results between 2002-03 and 2003-04. Performance composites improved from an average of 83.5% to 83.9% at grade level, and the number of schools showing high growth improved from 8 to 9 of the 11 schools.
- The five schools that did not switch to the block schedule in 2003-04 (four of whom were also using some form of block schedule) showed improved growth as well. Performance composites decreased from an average of 81.8% to 81.7%; the number of schools showing high growth improved from one to three of the five schools.

T**he goal of stable achievement through the initial schedule change was accomplished.** Overall, schools new to the block schedule showed slightly greater improvements in performance composites while the other schools showed more improvement in growth status (see Figure 22).

Figure 22
ABCs Growth and Performance Composites

		Growth Composite		Performance Composite (% of students @ Levels 3 & 4)	
CODE	SCHOOL	2003	2004	2003 (Less ELPS and U.S. History)	2004
New to Block in 2003-04					
316	Apex High	++	++	88.3%	89.0%
318	Athens Drive High	+	++	85.1%	88.4%
368	Cary High	++	++	90.5%	88.9%
411	East Wake High	+	+	73.3%	75.4%
436	Garner Senior High	++	+	71.3%	65.6%
441	Green Hope High	++	++	91.1%	91.9%
473	Leesville Road High	++	++	91.3%	91.1%
500	Millbrook High	++	++	79.0%	79.4%
552	Sanderson High	+	++	76.9%	77.7%
588	Wake Forest-Rolesville High	++	++	83.2%	86.7%
595	Wakefield High	++	++	85.0%	84.9%
Other High Schools in 2003-04					
348	Needham Broughton High	+	+	83.2%	80.9%
412	William G Enloe High	+	+	79.4%	81.4%
428	Fuquay-Varina High	++	++	83.5%	85.1%
495	Middle Creek High	+	++	84.5%	81.6%
562	Southeast Raleigh High	+	++	80.9%	80.7%

Source: North Carolina ABCs Results 2003-04, E&R Report No. 04.21, Wake County Public School System [Online. http://www.wcpss.net/evaluation-research/reports/2004/0421abc2004.pdf]
WCPSS E&R Dept., 0203-0304 ABC Data

GRADE POINT AVERAGES

Grade Point Averages (GPA) of the students in new block schedule schools were reviewed to see how weighted GPA may have changed and to see if the percent of students with a GPA of 3.0 or greater was maintained or increased. Data files used for this analysis differed slightly from the 20th day enrollment figures used in other analyses for this report due to student transitions throughout the year. The GPA analyses were based on students actively enrolled at any time throughout the 2002-03 or 2003-04 school years (see Figure 23).

Figure 23
Student Enrollment

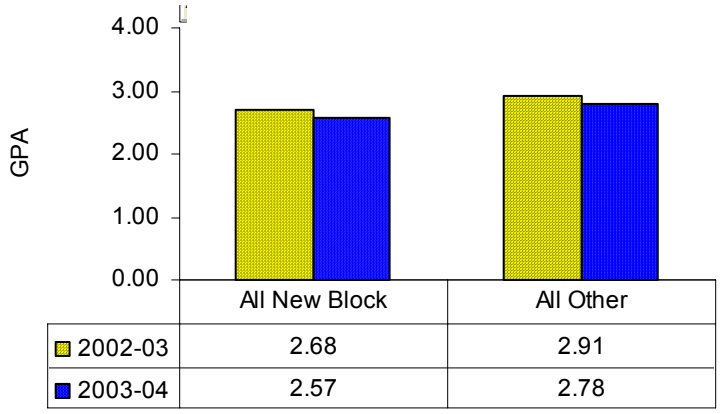
Year	New Block	Other
2002-03	20,184 (20th day: 19,946)	8,493 (20th day: 8,488)
2003-04	21,773 (20th day: 21,066)	9,394 (20th day: 9,341)

Source: WCPSS 0203-0304 gpa, credits (11-23-04)
WCPSS 0203-0304 Membership

Average Weighted GPAs

Overall, the new block schedule schools showed a lower average weighted GPA in 2003-04 (2.57) compared to 2002-03 (2.68), and showed a lesser decrease from one year to the next in average weighted GPA (-0.12) compared to other high schools (-0.13). Figure 24 displays the comparisons.

Figure 24
Average Weighted GPAs in 2002-03 and 2003-04



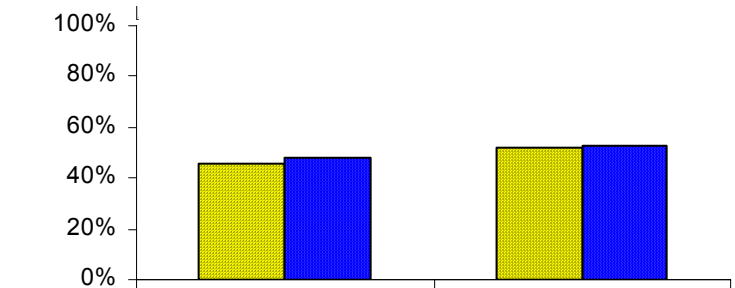
Source: WCPSS 0203-0304 gpa, credits (11-23-04)
WCPSS 0203-0304 Membership

In the new block schedule schools, Apex was the only school to show an increase in its average weighted GPA (up 0.02) from 2002-03 to 2003-04, while Garner showed the greatest decrease (down 0.26) during the same period.

Percent of Students with GPA of 3.0 or Greater

Overall, the new block schedule schools showed a higher percentage of students with a GPA of 3.0 or greater in 2003-04 (48.2%) compared to 2002-03 (45.5%). Block schedule schools increased 2.7% in attaining a GPA of 3.0 or greater from one year to the next. Schools not new to the block schedule also increased but to a lesser extent (0.8%) (see Figure 25).

Figure 25
Percent of Students with Weighted GPA of 3.0 or Greater in 2002-03 and 2003-04



	All New Block	All Other
2002-03	45.5%	52.1%
2003-04	48.2%	52.9%

Source: WCPSS 0203-0304 gpa, credits (11-23-04)
WCPSS 0203-0304 Membership

Apex showed the greatest increase (up 5.8%) from 2002-03 to 2003-04, while Garner showed the only decrease (down 1.3%) during the same period.

CREDITS EARNED

A study of attempted credits in graded courses that were earned is of interest:

- Compared to 2002-03 (when 20,184 students attempted 118,720 credits and earned 105,506 (88.9%) of these credits), more credits were earned in 2003-04 (21,773 students attempted 153,358 credits and earned 89.6% of these credits, or 137,365 credits).
- Each of the schools in the 11 schools new to the block schedule showed an increase in credits earned, ranging from an average increase of 0.79 to 1.41 over the preceding year.
- Overall, in the schools new to the block schedule in 2003-04, students earned an average of 6.31 credits compared to students in those same schools in 2002-03 who earned an average of 5.23 credits.
- In the five schools not new to the block schedule, students in 2003-04 earned an average of 6.35 credits, a decrease overall of 0.37 credits compared to the previous year.

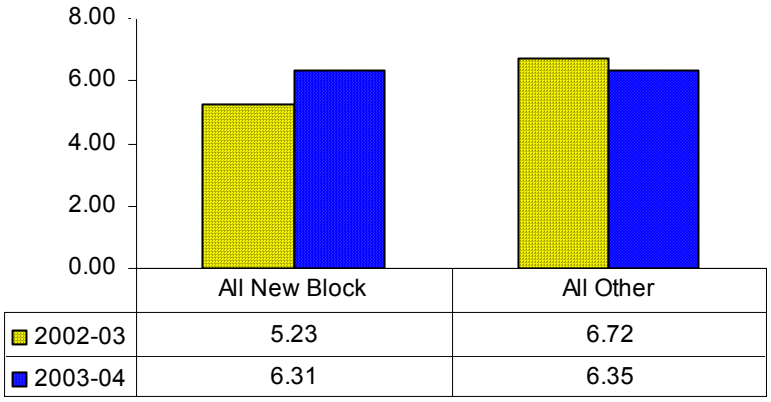
Figures 26a and 26b show the number of and average credits earned.

