DIVISION OF ACCOUNTABILITY AND RESEARCH

'Fifth Block' Evaluation

Prepared September, 2009

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Background

Program Description

THe Aurora Public Schools implemented an extended school year program called 'Fifth Block' in June of 2008. It was offered a second time during June of 2009. The program was developed based on studies and policy research that indicate adding a significant amount of instructional time will impact student achievement (Zimmerman, 1998). The research also indicates that it is not time alone that yields the greatest results. Time must be coupled with high-quality instruction (Time for Change Research Report, 2005).

The program consists of 23 days of additional instruction for students who have demonstrated academic growth during the previous school year but need more time to become proficient. The classes, with a maximum student/teacher ratio of 25 to 1, focus on math and literacy with science and social studies integrated. Keys to the potential success of fifth block were known to include well-trained, experienced teachers, appropriate curriculum and adequate physical facilities. Building administrators are charged with hiring Fifth Block staff that is provided professional learning prior to the start of Fifth Block. Students attend class at their home school with the exception of students at grades 5 and 8 who attend fifth block at their feeder middle and high school. Transportation and the nutrition services program are provided at all buildings.

Student Selection

To maximize the 23 days of instruction, fifth block is designed for students who demonstrated evidence of growth during the previous academic year and who have the most potential to increase proficiency within the period of fifth block. Additional criteria include one year of continuous enrollment in APS with consistent attendance. Using data provided by the Division of Accountability and Research, each school identifies those students that they believed would benefit most from the additional time and quality instruction.

Evaluation Method

The purpose of this evaluation is to provide an assessment, both quantitatively and qualitatively, of the impact of Fifth Block on student achievement. Additionally, the information gathered will be used by the district Fifth Block Committee to make recommendations for any future implementation of Fifth Block.

The quantitative analysis focuses on the demographics of the student population served by Fifth Block along with the results of surveys given to parents, principals and teachers. Secondly, we examine the percentage of students that participated in Fifth Block multiple years. Thirdly, we examine Fifth Block data for the 2009 students using assessment data that was obtained at the beginning and end of Fifth Block (i.e. MAP; Measures of Academic Progress). Finally, we examine the CSAP growth percentiles of students that participated in the 2008 Fifth Block program. This data provides us with a measure of academic growth that occurred for Fifth Block students compared to non-participants.

Qualitative analyses include the results of open-ended responses obtained from the parent, principal, and teacher surveys. A final analysis is included that examines the fiscal impact of Fifth Block.

Participant Demographics

A total of 3,299 students completed the entire Fifth Block session during June of 2009. Fifth Block reflected higher rates of Hispanic, ELL and economically disadvantaged students then that found in the overall 2008-2009 K-12 enrollment. The demographics of Fifth Block participants were similar for both the 2008 and 2009 programs. A total of 895 students participated in Fifth Block during both years in which it was offered. This represents 29.1% of the 2008 Fifth Block participants.

Table 1. Student Demographics

	Summer 2008		Summer 2009	
Ethnicity	**District 07-08***	**5th Block**	**District 08-09***	**5th Block**
Afr. Amer.	20.0%	18.6%	21.1%	16.9%
Asian/PI	4.0%	2.7%	4.4%	3.4%
Hispanic	50.5%	65.6%	52.1%	65.3%
Nat. Amer.	0.9%	0.8%	0.9%	0.8%
White	24.5%	12.2%	21.5%	13.6%
F/R lunch	55.9%	75.4%	64.2%	71.3%
Paid	44.1%	24.6%	35.8%	28.7%
ELL	37.3%	56.3%	38.2%	55.0%

Note. *District values obtained from official October count reports.

The students selected for participation in the 2009 Fifth Block program were targeted based on CSAP performance that generally indicated a need for additional time (see Table 2). Specifically, the percentage of Fifth Block students scoring *partially proficient* or *unsatisfactory* on the 2008 CSAP was 69% in reading, 84% in writing, and 71% in Math.

