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To Block or Not to Block: The Effects of Block Scheduling on African American Students

DESCRIPTIVE CONTEXT

To block or not to block in scheduling has bewildered school districts since the early 1990's. Research is inconclusive in the effects of block scheduling on student achievement. Furthermore, limited research has been conducted on the effects block scheduling may have on other important factors concerning African American students.

Block scheduling remains a viable option for schools. During the 2009-2010 school year, my current school district pondered whether to implement a block schedule for the forth-coming school year. The issue of operational expenses impeded implementation of block schedule. This year, the issue has resurfaced. The purpose of the policy brief is to present research about how block scheduling affects dropout rate, discipline, and attendance of African American students. This is important because my school district has a majority African American student population. These issues will be the focus of this policy brief because of their indirect impact on African American student achievement.

What is block scheduling?

Block scheduling is a type of academic school schedule where each student has four to five 65-100 minute classes per day. Cawelti (1994) defined block scheduling as occurring when part of the daily school schedule is organized into larger blocks of time (more than 60 minutes) to allow flexibility for a diversity of instructional activities.

Types of Block Scheduling

4 x 4 Block Schedule: Four classes, approximately 90 minutes in length, every day for the first semester. Four completely different classes, again 90 minutes in length, every day for the second semester. Each class equals one credit. The 4 x 4 block schedule is also known as the Copernican plan that is the most common type of block scheduling (Canady & Rettig, 1995).

A/B Block Schedule: (also known as the *alternate plan*) Four classes, approximately 90 minutes in length, meeting every other day ("A" and "B" days) for an entire school year. Each class equals one credit.

Combination Block Schedule: A combination of 4 x 4 and A/B block schedules.

Flexible Schedule: A combination of 4 x 4 and A/B block schedules, but class length varies from day to day. One example: On three out of every five days throughout the school year, each class could be 90 minutes in length. On the other two days, designated as Advisement/Resource Days, each class is 75 minutes in length. An Advisement/Resource Hour is 60 minutes in length.

Intensive Block: In this format, students attend two core classes at a time. These core classes can be taken with up to three other year-long elective classes. Students complete the core classes in 60 days and then go on to another two. School years are organized into trimesters (Jones, 1997; Canady & Rettig, 1995).

Modular: the modular schedule system is similar to the traditional block schedule but differs in that it allows for each day of the week to have classes (sometimes referred to as "mods") scheduled in a different order.

Modified block: "build your own" block schedule; e.g. schools may have students attend school based on a 4x 4 block on Monday through Thursday, and a regular 8 period schedule on Friday. Or they may have two blocked classes in a day, combined with three regular periods (Canady & Rettig, 1996).

Parallel block: The parallel block is used primarily in elementary schools, whereas the modified block, alternating A/B, the 4 x 4 block, and the intensive block are used primarily in secondary schools. Parallel block takes a class of students and divides them into two groups. One group of children stays with their classroom teacher for instruction in a subject such as math or language arts, while the other group attends physical education or music, or visits the computer lab; after a prescribed length of time the two groups swap. This schedule provides all students with a more individual learning experience (Canady, 1990).

Pullout: elective classes that take some students, but not all students, out of the regular classroom to participate in group practices or individual lessons.

Trimester: The instructional year is divided into three cycles.

History of Block Scheduling

Emphasis on the impact of time on learning began with the movement to block scheduling. Below is an outline of dates significant to the United States in its shift from traditional to block scheduling.

1894

- The first uniformed school schedule was presented by the Committee of Ten in 1894.

1914

- Carnegie Foundation - first created the notion of academic credits and the standard academic time allotment for a unit of credit. In middle and high school a credit was associated with 120 hours per subject, meeting five times per week and 45-60 minutes for 30-36 weeks per year (Traditional School Schedule) (Canady & Rettig, 1996).

1959

- Lloyd Trump - first eliminated the traditional schedule and replaced it with the block. Trump proposed the Flexible Modular Schedule (Queen, 2002; Canaday & Rettig, 1995).