Figure 26a
Credits Earned in 2002-03 and 2003-04

Number of Credits Earned	2002-03	2003-04	Change
New Block High Schools	105,506 of 118,720 for 20,184 students	137,365 of 153,358 for 21,773 students	+1.08
Other High Schools	57061.5 of 63035.5 for 8,493 students	59657 of 66428.5 for 9,394 students	-0.37

Source: WCPSS 0203-0304 gpa, credits (11-23-04)

Figure 26b
Average Credits Earned in 2002-03 and 2003-04



Source: WCPSS 0203-0304 gpa, credits (11-23-04)

GRADE PROMOTION RATE

Grade retention and promotion rates of the students were studied. The WCPSS *High School Program Planning Guide* informs students that grade level promotions are awarded at the high school level based on units of credits that are earned through the successful completion of specific required courses. Thus, nonpromotion may occur when a single required course for a grade level has not been successfully completed. Alternatives such as summer school and retaking a course during the regular school year are options that assist students in gaining the necessary required credits to move into the next grade level or to graduate.

Data files used for the analysis differed slightly from the 20th day enrollment figures used in most other analyses for this report. The grade promotion analyses were based on student enrollments on October 30, 2002, October 9, 2003 and October 2004. The grade level of a student enrolled in October 2003 was queried against his or her grade level in the previous year for promotion or retention status. Another query was conducted between the October 2003 and October 2004 student grade levels (see Figure 27). The results from this analysis included returning dropouts that are excluded in official state reports (which are not yet available).

Figure 27
October Student Enrollments

Year	New Block	Other
2002-03	18,250	7,736
2003-04	19,336	8,645

Source: WCPSS E&R Dept. October 02 and October 03 Student Locators

Overall, promotions increased in new block schedule schools and retentions decreased. In comparison, promotions decreased and retentions increased slightly in the other high schools:

- Promotions increased for grades 10, 11, and 12 in the group of new block schedule high schools (by 2.3%, 3.7%, and 0.2% respectively) and decreased by 0.6% for grade 9 in this group of schools. Conversely, retentions decreased in grades 10, 11, and 12 and increased in in grade 9.
- In the other group of five high schools, promotions increased for grade 10 by 1%, remained the same for grade 11, and decreased by 1.1% for both grades 9 and 12. Retentions decreased in grades 10 and 11 and increased in grades 9 and 12.

Figure 28 displays the 2002-03 and 2003-04 promotion and retention percentages by grade level while Figure 29 displays overall totals.

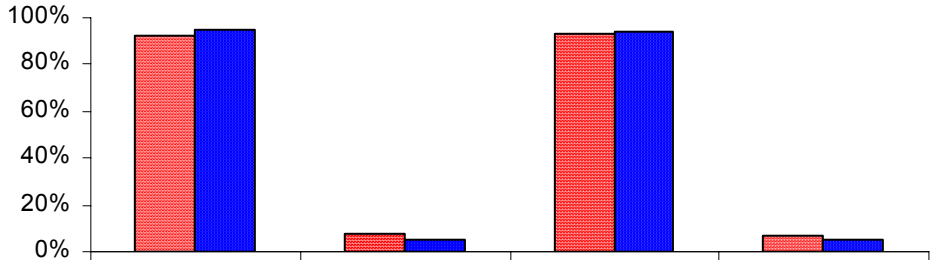
Figure 28
2002-03 and 2003-04 Promotions/Retentions by Grade Level*

	Grade	0203 to 0304 Promotions	0203 to 0304 Retentions	0304 to 0405 Promotions	0304 to 0405 Retentions
New Block	Grade 9	87.45%	12.55%	86.86%	13.14%
	Grade 10	91.42%	8.12%	93.72%	5.93%
	Grade 11	93.64%	6.07%	97.34%	2.53%
	Grade 12	96.93%	2.76%	97.09%	2.63%
	Total	92.1%	7.7%	93.2%	6.6%
Other	Grade 9	90.79%	9.21%	89.65%	10.35%
	Grade 10	94.52%	5.19%	95.49%	4.22%
	Grade 11	97.37%	2.56%	97.42%	2.43%
	Grade 12	98.35%	1.65%	97.24%	2.58%
	Total	94.7%	5.2%	94.4%	5.4%

*Note. Includes returning dropouts excluded in official state reports

Source: WCPSS E&R Dept. October 02, October 03, and October 04 Student Locators

Figure 29
2002-03 and 2003-04 Promotions/Retentions*



	0203 to 0304 Promotions	0203 to 0304 Retentions	0304 to 0405 Promotions	0304 to 0405 Retentions
New Block	92.1%	7.7%	93.2%	6.6%
Other	94.7%	5.2%	94.4%	5.4%

*Note. Includes returning dropouts excluded in official state reports

Source: WCPSS E&R Dept. October 02, October 03, and October 04 Student Locators

GRADE 12 GRADUATION RATES

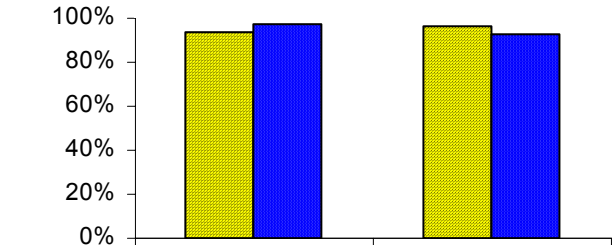
A number of students move into and out of the school system throughout a school year. Graduation rates for this first block schedule report are centered on the 20th day enrollment counts of grade 12 students against the number of grade 12 students who graduate within the year (mid-year, year-end, and summer school). Although students at other grade levels may subsequently meet all requirements and graduate within the year, such students were not included in the analysis for this report in order to present the clearest comparisons.

Graduation rates among 12th graders at schools new to the block schedule improved between 2002-03 and 2003-04, which was not the case in the other high schools:

- In the 11 high schools new to the block schedule, the percentage of 12 graders graduating increased from 93.6% in 2002-03 to 97% in 2003-04.
- In the other high schools, the percentage of 12 graders graduating decreased from 96.2% in 2002-03 to 92.6% in 2003-04.

Figure 30 displays the graduation rates.

Figure 30
Percent of School Membership Graduates



	New Block Graduates	Other Graduates
2002-03	93.6%	96.2%
2003-04	97.0%	92.6%

Source: WCPSS 2002-03 and 2003-04 Graduate Intentions Report
WCPSS High School Curriculum & Instruction Department, June 2004
WCPSS 0203-0304-0405 Membership

Although early graduation has been possible for students in special cases (e.g., evening classes), only two high schools (Fuquay-Varina and Southeast Raleigh) offered early graduation as a regular practice prior to 2003-04. During the 2003-04 school year, 347 students graduated in December from 13 of the high schools. Of these, 286 graduated early from the 11 new block schedule schools and 61 graduated early from the other two high schools (Fuquay-Varina and Southeast Raleigh).

SAT SCORES

The SAT is a national College Board test that is given to students who wish to participate and who are thinking about entering college. SAT test-takers in WCPSS in 2004 numbered 4,655 compared to 4,531 in 2003. A participation rate is determined based on the percentage of graduating seniors who took the SAT I. SAT scores are not a good indicator of block conversion success in 2003-04. They reflect 12th graders' "most recent" scores, which are frequently earned prior to 2003-04 (about 20% without retake) or in the fall semester of 2003-04 (after little exposure to the block schedule). Thus, results provided here should be considered baseline data.

In reviewing preliminary SAT results over time, remembering that the student cohorts differ, fewer students (75%) in schools new to the block schedule in 2003-04 participated in SAT testing compared to the previous year in those schools (79%). Overall, SAT scores decreased slightly over the previous year's scores for students in the new block schedule (down 3 points to 1,050), but still remained above the 2001-02 overall score of 1,045.

Participation increased slightly in the other five high schools (83%, up one percent from the previous year). SAT scores increased for students not new to the block schedule compared to the previous year (up one point to 1,068), but remain below the 2001-02 overall average score of 1,076.