Table 2. Fifth Block Students (Summer 2009): 2008/2009 CSAP Proficiency

Prof. Level	Reading		Writing		Math	
	2008	2009	2008	2009	2008	2009
Unsatisfactory	25.1%	26.7%	17.8%	13.9%	22.3%	22.6%
Part Proficient	44.2%	40.4%	66.1%	67.4%	48.7%	43.1%
Proficient	30.2%	32.7%	15.6%	18.5%	25.9%	30.6%
Advanced	0.4%	0.1%	0.4%	0.2%	3.1%	3.6%

Note. All data reflects valid scores only; no scores are excluded.

Additional criteria for participation were related to a low number of discipline referrals and consistent attendance. The majority of Fifth Block participants received no office referrals during the 2008-2009 school year. Similarly, during the course of 2009 Fifth Block the total number of referrals reported in Infinite Campus was seven which indicates that less than 0.2% of all Fifth Block students received a referral during this time period (see Table 3).

Table 3. Fifth Block Students: % with Office Referrals

# of Referrals	2007-08		2008-09	
	Overall	5th Block	Overall	5th Block
0	77.9%	99.7%	79.8%	99.8%
1	12.1%	0.3%	10.5%	0.2%
2	4.0%	0.0%	4.7%	0.0%
3+	6.0%	0.0%	5.0%	0.0%
Total:	100.0%	100.0%	100%	100%

Note. Only seven students were recorded as receiving referrals during 5th block (2009); 2008: n=9. For 2009, three incidents were due to disobedience and one case each of habitually disruptive, fight, cell phone/electronic device, and threat to student. The overall numbers reflect referral rates for 5th block students during the prior school year.

The attendance rates for 2009 Fifth Block participants exceeded 90% during the duration of the program. The most accurate attendance information is for the final ten days of the program as some students were enrolled and/or flagged but failed to participate early on in the Fifth Block program (see table 4). The enrollment of students in Fifth Block was often in flux even during the final ten days of the program; a total of 136 fewer students were enrolled on the final day of Fifth Block then ten days prior. This is believed to be an artifact of the reliability in which enrollments were entered into IC. For 2008 Fifth Block, the reverse was true with more students enrolled at the end of Fifth Block then ten days prior (i.e. sixty-nine students).

Table 4. Final Ten Day Enrollment and Attendance: Fifth Block (Summer 2009)

Level		Final 5-Day Enrollment					Final 10-Day Attendance	
		6-19	6-22	6-23	6-24	6-25	2009	2008
Elementary	Enrolled	2009	2009	2009	2004	2002	92.4%	93.6%
	Present	1844	1798	1849	1860	1828		
K-8	Enrolled	144	144	144	142	142	95.3%	94.2%
	Present	136	136	140	132	135		
Middle	Enrolled	728	728	728	728	728	89.4%	92.4%
	Present	648	629	641	631	653		
High	Enrolled	437	437	437	437	437	93.3%	91.2%
	Present	404	406	406	404	401		
District Totals	Enrolled	3318	3318	3318	3311	3309	92.0%	93.1%
	Present	3032	2969	3036	3027	3017		

Note. All data obtained from IT. Rate: represents average attendance for the final ten days of 5th block.

Assessment Performance

Measure of Academic Progress Testing: Fifth Block 2009

In order to immediately evaluate the academic impact of Fifth Block instruction, the MAP assessment was utilized as a pre/post academic test in reading and math. The MAP is an online computer assessment typically given to students just three times a year per the recommendation of the publisher. More frequent testing or shorter time lines (than half a year) are not recommended when measuring growth. Despite this recommendation, the MAP was piloted with this program to see if program effects would be large enough initially to be detected by the test.

The data revealed gains on 16 of the 18 tests by grade and subject, with 10 of the 16 gains being statistically significant (see Appendix A). While there appear to be short term academic gains with the program, the longer term academic impact is the focus of the Fifth Block Program.