1984

- John Goodlad –in *A Place Called School*, warned educators that the traditional school structure does not allow time for individualized instruction for extended laboratory, work, or for remediation and enrichment, and too much time was spent on non-instructional activities (Queen, 2000).

1989

- Capernican Plan -Developed by Joseph Carroll so that students could focus on a limited number of subjects per semester and teachers could have more manageable workloads that provided for more individualized instruction and improved student performances. Students attend only two classes per day. Each class is 180 minutes long. Then the course is completed in only 30 school days (Mell, 2007; Curshman, 1995; Queen, 2002).

1994

- The National Education Commission on Time and Learning report concluded time was the missing factor in the debate about learning and the need for high standards.
- Over 40 percent of U.S school implemented a type of block scheduling.

1996

- 43 % of public high schools implemented some form of block scheduling in Texas.

2010

- 50% of school districts comparable to my school district implement some form of block scheduling.

Proponents

The overarching goal of block scheduling was to promote “close, personal relationships among students and teachers, something that is less likely in traditional environments as student numbers and student-teacher ratios increased” (Nichols, 2000, p. 135). Establishing a relationship is vital to educating African American students. Gay (2000) added that if the teachers and schools manifest a relationship, they would create a consistently caring climate that would make African American students more willing to participate in learning tasks and demonstrate higher achievement.

Along with the creation of teacher-student relationships, proponents of block scheduling have identified other advantages that block scheduling contributes to the success of African American students. The advantages include:

1. Teachers have fewer students to work with daily, a lower number of records to keep, a reduced number of courses for which to prepare, and increased planning time.
2. Students earn more credits each year.
3. Students have fewer classes, resulting in a reduced number of tests and homework on any given day.
4. Quality instructional time is increased.
5. Class changes are reduced so schools are less chaotic.
6. A greater variety of instructional models are made possible, e.g., cooperative learning, and interdisciplinary instruction, and portfolio assessment (Zepeda & Mayers, 2006).

Opponents

Opponents of block scheduling identify disadvantages that could influence the success of African American student. Several disadvantages of block scheduling observed by teachers include:

1. Less homework is given because students may not complete it given the length of class time.
2. 170 to 180 hours per course is reduced to 135.
3. It is difficult for student who was absent to make up missed instructional time and assignments. (Hurley, 1997).

Other disadvantages of the longer but less frequent class meeting times associated with block scheduling were suggested by students. They include

1. More time for homework during class
2. Limited attention span of students
3. Boring teachers
4. Sequence of courses changes more frequently
5. Intervals between courses irregular
6. More instructional time lost
7. Loss of credits by transfer students transferring from a non-block school schedule (Hurley, 1997)

SNAPSHOTS of RESEARCH

As stated earlier, proponents of block scheduling proclaim it reduces fragmentation of instruction, accommodates more effective teaching practices, and expands opportunities for individualized instruction (TEA, 1999) Critics, on the other hand, maintain that instructional time over the school year is in fact reduced; teacher and student concentration is weakened over a 90-minute period, learning retention is undermined by gaps between sequential courses that can last more than a year (TEA, 1999).

Thus far, research on the effects of block scheduling on student achievement has been inconclusive. Research supports neither traditional nor block scheduling in terms of increasing student achievement. Studies conducted by Zhang (2001) concluded qualitative and quantitative research studies conducted from the years 1985-2006 on scheduling types and their effects on student achievement are mixed in results and do not overwhelmingly support one form of school scheduling over another. Even though student achievement is the ultimate goal, many other factors, such as discipline, attendance, and dropout rate, are important to educators of African American students.

Dropout

As of 2009, my school district has a dropout rate of 7%. Research on of block scheduling indicates a decrease in dropout rates of African American students when the school has implemented some form of block scheduling for at least three years. (Cotton, 2000)

Attendance

As of 2009, the attendance rate of my school district is 95.4%. The implementation of a block schedule increases African American student attendance rates (Creamean & Horvath,

2000; Queen, Algozzine, & Eaddy, 1998). Pisapia and Westfall (1997) also found that teachers perceive better student attendance with block scheduling.