Even so, the percentage of WCPSS student participation in both groups exceeded that of the state of North Carolina and the country. On average, verbal scores increased for both groups, while math scores declined from the previous year. Average scores for both groups exceeded those for the state and the country (see Figure 31).

Figure 31
SAT Scores (Preliminary*)

Test	Data	Year 2002-03	2003-04
Participation	New Block	79%	75%
	Other	82%	83%
	NC	68%	70%
	USA	48%	48%
Verbal	New Block	516	517
	Other	526	530
	NC	495	499
	USA	507	508
Math	New Block	537	533
	Other	541	538
	NC	506	507
	USA	519	518
Total	New Block	1053	1050
	Other	1067	1068
	NC	1001	1006
	USA	1026	1026

*Note. Data reflects previous reports and data released by College Board on 8/31/2004

Source: Preliminary WCPSS SAT Results: 2004
[Online: http://www.wcpss.net/evaluation-research/reports/2004/sat2004prelim_report.pdf]

COLLEGE BOARD ADVANCED PLACEMENT PROGRAM SCORES

New block schedule schools offered more AP courses and more students enrolled, but fewer students took AP exams compared to the previous year. A slightly lower percentage of students earned scores of 3 or higher although 4% more students scored at Level 4 or 5 in 2003-04. Average exam scores remained fairly stable (an increase of .01). Thus, the block schedule drew more students into these more challenging courses, but not into taking the exams.

Block schedule schools had more positive results than the other five high schools in terms of the number of courses offered and enrollment in courses. On the other hand, exam taking (and to a lesser extent exam scores) favored the other five high schools. One issue for consideration is the importance given to participation in the AP exams. One school of thought is that the most important measure of AP success is the number of students who elect the more rigorous courses, not an exam score. The other school of thought is that the exam score per se is more important.

Data from an additional year will help show whether these results represent a pattern or a temporary effect of changing schedules. In schools new to the block schedule, increased numbers of students benefited from increased rigor in the courses, but some may not have felt confident enough of their ability to score high to pay for the tests. The lag between fall

enrollment and spring tests may have been a concern for other students, or teachers' discomfort with pacing the course with the new schedule may have led them to discourage students from taking the tests. Other students may not have taken the exams because they had already been admitted to colleges and therefore AP course credits were less important. These issues may need further study.

Figures 32a – 32e display details of the exam results.

Figure 32a
Advanced Placement Courses, Enrollees, Exam Results

Number of AP Courses	2002-03	2003-04	Change
New Block	176	195	19
Other	89	92	3

Number of AP Course Enrollees	2002-03	2003-04	Change
New Block	4947	5414	467
Other	3884	3917	33

Number of Students taking AP Exams	2002-03	2003-04	Change
New Block	1685	1565	-120
Other	1081	1203	122

Number of AP Exams Taken	2002-03	2003-04	Change
New Block	3068	2851	-217
Other	2400	2683	283

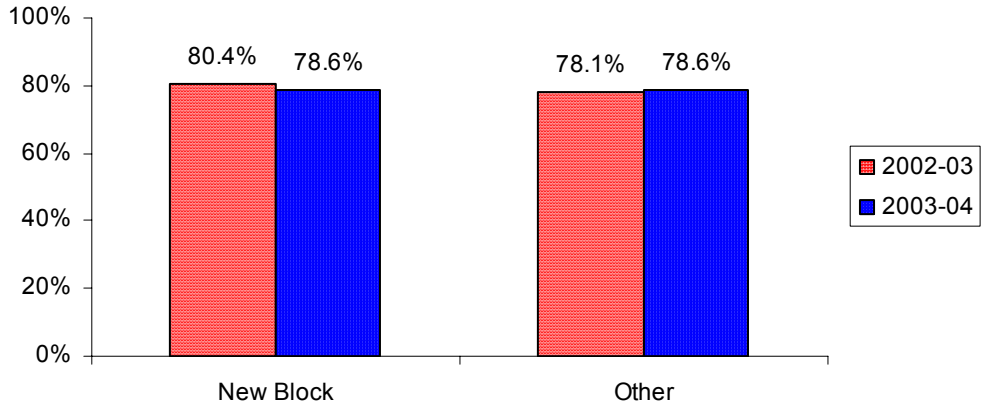
Percent of Exams with Scores of 3 or Higher	2002-03	2003-04	Change
New Block	80.4%	78.6%	-1.8%
Other	78.1%	78.6%	+0.5%

Average Exam Score	2002-03	2003-04	Change
New Block	3.44	3.46	0.01
Other	3.38	3.46	0.07

Note. Differences not exact due to rounding.

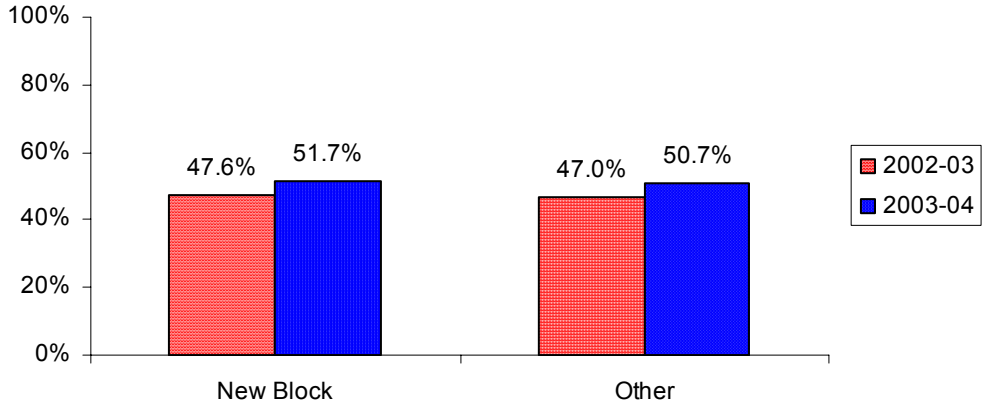
Source: WCPSS Information Systems, 0203-0304 Enrollment (1/30/04)
The College Board Advanced Placement Program (Summer 2004)

Figure 32b
Percent of Students with AP Exam Results at Level 3 or Above



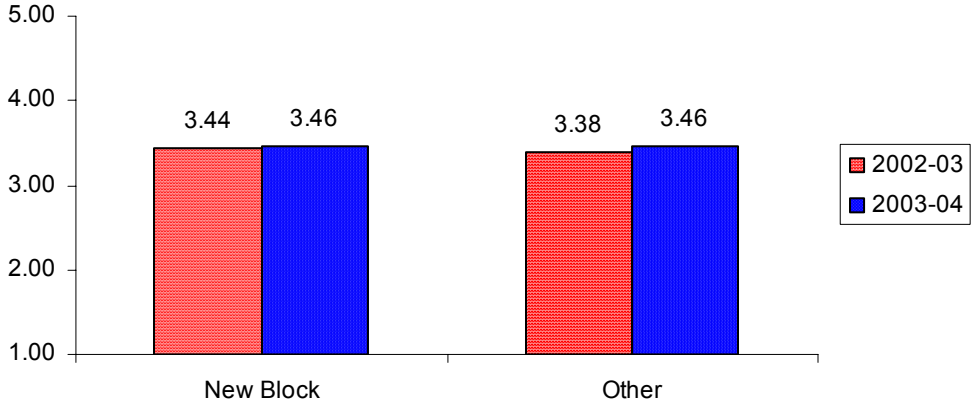
Source: The College Board Advanced Placement Program (Summer 2004)

Figure 32c
Percent of Students with AP Exam Results at Level 4 or 5



Source: The College Board Advanced Placement Program (Summer 2004)

Figure 32d
Mean Score of Students taking AP Exams



Source: The College Board Advanced Placement Program (Summer 2004)

Figure 32e
Percent of Students with AP Exam Results at Level 3 or Above by Subject