CSAP Growth: Fifth Block 2008

The Colorado Growth Model provided us with the opportunity to examine the longer term impact of Fifth Block participation on achievement for 2008 program participants. The Growth Model compares each student's performance to students in the same grade throughout Colorado who had similar CSAP scores in past years, and calculates the individual student growth percentile (CDE, 2009). Table 5 presents the median growth

percentiles from the spring 2009 CSAP by grade for Fifth Block students and their non-participating peers who were continuously enrolled in the district for one year.

The results indicate that for Math, the Fifth Block grade level growth percentiles exceeded that of non-participants at all grades except 4th. For 4th grade, although a decline is noted, the change is minimal and doesn't reflect movement to a lower growth classification (i.e. the growth percentiles reflect typical growth). For 6th to 10th grades, growth could be described as "High" compared to the "Typical" growth for the grades overall. For reading, the results were mixed, although all gains exceeded losses. Last, writing growth percentiles closely resemble those identified for math. In the case of 5th grade the growth could be categorized as "high" according to CDE standards.

Overall, the 2009 CSAP growth percentiles obtained for 2008 Fifth Block participants for math and writing exceeded both non-participants growth percentiles and were typically well above the state median growth percentile of 50. For reading, the 2009 CSAP growth percentiles were consistent between Fifth Block participants and non-participants although they were also above the state median growth percentile of 50.

Table 5. 5th Block Median Growth Percentiles by Grade (Summer 2008)

Grade	Math			Reading			Writing		
	Overall	5th Block	Diff.	Overall	5th Block	Diff.	Overall	5th Block	Diff.
4th	53	50	-3	44	40	-4	50	47	-3
5th	56	62	+6	53	58	+5	57	65	+8
6th	60	66	+6	46	56	+10	49	53	+4
7th	60	70	+10	56	53	-3	49	57	+7
8th	64	74	+10	57	58	+1	56	60	+4
9th	58	70	+12	61	65	+4	47	57	+10
10th	50	64	+14	53	51	-2	50	49	-1
District:	**57**	**62**	+5	**53**	**52**	-1	**51**	**55**	**+4**

Note. For Math, 85% of Fifth Block growth percentiles exceeded that of the overall grade percentiles. For Writing, this was true for 70% of grades and for Reading this was true for 57% of grades. Overall values exclude Fifth Block participants.

Parent Survey Results

Surveys were sent to the parent(s) of students along with the students' Fifth Block report card. For 2009, responses were received from 432 households. Results of the survey are presented in Table 6.

Table 6. Parent Survey Responses

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Agree/ Str. Agree	Change 08 to 09
1. My child's school provided me sufficient information throughout 5th block.	5.4%	6.3%	11.0%	45.7%	31.7%	77.4%	+4.4%
2. I believe that 5th block was academically beneficial for my child.	2.1%	2.6%	7.4%	39.0%	49.0%	87.9%	-1.5%
3. I believe that 5th block was a positive experience for my child.	1.9%	1.4%	5.1%	41.0%	50.7%	91.7%	-0.1%
4. I understand why my child was selected for participation in 5th block.	2.1%	1.4%	5.3%	47.4%	43.7%	91.2%	-0.3%
5. The meals that were provided were an important part of my students 5th block experience.	5.6%	4.9%	13.8%	40.6%	35.0%	75.6%	-1.0%
6. If 5th block were offered next year, I would want my child to participate.	3.0%	2.1%	8.4%	27.6%	58.9%	86.5%	-3.1%

Note. 5th Block 2009: A total of 432 parents responded. 37% responded in Spanish; 63% responded in English. 5th Block 2008: n=486.

Of parents that responded to the survey, the majority reported they believed Fifth Block was academically beneficial for their child (88% agreed). Furthermore, 87% percent responded that they would want their child to participate if Fifth Block were offered the following year. The following themes are representative of many parent comments:

- Most parents continue to support the concept of Fifth Block.
- Parents would like more communication on their child's progress during Fifth Block.

Principal Survey Results

An electronic survey was made available to principals after the completion of Fifth Block. Approximately 50% of principals responded to the survey. The primary purpose of the principal survey was to gather comments/recommendations about: what was their overall perception of the success of Fifth Block in improving student achievement; what worked well during Fifth Block; what challenges they encountered; and what suggestions they had for improving Fifth block. Responses to a question on improvement of student achievement are shown in Table 7.