Discipline

During the 2008-2009 school year, my school district received more than 850 discipline referrals. Research has shown that the implementation of block scheduling decreases discipline referrals and discipline issues of African American students (Creamean & Horvath, 2000; Duel, 1999; Stader, 2001; Evans, Tokarczyk, Rice, & McCray, 2002; Hackman & Waters, 1998; Queen, 2000; Queen, Algozzine & Eaddy, 1998; O'Neil, 1995; Queen & Isenhour, 1998; Zepeda & Mayers, 2006).

THE ISSUE in PRACTICE

Comparable School Districts and Block Scheduling

I collected data on school districts in Texas that are comparative to my current school district as defined by TEA. This was done to provide data for use in comparing information about student populations similar to those served by my school district.

The table below lists student achievement in 10th grade mathematics at 26 school districts comparative to my current school district. Fifty percent of the related school districts implement a form of block scheduling. In the schools that implement block scheduling, student performance is 9% below schools that implement a traditional schedule.

Furthermore, schools that implement block scheduling have an achievement gap that is more than double the gap for those that implement a traditional school schedule.

Math 10th Grade TAKS 2010

Traditional				Block			
School District	TAKS-A	TAKS-W	GAP	School District	TAKS-A	TAKS-W	GAP
Killeen ISD	59	75	16	Hampton Preparatory	60		
Carrollton-Farmers Branch ISD	63	88	25	Cedar Hill ISD	61	83	22
Dallas ISD	60	82	22	Duncanville ISD	48	74	26
Desoto ISD	63	75	12	Lancaster ISD	50	57	7
Fort Bend ISD	70	93	23	Marlin ISD	39		
Stafford MSD	65	68	3	Longview ISD	43	74	31
La Marque ISD	51	80	29	Houston ISD	60	91	31
Hitchcock ISD	56	64	8	Port Arthur ISD	38	35	(+3)
Girls and Boys Preparatory	48			West Orange-Cove CISD	40	63	23
Spring ISD	51	76	25	Arlington ISD	58	83	25
Crockett ISD	81	74	(+) 7	Fort Worth ISD	47	84	37
Beumont ISD	71	83	12	Mansfield ISD	67	83	16
Hearne ISD	50	50	0	Crowley ISD	57	80	23
average 60.6154 75.6667 10.5				average 51.38462 73.36364 21.1			

TAKS-A = % of African American student passed TAKS Math 10th grade 2010

TAKS-W = % of White students who passed TAKS Math 10th grade 2010

GAP = The difference between White students and African American students

performance on TAKS Math 10th grade 2010

The results from this data are in line with research concerning block scheduling and student achievement, which show mixed results. Gruber and Onwuegbuzie (2001) compared achievement of 115 students on 4 x 4 block schedules and 146 students on traditional schedules in an urban high school in GA. On the GHS GT, students in the traditional schedule had significantly better scores on the mathematics, social studies, and science portions of the test. There was a moderate difference on language arts scores. There was no significant difference on writing scores.

Trenta and Newman (2002) evaluated data from 500 students in an Ohio public high school. Data were compiled for four years, one year before 4 x 4 block scheduling and three years after. Their study determined there was a positive and significant correlation between block scheduling and the academic areas of reading, mathematics, science, and writing.

The table below lists the 2008-2009 attendance and dropout rates for the school districts comparative to my school district. The results reveal a 13% difference in attendance rates for schools that use a block schedule versus a traditional schedule. The data also reveals the dropout rate for block scheduling schools is 1.17% higher than traditional scheduling schools.