	2002-03		2003-04	
	New Block Students	Other Students	New Block Students	Other Students
Art History		72.7% of 11		93.3% of 15
Biology	72.9% of 144	82.3% of 62	83.3% of 78	82.5% of 57
Calculus AB	94.9% of 369	74.6% of 130	76.1% of 46	63.4% of 142
Calculus BC	100% of 39	81.3% of 187	92.3% of 364	84% of 162
Chemistry	81.1% of 122	87.5% of 24	75.6% of 90	90% of 30
Computer Science A	80.0% of 5	*	87% of 23	*
Computer Science AB	78.6% of 14	69% of 42	*	14.3% of 21
Economics: macro	*		60% of 60	*
Economics: Micro	*	*	65.5% of 29	
English Lang. & Composition	80.2% of 459	80% of 335	70.6% of 401	78.3% of 469
English Lit. & Composition	74.1% of 320	75.8% of 190	78.3% of 157	81.6% of 223
Environmental Science	78.5% of 339	80.3% of 351	72.3% of 405	80.6% of 382
European History	86.5% of 155	81.6% of 49	78.9% of 133	83.6% of 67
French Language	69.2% of 13	80% of 30	81.8% of 11	60% of 30
French Literature	*	*		*
German Language	*	*	*	*
Govt.&Politics: Comp.	*	86.7% of 15	*	97.1% of 35
Govt.&Politics: U.S.	90.6% of 106	83.6% of 110	81.8% of 66	85.7% of 98
Human Geography				*
Intl English Lang.				
Latin Lit				*
Latin Vergil	*	*	*	*
Music Theory	*	*	91.7% of 12	85.7% of 21
Physics B	83.2% of 95	74.1% of 58	86.5% of 111	86.8% of 38
Physics C: Elec & Mag	*	72.6% of 62	*	78.4% of 51
Physics C: Mechanics	*	72.4% of 76	*	72.1% of 61
Psychology	93.5% of 31	73.3% of 165	93.7% of 95	79.5% of 220
Spanish Language	82.7% of 52	63.2% of 38	89.3% of 75	94.3% of 35
Spanish Lit	*	85.7% of 14	*	68.8% of 16
Statistics	81.8% of 269	87.2% of 78	84.8% of 257	74.6% of 122
Studio Art: Drawing	*	*	*	*
Studio Art: 2-D Design	*	*	*	*
Studio Art: 3-D Design				
U.S. History	68.6% of 472	77.8% of 257	72.1% of 387	77.3% of 309
World History		77.9% of 77		0% of 48
ALL SUBJECTS	**80.4% of 3,068**	**78.1% of 2,400**	**78.6% of 2,851**	**78.6% of 2,683**

* Note. Percentage not given to protect confidentiality of 10 or less participants.

Source: WCPSS Information Systems, 0203-0304 Enrollment (1/30/04)
The College Board Advanced Placement Program (Summer 2004)

DROPOUT RATES

A slight increase in the percentage of students enrolled who dropped out occurred in the high schools new to the block schedule compared to the previous year as well as in the other five high schools. Based on the 20th day enrollment in each of the two groups of schools, the dropout increase was less than 1% (0.85% for new block schedule schools and 0.24% for the other five high schools). The 2002-03 school year (the year before block scheduling was implemented) was also the first for NCWISE implementation and data entry issues may have resulted in artificially low rates. The long-term data suggests a steady, slow decline from 1998-99 (4.7%) to 2003-04 (3.4%), and 2002-03 appears to be an anomaly. Figure 33a displays the total high school dropout rates over the past six years, while Figure 33b displays dropout numbers and percentages based on 20th day enrollment numbers for each of the two types of school groups.

Figure 33a
1998-99 through 2003-04 High School Student Dropouts

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
9-12 Dropout Rates	4.7%	4.1%	3.7%	3.5%	2.8%	3.4%
Number of Students	1,205	1,098	1,024	1,020	846	1,130

Source: WCPSS E&R Dept. 2003-04 Dropout Report (in process)

Figure 33b
9th – 12th Grade Student Dropouts in 2002-03 and 2003-04 by School Group

	2002-03	2003-04	Change
New Block	568 of 19,946 (2.85% of 20th Day Enrollment)	780 of 21,066 (3.70% of 20th Day Enrollment)	212 (0.85% increase)
Other	207 of 8,488 (1.04% of 20th Day Enrollment)	270 of 9,341 (1.28% of 20th Day Enrollment)	63 (0.24% increase)

Source: WCPSS E&R Dept. 2003-04 Dropout Report (in process)
WCPSS 0203-0304 Membership

STUDENT BEHAVIOR SUCCESS

DESIRED OUTCOMES

- Student attendance rates would increase.
- Out-of-school suspensions would decrease.

AVERAGE DAILY ATTENDANCE RATES

WCPSS ranks high compared to other school systems in North Carolina for overall K-12 attendance. Student attendance rates over three years were reviewed at the eleven new block schedule schools and compared to the other five high schools and no change was evident in either case for the past two years. Both groups maintained a high 96% attendance rate from one year to the next (see Figure 34).

Figure 34

Average Daily Attendance Rates

Attendance Rates	2002-03	2003-04
New Block High Schools	96%	96%
Other High Schools	96%	96%

Source: ADA:ADM DATA Spreadsheet (Excel), NCDPI website (http://www.ncpublicschools.org/fbs/ada-adm.html)

OUT-OF-SCHOOL SUSPENSIONS

The percentage of students suspended from school (either long-term, short-term, or both) did not change between 2002-03 and 2003-04 in schools new to the block schedule (13.8%), which was also true in the other five high schools (14.7%). Within the population of students suspended one or more times, the average number of suspensions per student increased from 1.94 to 2.24 in the new block schedule schools and from 2.04 to 2.25 in the other five high schools. Figure 35 shows the percent of students receiving suspensions per year based on the 20th day enrollment numbers for 2002-03 and 2003-04 and the average number of suspensions per student for each of the two years.

Figure 35
Student Suspensions over Two Years

Year	Number of Students Suspended in New Block Schools	Number of Suspensions in New Block Schools	Number of Students Suspended in Other 5 High Schools	Number of Suspensions in Other 5 High Schools
2002-03 based on 20th day enrollment	2,747 of 19,946 (13.8%)	5,341 (avg. of 1.94 per suspended student)	1,245 of 8,488 (14.7%)	2,794 (avg. of 2.24 per suspended student)
2003-04 based on 20th day enrollment	2,917 of 21,066 (13.8%)	5,941 (avg. of 2.04 per suspended student)	1,377 of 9,341 (14.7%)	3,101 (avg. of 2.25 per suspended student)

Source: WCPSS Official 2002-03 and 2003-04 Annual Reports of Suspensions (using 20th day enrollment)
WCPSS 0203-0304 Membership

Five of the 11 schools new to the block schedule showed a decrease in the percentage of students suspended (0.2% to 8.8%) and five of these schools showed a slight decrease in the average number of suspensions per students suspended (0.04 to 0.21 times). Of the other five high schools, two showed a decrease in the number of students suspended (2% to 3.5%) and three of these five schools showed a slight decrease in the average number of suspensions per students suspended (0.11 to 0.21 times).