Table 7. Principal Survey Responses

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Agree/ Str. Agree	Change 08 to 09
My students benefited academically from attending 5th block.	8.3%	0.0%	16.7%	54.2%	20.8%	75.0%	-6.3%

Note. 2009: Total n=24.

The majority of principals completing the survey responded that they believed students benefited academically from attending Fifth Block (75%) which represents a 6% decline from last year's results. From open-ended questions, Principals reported the following:

- Principals experienced difficulty filling classes to capacity and maintaining enrollment through the end of Fifth Block.
- Principals recommend having a shorter day and possibly widening the criteria for Fifth Block students to lower grades and a wider range of proficiency.

Teacher Survey Results

An electronic survey was made available to teachers after the completion of Fifth Block. A total of 113 teachers responded to the survey in 2009. The primary purpose of the teacher survey was to gather comments/recommendations about: what was their overall perception of the success of Fifth Block in improving student achievement; what worked well during Fifth Block; what challenges they encountered; and what suggestions they had for improving Fifth block.

Responses to a question on improvement of student achievement are shown in Table 8.

Table 8. Teacher Survey Responses

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Agree/ Strongly Agree	Change 08 to 09
My students benefited academically from attending 5th block.	1.8%	1.8%	5.3%	59.3%	31.9%	91.2%	+10.5%

Compared with the principal survey, a larger percentage of teachers completing the survey responded that they believed students benefited academically from attending Fifth Block (teachers: 91%; principals: 75%). From open-ended questions, teachers reported that the following worked well during Fifth Block:

- Teachers reported generally that the second year of Fifth Block was better organized and they felt better prepared. Teachers were complimentary on the following aspects of Fifth Block:
- Time allotted
- Pacing guides available
- The breakfast and lunch program
- Use of the computer lab for kid biz and Achieve 3000
- Curriculum materials available
- Paraeducator support

In regard to challenges, the most frequently mentioned by teachers were the following:

- Range of skills and knowledge of students challenging for most.
- Keeping some students engaged in learning for the entire day and/or Fifth Block session (attendance and behavior issues arose from lack of engagement).
- Some students did not need both literacy and math support.
- There were difficulties running some of the software programs.
- MAP's testing was not seen as helpful for instruction.
- Redundancy of some curriculum materials from the previous school year.

Suggestions by teachers on ways to improve Fifth Block generally addressed the challenges noted above. Other suggestions given included:

- Limit class size to 20.
- Pre/Post test to match report card.
- Choice of half or whole day, or shorten the school day – possibly offer a week off before Fifth Block begins or move to July.
- Offer incentives for students.
- Clearer guidelines on student selection.
- More consistent, clearer communication and support during Fifth Block.

5th Block Program Budget

Table 9.Cost Analysis for Fifth Block

Expense	Description	2008	2009	Change
June – Inst. Salaries and Benefits	salaries, PERA, Medicare	$603,900	$666,539	+$62,639
July (est.) – Inst. Salaries/Benefits	salaries, PERA, Medicare	$603,900	$481,654	-$122,246
Assessment	printing/MAP Testing*	$2,310	$44,053	+$41,743
Instruction	curricular support	$32,500	$67,129	+$34,629
Transportation	fuel, maintenance, salaries/benefits	$72,042	$62,406	-$9,636
Nutrition Services	loss experienced by enterprise	$21,100	$0	-$21,100
Utilities	gas/electric	$73,476	$125,000	+$51,524
Total Costs for 5th Block:		**$1,409,228**	**$1,446,781**	**+$37,553**
Per Pupil Cost for 5th Block:		**$431.09**	**$438.55**	**+$7.46**

Note. The per pupil cost for Fifth Block was derived based on the total number of grade reports issued (i.e., 2008: 3,269; 2009: 3,299).
*: MAP testing didn't occur during 5th block in 2008. The cost for MAP administration was $13.50 per student. For nutrition services 2009, revenues exceeded costs. All costs reflect estimates received from respective departments/divisions.