2008-2009 Attendance and Dropout rates

Traditional Schedule	att	drop	Block Schedule	att	drop
Killeen	95.50%	1.90%	Hampton Preparatory	96.50%	0.00%
Carrollton-Farmers Branch	96.10%	1.20%	Cedar Hill	96.00%	3.10%
Dallas	95.30%	4.80%	Duncanville	95.60%	6.00%
Desoto	96.40%	2.20%	Lancaster	95.00%	0.60%
Fort Bend	96.80%	1.50%	Marlin	95.40%	8.10%
Stafford	96.00%	1.70%	Longview	94.90%	6.20%
La Marque	93.20%	7.90%	Houston	95.10%	3.30%
Hitchcock	94.20%	2.50%	Port Arthur	94.60%	4.10%
Girls and Boys Preparatory	95.60%	1.10%	West Orange-Cove	92.80%	2.90%
Spring	95.40%	4.50%	Arlington	95.70%	3.80%
Crockett	94.40%	2.00%	Fort Worth	95.10%	5.30%
Beumont	95.20%	1.60%	Mansfield	96.30%	1.70%
Hearne	95.90%	1.20%	Crowley	95.30%	4.20%
<i>average</i>	95.38%	2.62%	<i>average</i>	95.25%	3.79%

att = attendance 2008-2009

drop = drop out rate 2008-2009

RELATED ISSUES

Time on Task

The relationship between time on task and student achievement has been consistently positively correlated. The definition of time pertaining to education has evolved into meaning the amount of time students spend doing instructional activities. Studies indicate that up to 50% of the school day is spent on non-instructional activities (Good, 1983; Thurlow, M. L., Ysseldyke, J. E., Graden, J., & Algozzine, B., 1983). In response, the Department of Education created the National Education Commission on Time and Learning in 1994. In response to the work of this commission, many states, districts, and schools took it upon themselves to increase students' time during instructional activities by converting to block scheduling.

Natriello and Dornbusch (1984) found that students exposed to more challenging standards and longer class periods (more time on task) are more likely to attend class and more likely to do well in school than students who are exposed only to teacher warmth and support.

SUMMARY and RECOMMENDATIONS

Summary

Given the considerable documentation and implementation of block scheduling, there is little evidence that this innovation will improve African American students' achievement, dropout rate, discipline, and attendance. The purpose of this policy brief was to inform my current school district policymakers of the current research pertaining to block scheduling as well as to present data comparing similar school districts that implement a type of block scheduling to data from my current school district.

Recommendation

Restructuring a school's schedule should be need-driven and research based. To be effective, educational policymakers must exercise informed judgment about the meaning of research findings. Moreover, it is important to remember that a decision not to change means that what is being done now to improve African American student's dropout rate, attendance, and discipline referrals is better than any other alternative.

My recommendations to my current school district policymakers is to take into consideration the short term as well as the long term effects of block scheduling. Do not let the hindrance of limited research impact the decision to find innovative means to improve the educational experiences of their African American students.

REFERENCES

SOURCES

LINKS

Canady, R. L. (1990). Parallel block scheduling: A better way to organize a school. *Principal*, 69, 34-36.

Canady, R. L., & Rettig, M. D. (1995). *Block scheduling: A catalyst for change in high schools*. Princeton, NJ: Eye on Education.

Canady, R.L., & Rettig, M.D. (1996). *Teaching in the block: Strategies for engaging active learners*. Princeton, NJ: Eye on Education.

Cawelti, G. (1994). "High School Restructuring: A National Study." Arlington, Virginia: Educational Research Service, ED 366 070.