GENERAL SATISFACTION

DESIRED OUTCOMES

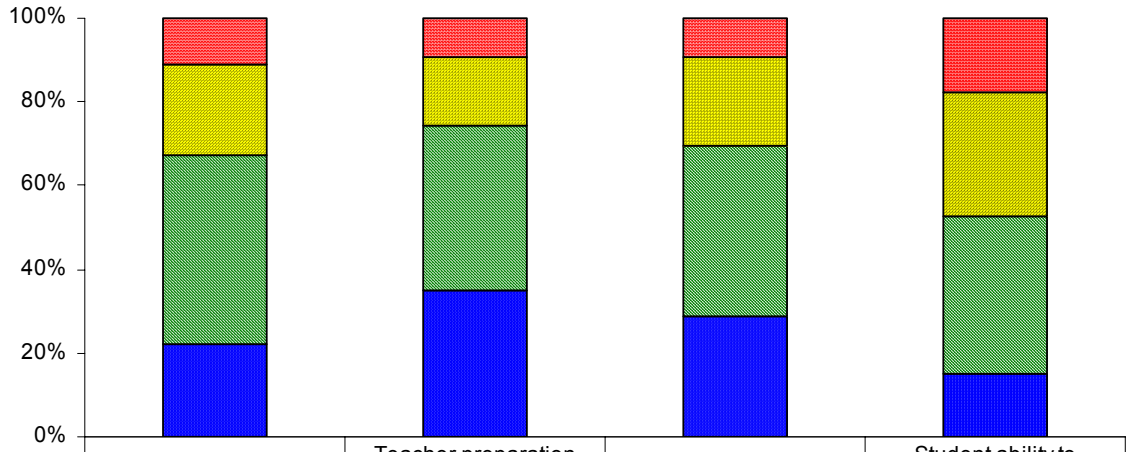
- Views on change to block schedule would be positive.
- Overall satisfaction with the block schedule format would be positive.
- Perceptions of block schedule benefits would be high.
- Perceptions of block schedule issues and challenges would be low.
- Recommendations and suggestions for improving the implementation would be constructive.

A variety of sources including discussions, interviews, and surveys provided information on a sense of the 4x4 block schedule satisfaction levels among the various stakeholders. Views toward the change and overall satisfaction levels are presented next, followed by reported block schedule benefits, issues and challenges still to be addressed, and recommendations.

FACTORS INFLUENCING VIEWS ON THE CHANGE TO THE BLOCK SCHEDULE

Teachers and students were queried about their views on the change to the block schedule format. Online surveys were provided via the WCPSS Intranet. The change to block scheduling was viewed by the majority of responding teachers as positive regarding teacher preparation time (74%), instructional time (69%), student scheduling (67%), and student ability to assimilate material (53%) (see Figure 36).

Figure 36
Teacher Views about Change to Block Schedule regarding…
(297 responses)



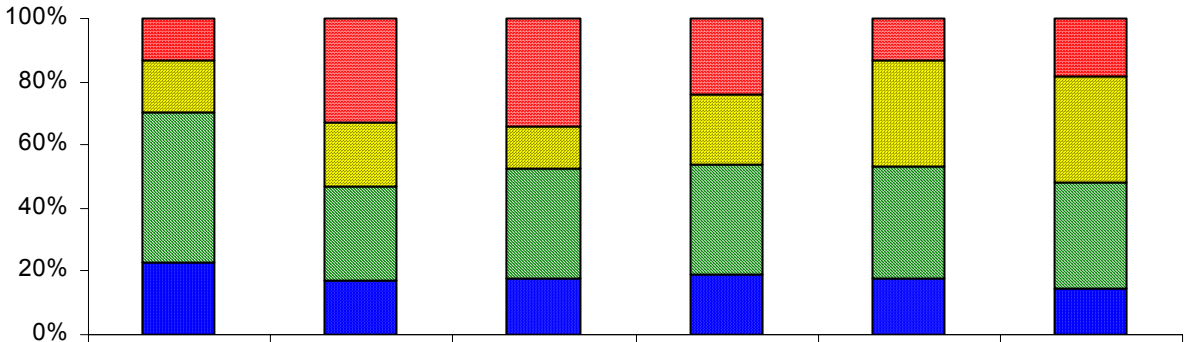
	Student scheduling	Teacher preparation time	Instructional time	Student ability to assimilate material
Very Negative	11.1%	9.1%	9.1%	17.8%
Fairly Negative	21.5%	16.5%	21.5%	29.6%
Fairly Positive	45.1%	39.4%	40.7%	37.4%
Very Positive	22.2%	35.0%	28.6%	15.2%

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Online surveys were provided via the WCPSS Intranet to one classroom of students in each of eight new block schedule schools with 335 students responding. About 70% of the respondents agreed the change for themselves was positive overall. While 67% felt that most parents' view of the change was positive overall, 54% felt that students other than themselves viewed the change as positive overall. One-third of the respondents agreed that there were fewer classroom discipline issues than in the previous year.

Students were queried about their views of the change to block scheduling regarding several specific factors. A large majority (70%) responded that they felt positive about their course schedules. A little over half (52% to 54%) expressed the same opinion about class time, learning and comprehension of material, and teacher-student relationships. A little under half (47% to 48%) felt positive about the amount of homework they were assigned and the receiving of individualized instruction (see Figure 37).

Figure 37
Student Views Toward Change to Block Schedule Regarding…
(325 responses)



	10a- course schedule	10b- amount of homework	10c- class time	10d- learning / comprehension of material	10e- teacher / student relationships	10f- individualized instruction
Fairly Negative	13.0%	32.6%	34.4%	23.9%	13.3%	18.4%
No Effect	16.9%	20.5%	13.3%	22.1%	33.2%	33.5%
Fairly Positive	47.4%	29.9%	34.4%	35.3%	36.0%	33.2%
Very Positive	22.7%	16.9%	17.8%	18.7%	17.5%	14.8%

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

OVERALL SATISFACTION

Staff

The majority of respondents (65%) said they felt the change to block scheduling had been positive for them overall, and about 60% felt that both parents and students held positive views toward the change as well. Respondents were equally divided, however, regarding other teachers holding positive views toward the change. Academic opportunities, agreed 77% of the respondents, increased with block scheduling. To help in the transition to block scheduling, 66% of the teachers said communication had been adequate, and over half felt that teaching only three classes per day had facilitated greater personalization in their classrooms. Even so, teachers felt

discipline in their classrooms and in their school had not improved (64% and 66% respectively). Figure 38 shows details on block scheduling overall satisfaction levels.

Figure 38
Teacher Overall Satisfaction
(297 responses)

Survey Question	Strongly Agree	Agree	Disagree	Strongly Disagree
In my view, the change to block scheduling has been positive overall.	20.9%	43.8%	23.9%	11.4%
Most parents have positive views toward the change to block scheduling.	5.7%	51.9%	32.7%	9.8%
Most students have positive views toward the change to block scheduling.	9.8%	51.5%	30.3%	8.4%
Most teachers have positive views toward the change to block scheduling.	6.7%	44.1%	36.4%	12.8%
The 4x4 block schedule provides more academic opportunities for students at our school.	26.6%	50.8%	13.8%	8.8%
Communication has been adequate for helping teachers and students make the transition to block scheduling.	11.8%	53.9%	26.3%	8.1%
Teaching only three classes per day has facilitated personalization in my classroom.	18.5%	36.4%	33.0%	12.1%
The block schedule has improved discipline in my classes.	6.1%	29.6%	49.8%	14.5%
The block schedule has improved discipline in our school overall.	4.7%	29.3%	46.1%	19.9%

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

The results of district-wide staff surveys in the spring of 2003 and 2004 provided a measure of general satisfaction with school climate before and after the change to the block schedule, with changes at schools with no schedule change included for context. Classroom teachers comprised the majority of respondents, with counselors, specialists, teacher assistants, office, and other staff positions comprising the rest. Overall response rates for spring 2004 were 79% (1,322 staff) from the new block schedule schools and 84% (574 staff) from the other five high schools.