Table 10. School Fifth Block Slot Availability with Enrollment (2009)

School	Fifth Block Count	Title I / Additional	Total	Initial Day Enrollment	Final Day Enrollment	Final Day % Enroll.
Total (All Schools):	**2,875**	**1,250**	**4,125**	**3,942**	**3,309**	**80.2%**
Altura Elementary School	50	50	100	96	85	85.0%
Arkansas Elementary School	50	--	50	50	37	74.0%
Aurora Frontier K-8	100	--	100	94	80	80.0%
Aurora Quest K-8	0	--	0	0	0	--
Boston K-8	75	50	125	126	97	77.6%
Century Elementary School	50	--	50	48	39	78.0%
Clyde Miller Elementary School	100	--	100	102	94	94.0%
Crawford Elementary School	50	50	100	87	65	65.0%
Dalton Elementary School	50	--	50	50	47	94.0%
Dartmouth Elementary School	50	--	50	50	49	98.0%
Elkhart Elementary School	50	50	100	103	84	84.0%
Fletcher Elementary School	50	50	100	76	67	67.0%
Fulton Elementary School	50	50	100	104	89	89.0%
Iowa Elementary School	50	--	50	69	57	114.0%
Jewell Elementary School	50	--	50	46	42	84.0%
Kenton Elementary School	50	50	100	86	79	79.0%
Lansing Elementary School	50	50	100	77	72	72.0%
Laredo Elementary School	50	50	100	90	73	73.0%
Lyn Knoll Elementary School	25	50	75	53	42	56.0%
Montview Elementary School	50	50	100	98	91	91.0%
Murphy Creek K-8	100	--	100	69	62	62.0%
Paris Elementary School	75	50	125	123	107	85.6%
Park Lane Elementary School	25	50	75	73	54	72.0%
Peoria Elementary	50	50	100	96	84	84.0%
Sable Elementary School	50	50	100	96	79	79.0%
Side Creek Elementary School	50	--	50	53	49	98.0%
Sixth Avenue Elem. School	50	50	100	95	83	83.0%
Tollgate Elementary School	50	--	50	49	36	72.0%
Vassar Elementary School	50	--	50	50	48	96.0%
Vaughn Elementary School	50	50	100	95	69	69.0%
Virginia Court Elem. School	50	--	50	52	48	96.0%
Wheeling Elementary School	50	50	100	102	86	86.0%
Yale Elementary School	50	--	50	50	50	100.0%
Total (Elementary/K-8):	**1,750**	**900**	**2,650**	**2,508**	**2,144**	**80.9%**

School	Fifth Block Count	Title I/ Additional	Total	Initial Day Enrollment	Final Day Enrollment	Final Day % Enroll.
Aurora Hills Middle School	100	--	100	123	98	98.0%
Columbia Middle School	100	--	100	93	83	83.0%
East Middle School	100	--	100	105	88	88.0%
Mrachek Middle School	100	--	100	97	87	87.0%
North Middle School	100	100	200	176	127	63.5%
South Middle School	100	--	100	93	74	74.0%
West Middle School	100	100	200	195	171	85.5%
Total (Middle School):	**700**	**200**	**900**	**882**	**728**	**80.9%**
Aurora Central High School	100	--	100	76	72	72.0%
Gateway High School	100	--	100	106	80	80.0%
Hinkley High School	100	--	100	119	85	85.0%
Rangeview High School	100	150	250	228	182	72.8%
William Smith High School	25	--	25	23	18	72.0%
Total (High School):	**425**	**150**	**575**	**552**	**437**	**76.0%**