- Creamean, S. L. & Horvath, J. (2000). *The effectiveness of block scheduling*. Unpublished master's thesis, Saint Xavier University, Chicago, IL. (ERIC Document Reproduction Service No. ED452615)
- Crushman, K. (1995). *Using time well: Schedules in essential school*. National Collision of essential school. Retrieved from: <http://www.essentialschools.org/resources/11>
- Cotton, K. (2000). *The Schooling Practices that matter most*. Portland, OR: Northwest Educational Research Laboratory (NWREL)
- Duel, L.S. (1999). Block scheduling in large, urban high schools: Effects on academic achievement, student behavior, and staff perceptions. *High School Journal*, 83(1), 14- 25.
- Evans, W., Tokarczyk, J., Rice, S., & McCray, A. (2002). *Block scheduling: An evaluation of outcomes and impact*. *The Clearing House*, 75, 319-323.
- Gay, G. (2000). *Culturally Responsive Teaching: Theory, Research, & Practice*. New York: Teachers College Press.
- Good, T. (1983). Classroom research: A decade of progress. *Educational Psychologist*, 18, 127-144.
- Gruber, C. D., & Onwuegbuzie, A. J. (2001, April). Effects of block scheduling on academic achievement among high school students. *The High School Journal*, 84(4), 32-42.
- Hackman, D.J., & Waters, D.L. (1998). *Breaking away from tradition: The Farmington High School restructuring experience*: NASSP Bulletin, 82, 83-85. LAD (1998). *Block scheduling: Innovations with time*. Providence, RI. The Education Alliance at Brown University.
- Hurley, J. C. (1997). The 4x4 block scheduling model: What do students have to say about it? *National Association of Secondary School Principals Bulletin*, 81, 53-64.
- Jones, B. (1997). *A status report of block scheduling in nine high schools*. Falls Church, VA: Fairfax County Public Schools.
- Mell, K. (2007). *Caution advised on block scheduling*. Parents Rising Educational Standards in Schools Retrieved from <http://my.execpc.com/~presswis/block.html>

- Natriello, G., & Dornbusch, S. (1984). *Teacher evaluative standards and student effort*. New York: Longman.
- National Education Commission on Time and Learning. (1994). *Prisoners of time: Report of the National Education Commission on Time and Learning*. Washington, DC: U.S. Government Printing Office.
- Nichols, J. D. (2000). Scheduling reform: A longitudinal exploration of high school block scheduling structures. *International Journal of Educational Reform*, 9(2), 134-147.
- O'Neil, J. (1995). Finding Time to Learn. *Educational Leadership*. 53, 11-15.
- Pisapia, J., & Westfall, A. L. (1997). Alternative high school scheduling. A view from the teacher's desk (Research Rep. No. UD031866). Richmond, VA: Metropolitan Educational Research Consortium. (ERIC Document Reproduction Service No. ED411335)
- Queen, A. (2000). *Block scheduling revisited*. Phi Delta Kappan, 82(3), 214-222.
- Queen, A. (2002). *The block scheduling handbook*. Crowing Press Inc. Thousand Oak, California.
- Queen, J.A., Algozzine, R.F., & Eaddy, M.A. (1998). Implementing 4x4 scheduling: Pit falls, promises, and provisions. *The High School Journals*, 81,107-114.
- Queen, J, A., & Isenhour, K.G. (1998). *The 4x4 block schedule*. Larchmont, NY: Eye Education.
- Stader, D.L (2001). Block scheduling in small high schools: Perceptions from the field. *Educator*, 22 (3), 37-41.
- Texas Education Agency (1999). *Block scheduling in Texas public high schools* (Policy Research Report No. 13). Retrieved from <http://ritter.tea.state.tx.us/research/pdfs/prr13.pdf>
- Thurlow, M. L., Ysseldyke, J. E., Graden, J., & Algozzine, B. (1983). Instructional ecology for students in resource and regular education. *Teacher Education and Special Education*, 6, 248-254.
- Trenta, L., & Newman, I. (2002). Effects of a high school block scheduling program on

students: A four-year longitudinal study of the effects of block scheduling on student outcome variables. *American Secondary Education*, 31(1), 54-71.

Zapeda, S.J., & Mayers, R.S. (2006). An analysis of research on block scheduling. *Review of Educational Research*, 76, 137-170.

Zhang, G. (2001). *Academic performance differences between students in block and traditionally scheduled high schools*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.