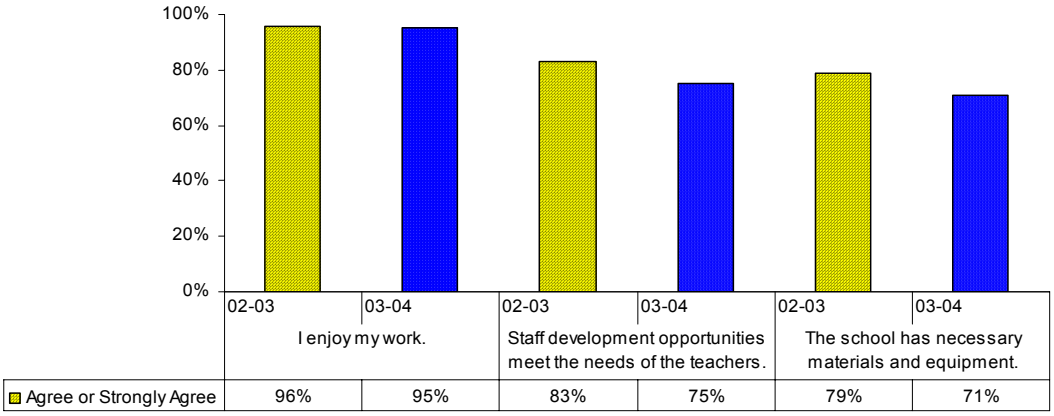
In schools new to the block schedule in 2003-04, compared to 2002-03, the percentage of staff that agreed or strongly agreed with each statement decreased somewhat for all items referenced. Research which addresses implementation of major changes indicates successful implementation of a change takes time, which may be one factor influencing these results (Hawkins, 1993; Imel, 2000; Irmsher, 1990; Siegel, 1995; Talley & Grimaldi, 1995; and Thormann & Others, 1991). Two items that decreased by 7% related to whether staff development and materials and equipment were adequate for their needs. While nearly all had some training, this may reflect staff's perception of an increased need for training with the schedule change (only 9% said they had no training, and these teachers were likely new hires or absent on training days):

- Nearly all staff agreed they enjoyed their work, with a slight decrease from 96% to 95% of respondents.

- Most staff agreed staff development opportunities met teachers' needs, decreasing 7%, from 83% to 76% of respondents.
- Close to 80% of staff agreed materials and equipment were adequate, down from 79% to 71%.
- Most staff (decreasing from 79% to 75%) indicated "a climate of order and discipline is maintained" in their schools.
- Nearly 90% of staff also agreed that their school climate promoted student learning, decreasing slightly from 89% to 87% of respondents.
- Instructional time spent on discipline decreased from 46% to 35%, an 11% improvement.
- The question of the instructional schedule's impact on promoting academic success was met with a 77% favorable response in the 2004 survey.

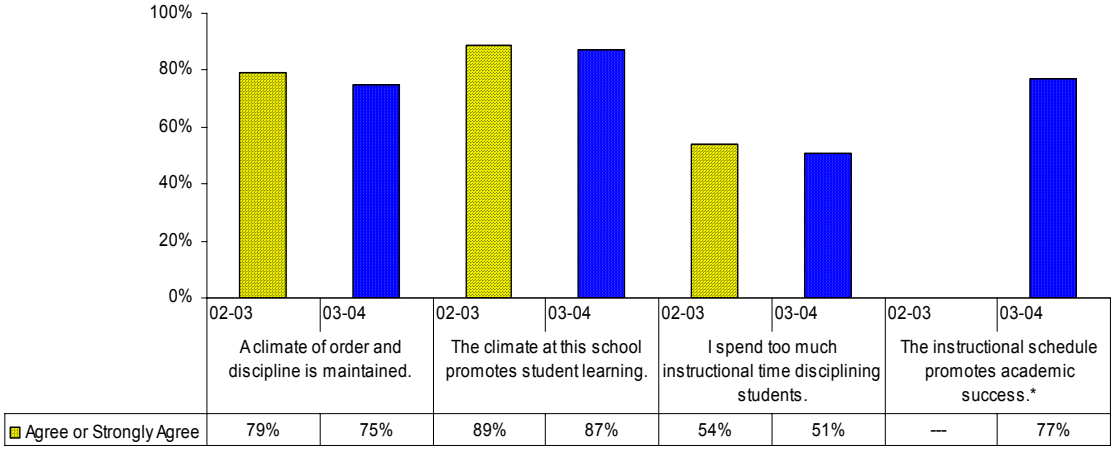
Figures 39a and 39b display the satisfaction levels of staff in the schools new to the block in 2003-04 with their schools compared to the previous year.

Figure 39a
New Block Schedule Staff Satisfaction with Work



Source: WCPSS Spring 2003 and Spring 2004 District-wide School Staff Surveys

Figure 39b
New Block Schedule Staff Perception of School Climate



*Note. This question was not included in the Spring 2003 staff survey.

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Staff Surveys

Figure 40 shows two-year survey results from both staff groups (those in the 11 new block schedule schools and those in the other five high schools). As in the past year's responses, most staff members responded positively regarding satisfaction with their schools, although to a lesser degree. Again, of note was the 11% decrease in new block schedule staff concerning instructional time disciplining students.

Figure 40
New Block Schedule and Other High School Staff Satisfaction with Schools

Survey Question	New Block			Other		
	2002-03	2003-04	Change	2002-03	2003-04	Change
I enjoy my work.	96%	95%	-1%	97%	97%	-1%
Staff development opportunities meet the needs of the teachers.	83%	76%	-7%	79%	75%	-4%
The school has necessary materials and equipment.	79%	71%	-7%	72%	66%	-5%
A climate of order and discipline is maintained.	79%	75%	-5%	79%	75%	-5%
The climate at this school promotes student learning.	89%	87%	-2%	93%	92%	-1%
I spend too much instructional time disciplining students.	46%	35%	-11%	38%	36%	-2%
The instructional schedule promotes academic success.*	---	77%	N/A	---	97%	N/A

*Note. This question was not included in the Spring 2003 staff survey.

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Staff Surveys

Students

As mentioned earlier, about 70% of student respondents to the online block schedule survey agreed that their own view of the change to the block schedule was positive overall. Comparisons of student views on the WCPSS District-wide Student Survey administered in the spring of 2003 and 2004 show that students' views about their school and the instruction provided changed very little with the block schedule. Most students liked their school, felt it provided many ways to learn, and considered instruction to be excellent or good in all major subjects. One exception worthy of note is that the percentage of students in schools new to the block schedule who thought classwork often "made them think" increased from 40% in 2002-03 to 47% in 2003-04.

Changes in attitudes of students in schools that did not have a schedule change were less positive on the same items between spring of 2003 and 2004. The one item with a positive trend, "The work I do in class makes me think," showed a smaller increase (3%) than the improvement seen in block schedule schools (7%). *Thus, patterns in student responses were more positive in the schools new to the block schedule* (see Figure 41).

Figure 41
Student Satisfaction with School Instruction in 2003-04

Student Responses						
Survey Questions	**New Block**			**Other**		
	03	**04**	**Change**	**03**	**04**	**Change**
I like my school.	61%	61%	0%	70%	67%	-3%
School provides many ways to help students learn.	78%	78%	0%	88%	84%	-4%
School sets high standards.	43%	41%	-2%	62%	58%	-4%
The work I do in class makes me think.	40%	47%	7%	48%	51%	3%
Rate school in reading	75%	73%	-2%	80%	78%	-2%
Rate school in writing	72%	73%	1%	77%	77%	0%
Rate school in math	73%	72%	-1%	76%	72%	-4%
Rate school in social studies	72%	73%	1%	80%	76%	-4%
Rate school in science	73%	74%	1%	78%	76%	-2%

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Student Surveys

When given the opportunity to grade their school, 54% of the 3,248 students responding in 2002-03 and 13,402 students in 2003-04 from the 11 new block schedule schools gave their schools a grade of A or B, while the other high schools dropped from 66% (of 1,313 students) in 2002-03 to 65% (of 5,387 students) in 2003-04 (see Figure 42).

Figure 42
Student: What Grade Would You Give Your School?

A, B, C, D, Fail	New Block		Other	
	Spring 2003	Spring 2004	Spring 2003	Spring 2004
A	11.36%	12.45%	19.95%	19.81%
B	42.80%	41.91%	46.46%	45.15%
A or B	**54.16%**	**54.36%**	**66.41%**	**64.96%**
C	32.17%	32.80%	23.76%	25.19%
D	9.42%	8.49%	6.17%	6.29%
Fail	4.25%	4.35%	3.66%	3.56%

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Student Surveys

Parents

The WCPSS District-wide Parent Survey was administered in the spring of 2003 and 2004 to a random sample of parents across WCPSS high schools. Overall, 1,376 parents in schools new to the block schedule in 2003-04 responded (26% of those surveyed), and 968 of 1,024 parents (42%) responded from the other five high schools who did not change to the block schedule in 2003-04. The percentage of parents in schools new to the block schedule who gave their schools an overall high grade of A or B increased from 74% to 77% between spring of 2003 and 2004.