Summary

- The Fifth Block Program was provided to 3,299 students following the 2008-2009 school year. (Fifth Block 07-08: 3,075). This represents 80% enrollment in the student slots available for the program. The program consisted of 23 days of additional instruction for students who had demonstrated academic growth during the previous school year but needed more time to become proficient.
- The Fifth Block Program (2009) reflected higher rates of Hispanic, ELL and economically disadvantaged students then that found in the overall 2008-09 district enrollment. Participants typically performed at the partially proficient or unsatisfactory level on the *2008* CSAP (69% reading; 84% writing; and 71% math) and the majority of students had received no office referrals during the 08-09 academic year (i.e. 76% had no office referrals).
- Overall attendance rates during Fifth Block (2009) were high (i.e., greater than 90%) with a limited number of office referrals (i.e., seven total).
- 29% of Fifth Block Participants from 2008 were reenrolled in Fifth Block in 2009.
- MAP Math and Reading scores revealed achievement gains at most grades for 2009 Fifth Block participants.
- Historical analysis of 2008 Fifth Block participants revealed 2009 CSAP growth percentiles that exceeded that of their matched grade peers for both Math and Writing and the state median growth percentile of 50. For Reading, the growth percentiles tended to be consistent between groups although growth percentiles were above the state median.
- Survey results obtained from principals, teachers, and parents reflect the belief that students benefited academically from attending Fifth Block (75%-91% agreement). Principal's agreement rates declined between-years by 6% while teacher agreement increased by almost 11%.
- A preliminary cost analysis for 2009 Fifth block indicates a total operating expense of $1,446,781 or per pupil cost of $438.55. This reflects instructional salaries/benefits, assessment costs, curricular support, transportation, nutrition services, and utilities. The program costs increased by $37,553 between-years.
- Recommendations for improvement that were gathered from this evaluation will be provided to the Fifth Block committee for the refinement of any future Fifth Block programming.

References

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Zimmerman, J. (1998). Improving Student Achievement by Extending Schools: Is it Just a Matter of Time? San Francisco, CA: WestEd.

Appendix A. MAP Pre-Post Statistical Comparisons

Table 11. MAP Reading RIT Mean Performance: Fifth Block (Summer 2009)

Grade	Pre-Test		Post-Test		Total n	t-value	Sig. (2-tailed)	Effect Size
	Mean	SD	Mean	SD				
2	172.0	12.7	174.0	12.2	645	-9.11	***0.00***	0.08
3	181.9	14.4	183.2	13.7	729	-5.93	***0.00***	0.05
4	189.9	13.9	190.5	13.5	591	-2.58	***0.01***	0.02
5	197.7	12.7	198.3	12.3	231	-2.01	***0.05***	0.02
6	200.7	15.8	201.5	15.8	244	-2.66	***0.01***	0.02
7	204.7	16.0	205.0	16.1	168	-1.18	0.24	0.01
8	215.6	13.2	214.6	14.4	58	1.20	0.23	0.04
9	216.3	13.9	216.6	12.6	190	-0.72	0.47	0.01
10	215.6	15.1	214.1	13.8	36	1.49	0.15	0.05

Note. All values that are indented/bolded reflect significant change between pre-post testing at the .05 significance level. Effect sizes (η^2) have been described as small =.01, medium = .06, and large = .14.

Table 12. MAP Math RIT Mean Performance: Fifth Block (Summer 2009)

Grade	Pre-Test		Post-Test		Total n	t-value	Sig. (2-tailed)	Effect Size
	Mean	SD	Mean	SD				
2	175.3	9.6	176.4	9.4	715	-6.44	***0.00***	0.06
3	188.6	12.0	189.3	11.8	792	-3.93	***0.00***	0.03
4	197.6	12.1	198.4	12.1	614	-3.58	***0.00***	0.03
5	205.2	11.6	205.5	11.4	264	-1.34	0.18	0.01
6	210.0	14.8	210.4	15.3	268	-1.51	0.13	0.01
7	216.6	14.8	216.9	15.1	191	-1.07	0.29	0.01
8	225.7	15.5	226.9	16.4	48	-1.96	0.06	0.04
9	221.3	15.9	222.6	15.7	136	-2.49	***0.01***	0.04
10	217.9	16.7	221.0	16.8	50	-3.75	***0.00***	0.09