The percentage of parents in schools that did not change schedules who gave a high mark of A or B to their schools overall also increased, from 76% to 82% (see Figure 43).

Figure 43
Parent: What Grade Would You Give Your Child's School?

A, B, C, D, Fail	New Block		Other	
	Spring 2003	Spring 2004	Spring 2003	Spring 2004
A	22.02%	23.98%	29.59%	30.79%
B	51.53%	52.57%	46.55%	51.14%
A or B	**73.55%**	**76.55%**	**76.14%**	**81.93%**
C	20.98%	18.68%	19.13%	15.39%
D	3.57%	2.95%	3.55%	1.86%
Fail	1.90%	1.82%	1.18%	0.83%

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Parent Surveys

Even though parents from both groups were about equal in agreeing or strongly agreeing that students were well-behaved overall in their child's school, about 10% more from each group expressed positive feelings regarding their school's supporting student achievement and 83% from both groups agreed or strongly agreed that teachers in their schools cared about their students. Other results included:

- The percentage of parents reporting their child's school is a safe place to learn decreased slightly (from 92% to 91%) in schools new to the block schedule. The percentage (93%) remained the same from 2002-03 to 2003-04 for the other five high schools.
- The percentage of parents reporting their child's school offered a high quality educational program increased from 86% to 89% of new block schedule parents, with an increase from 91% to 93% among parents of students in schools with no schedule change.
- No change was evident in the percentage of parents who saw their child's work as challenging in all classes in new block schedule schools (78%), with a 1% decline in schools without a schedule change. In both sets of schools, the percentage agreement was about 10% lower than for the item on whether the school provided a high quality educational program.
- About 79% to 84% of new block schedule parents rated the teaching of core skills as good to excellent, with the lowest in writing and the highest in science. Conversely, about 82% to 89% of other high school parents rated the teaching of core skills as good to excellent, with the lowest and highest again in writing and science respectively.

Figures 44a-44c display the 2003 and 2004 results in the above parent survey responses for the new block schedule and other high schools.

Figure 44a
Parent Responses on School Climate
(Percent Agree or Strongly Agree*)

	New Block		Other	
Item	Spring 2003	Spring 2004	Spring 2003	Spring 2004
My child's school is a safe place to learn	92%	91%	93%	93%
My child's school provides a high quality educational program	86%	89%	91%	93%
My child is given challenging work in all classes	78%	78%	83%	82%
Students are well behaved overall	74%	72%	74%	74%
Teachers care about the students	79%	83%	84%	83%
Parents can count on school for support	74%	79%	75%	77%

*Note. Scale of Strongly Agree, Agree, Disagree, Strongly Disagree (no neutral point)

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Parent Surveys

Figure 44b
Parent Rating of General School Topics
(Percent Excellent or Good*)

	New Block		Other	
	Spring 2003	Spring 2004	Spring 2003	Spring 2004
School safety	84%	80%	81%	82%
Supporting student achievement	79%	82%	82%	85%
Encouraging parent involvement	67%	71%	71%	73%
Providing information to parents	69%	70%	68%	76%

*Note. Scale of Excellent, Good, Fair, and Poor

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Parent Surveys

Figure 44c
Parent Rating of School in Helping Child Acquire Skills or Knowledge in Subject Areas
(Percent Excellent or Good)

	New Block		Other	
	Spring 2003	Spring 2004	Spring 2003	Spring 2004
Reading	88%	83%	87%	88%
Writing	83%	79%	82%	82%
Math	83%	81%	84%	86%
Social Studies	83%	83%	85%	86%
Science	84%	84%	88%	89%

Note. Scale of Excellent, Good, Fair, and Poor

Source: WCPSS Spring 2003 and Spring 2004 District-wide School Parent Surveys

BENEFITS OF THE BLOCK SCHEDULE

Administrators, teachers, students, and parents responded with their perceptions of the new format's benefits, issues and challenges, and recommendations for improvement.

Administrators

In interviews with assistant principals of instruction and deans of students in the new block schedule high schools, benefits that emerged related to increased course selections, increased flexibility for teachers, and improved opportunities for student success.

Examples of the benefits of increased course selections included:

- more course options for students (both academic and elective courses)
- more course opportunities in a year
- more credits available for students to earn
- better schedules with pairing of two academic courses with two electives (allowed students to better focus on core courses, which could increase the number of honor roll students)

Increased flexibility for teachers included such things as:

- longer 90-minute classes gave time to delve into material more deeply; time for more cooperative learning and cross-curriculum instruction
- more classroom activities
- 18 weeks per course with rosters changing each semester (attractive to teachers and students alike at several schools)

Improved opportunities for student success included:

- achievement of higher levels of study in a shorter amount of time
- better career planning options
- more early graduation and mid-year promotions (ability for students to move on to college or a job in the spring)
- possibility of switching graduation tracks and still graduating on time
- more restart opportunities (ability to get back on track for on-time graduation)
- more forgiving of course failures (opportunity for restart may have reduced dropout rates)
- less homework with fewer classes

Source: EDSTAR, Inc., WSLC Block Scheduling Interviews, Spring 2004

Staff

Surveyed teachers provided a number of block schedule benefits through 284 comments. Teachers also cited increased teacher flexibility and course selections, with the addition of a more positive campus climate as a third theme:

- Comments on increased teaching flexibility were most common (about 40%). Examples included more planning time, fewer class preparations, more class time for students to complete work, and more labs, projects, and group work opportunities.
- About 30% of the respondents pertained to observing an increased positive campus environment (e.g., sense of community, teacher-student interaction, orderliness, student time on task, student performance/focus, higher attendance rate, fewer classes for students, fewer students to teach per semester, and the idea of a fresh start each semester).
- About 20% of the teachers cited an increase in available course selections. The teachers explained that more opportunities were presented for students to take more courses, allowing them to graduate early or to retake a previously failed course to catch up and graduate on time.
- A small percentage of respondents (7%) noted observing little to no benefits to the block schedule from the perspectives of academics, decreased content coverage, scheduling issues, and student responsibility.

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Students

Surveyed students (283) outlined 324 specific benefits observed with the block schedule format. Students cited greater course opportunities, as did the other two groups, and touched on a more positive campus environment (also mentioned by teachers). Students focused more specifically on benefits pertaining to learning and homework than the other groups:

- Students (40%) remarked that the block schedule format gave them greater course opportunities, more credits earned, on-time or early graduation possibilities, semester-long versus yearlong courses as advantages. Examples of comments include (a) “It lets you catch up, you might have failed some classes in the past and block scheduling helps you get back to where you need to be.” (b) “More classes in a shorter amount of time.” And (c) “Have fewer

classes to worry about so you can just give it your all on 4 classes. I like it better. And you can take more classes in a year."

- Another set of remarks (over 30%) mentioned an increased positive campus environment, better performance/focus due to fewer classes, and more class time for learning. Comments included (a) "Learning more and understanding it more," (b) "…in each class you have an hour and a half to be taught and not try to cram everything into 55 minutes," and (c) "less classes, more class time, easier to really grasp the concepts that were being taught due to the extra class time."
- About 10% of the students talked about the more manageable homework assignments due to fewer classes (e.g., "less homework and more time to help you understand the materials".
- Some students (14%) felt there were little to no benefits to the new format. Listed concerns included decreased content coverage, class pace, lower grades, scheduling issues, and student responsibility issues. Concerns included comments such as (a) "…having to sit in class way too long," and (b) "…decreased learning, sleep, and extracurricular activity along with mental, emotional and physical suffering".

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

ISSUES AND CHALLENGES

Interviewed assistant principals of instruction and deans of students reported several issues and challenges encountered with the new block schedule. Teachers remarked mainly on issues relating to the new pacing guides and staff development addressed earlier. Most comments by students pertained to frustration with the length of the classes or with the block schedule format itself. Common themes included:

- much faster pace which challenged both teachers and students:
  - teachers: retooling to teach longer classes (with mixed success); adjusted pace of teaching; skimming of material due to time constraints; feeling of stress as though new job; difficult-to-use pacing guides; too much paperwork
  - students: rushed to master subject matter (especially in AP classes)
- longer 90-minute class periods:
  - teachers: more time needed for planning; greater need for implementation of varied instructional strategies
  - students: short attention spans challenged; need for breaks in instruction or greater variety in instructional strategies
- shorter lunch periods
- too many changes at once (e.g., new block schedule, new NCWISE scheduling process)
- planning for teaching resources for classes
- lack of adequate instructional support for struggling students (in special, regular, and more rigorous courses)
- difficulties in teacher-student interrelationship development due to shorter time period together in 18-week courses.
- offering enough electives that students were willing to take
- occasional accommodation of transferring students (e.g., students at different places in the curriculum, non-matching credits, full classes) from other schools not on a block schedule
- staffing (e.g., shifting teaching resources to accommodate restart classes)
- finals twice a year instead of once.

In addition, logistical issues for administrative staff reflected difficulties in determining how to use the new NCWISE scheduling software in order to accommodate new needs presented by the block schedule.

- schedule changes (e.g., more time-consuming drop/adds due to change to NCWISE database) and scheduling conflicts between semester courses and year-long electives
- problems with paired classes that conflicted with other classes
- running several types of scheduling (e.g., 4x4 block, year-long, and A/B) concurrently

Source: EDSTAR, Inc., WSLC Block Scheduling Interviews, Spring 2004
WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004
WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

SUGGESTIONS FOR IMPROVEMENT

The interviewed APIs and Deans of Students and the surveyed teachers and students suggested several recommendations for improvement. The majority of all recommendations are under the control of the individual schools.

Administrators

Administrators suggested improvements in the scheduling process, handling transfer students, enrolling students in higher-level courses, and improved training and scheduling for teachers:

- scheduling process
  - further individualize student scheduling process
  - set up homerooms to improve counselor access to students
  - increase development of complete 4-year scheduling plans
  - add a 7th digit number to courses to subcategorize
  - adjust schedules for the demands of the course, making some courses year long
  - allocate staff to register and educate incoming students to the block schedule
- student enrollment in higher level courses
  - further implementation of *AP Task Force* recommendations (e.g., more careful utilization of PSAT scores)
  - view predictability between EOG scores and high school achievement
  - further encourage high-scoring students to enroll in higher level courses
  - encourage students to make high grades during each grade as colleges look at grades earned in 9th, 10th, and 11th grades as well as 12th grade
  - develop a way to help students struggling with rigorous course work
- instructional staff
  - staff development should be ongoing
  - alleviate teaching-resource problems with flexible staff scheduling (e.g., months of employment)
- multiple systemic changes handled more smoothly

- transfer students
  - create a formula to recalculate credits for students new to WCPSS from other schools (Note: The great majority of North Carolina schools are currently utilizing some type of block schedule. Before the block, these issues were more acute.)
  - factor in extra seats in core courses to accommodate transferring students
  - lower class caps at first, creating another section if needed
  - drop a course in which a transferring 6-period to 4-period student was failing
  - place transferring students in a NovaNet lab to complete extra courses
  - place transferring students into an independent study to complete course requirements

Source: EDSTAR, Inc., WSLC Block Scheduling Interviews, Spring 2004

Teachers

Teachers were asked for suggestions to improve the block schedule within the high schools. Of the 235 suggestions made by 190 of the 301 respondents:

- About one fourth focused on providing more guidance and monitoring of student course selections and sequencing, the need for more electives, and a closer look at the pros and cons of year-long courses (especially for AP courses).
- About 20% of the suggestions centered on the rushed feeling of the block schedule regarding teaching and learning new concepts. A desire for a more realistic pacing of curriculum content and its coverage was expressed.
- Third, 20% mentioned that attention was needed in such areas as student attendance, time between periods, the length of the lunch period, school day, and school year, and the use of resource materials (e.g., timeliness, doubled cost).
- Just less than 10% suggested the need for more staff development, idea sharing, communication, feedback, and planning and preparation time.
- Close to 19% of the respondents expressed a desire to move away from the block schedule format (24 teachers with strong time and pacing concerns, 15 wanting to return to a traditional schedule, five wanting to move to an A/B or other modified block schedule), and the need to (a) build a stronger feeling of community, (b) reduce class period length, (c) reduce class size and teacher workload, and (d) increase the number of teachers.

Source: WCPSS Intranet Online Block Schedule Teacher Survey, Spring 2004

Students

When asked for suggestions for improving the block schedule format, 265 of 335 student respondents made 317 suggestions:

- About one fourth of the suggestions pertained to frustration either with the length of the classes (28 of these students) or with the block schedule format itself (51 of these students). Comments along these lines included, “you have the same amount of work in half the time/ work overload” and “get rid of it.”
- Slightly less than 20% of the suggestions referred to the pacing of the coursework as too fast to cover the content and to homework as too extensive. Comments along these lines included, “There is not enough time for me to grasp or have the information soak in because every week we were learning something new. Just the overall pace of everything goes way

too fast." and "It seems to go at such a quick pace and the quickness of the course can determine your success in that course."
- Around 15% of the students felt there were instructional issues (e.g., not enough variety in strategies used, behavior management problems, and weak student-teacher relationships). Comments along these lines included, "Lectures are often used for the entire hour and a half period, and it is ineffective to teach in this manner for such long periods of time daily"
- Another 15% stated the lunch periods and class change times were too short.

Source: WCPSS Intranet Online Block Schedule Student Survey, EDSTAR, Spring 2004

NCWISE Concerns

Interviewed administrators noted that problems encountered with the NCWISE software database may have been incorrectly blamed on the block schedule. In addition to the new block schedule, this was the school system's first experience with the NCWISE scheduling component and numerous problems were experienced. Many of these issues have now been resolved.

Issues

- difficulties getting the system to register and retain student schedules
- frequent loss of data painstakingly entered, requiring many extra hours attempting to reenter or correct data
- confusion within NCWISE in sequencing courses; holes in student schedules; over-enrollment in courses.
- "lock in" on June 30th (system shut down and unavailable to help resolve scheduling conflicts)
- lack of timely and knowledgeable technical support resulting in school staff members resorting to scheduling hundreds of students by hand
- numerous time-consuming problems with data entry
- incorrect NCWISE reading of data
- frequent time-outs
- inability to keep a cap on a class
- incorrect course and prerequisite sequencing
- less time for counselors to advise students due to many NCWISE registration problems

Recommendations

- work bugs out of the system (e.g., with data, course sequencing)
- increased and better technical support
- interface NCWISE and SID (the online registration program)

Source: EDSTAR, Inc., WSLC Block Scheduling Interviews, Spring 2004

FUTURE STEPS

Any large change takes time to implement successfully. Staff and students alike need to grow accustomed to the differences in the schedule, and modifications and enhancements are likely to be made in the second year of implementation. Some areas that were mentioned fairly often for potential change are listed below.

Modified Block Schedule Options

- explore options for some courses
  - Advanced Placement courses (e.g., 45 minute year-long, A/B block)
  - music courses (e.g., Band as 45 minute year-long, A/B block))
  - math courses (sequencing)
  - foreign language (sequencing)
- explore options for school day breaks
  - daily start time
  - break time between classes
  - longer lunch period

Professional Development

- provide collaborative visits and discussions with other schools on block schedule
- continue training regarding effective use of class time
- increase use of variety of instructional methods/strategies
- guarantee planning/monitoring/refining time for
  - curriculum alignment and pacing
  - instructional methods/strategies used
  - departmental-specific issues

Academic Considerations

- examine possible causes for decreased health and physical education course enrollment
- encourage more students to take AP courses for the rigor provided
- encourage more students enrolled in AP courses to take AP exams
- review grades and credits earned by restart students
- investigate causes for increased number of 9th grade retentions

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Block Scheduling

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