

MEMORANDUM

April 25, 2012

TO: School Board Members

FROM: Terry B. Grier, Ed.D.
Superintendent of Schools

SUBJECT: **FIRST CLASS BREAKFAST PROGRAM: FINDINGS RELATED TO STUDENT PERFORMANCE, 2010–2011**

CONTACT: Carla Stevens, 713-556-6700

In 2010, the HISD Board of Education mandated the First Class Breakfast (FCB) program to provide students with a nutritious meal every day in the classroom during the first segment of the first class. Since the start of the FCB program, the number of meals served to students each day has more than doubled. The HISD breakfast is free to all students and a significant majority of its participants are students from economically disadvantaged households.

Overall, the current evaluation resulted in three main findings: (a) elementary and middle schools participating in the FCB program experienced increases in attendance rates from 2009–2010 to 2010–2011; (b) elementary and middle schools participating in the FCB program reported decreases in disciplinary actions from 2009–2010 to 2010–2011; and (c) elementary and middle schools participating in the FCB program reported significant increases in student passing rates on the TAKS mathematics test from 2009–2010 to 2010–2011.

Should you have any questions or require any further information, please contact me or Carla Stevens in the Department of Research and Accountability at 713-556-6700.



TBG

cc: Superintendent's Direct Reports
Chief School Offices
School Improvement Officers
Arnold Viramontes
Brian Giles
Julie Spreckelmeyer



RESEARCH

Educational Program Report

FIRST CLASS BREAKFAST PROGRAM
FINDINGS RELATED TO STUDENT
PERFORMANCE, 2010-2011

RESEARCH AND ACCOUNTABILITY
HOUSTON INDEPENDENT SCHOOL DISTRICT



2012 Board of Education

Michael Lunceford
PRESIDENT

Anna Eastman
FIRST VICE PRESIDENT

Juliet Stipeche
SECOND VICE PRESIDENT

Rhonda Skillern-Jones
SECRETARY

Greg Meyers
ASSISTANT SECRETARY

Paula Harris
Lawrence Marshall
Harvin C. Moore
Manuel Rodriguez, Jr.

Terry B. Grier, Ed.D.
SUPERINTENDENT OF SCHOOLS

Carla Stevens
ASSISTANT SUPERINTENDENT
DEPARTMENT OF RESEARCH AND
ACCOUNTABILITY

Kendall McCarley, Ph.D.
RESEARCH SPECIALIST

Vera Lewis
INTERMEDIATE APPLICATIONS DEVELOPER

Harry Selig
RESEARCH MANAGER

Houston Independent School District

Hattie Mae White Educational Support Center
4400 West 18th Street
Houston, Texas 77092-8501

www.houstonisd.org

It is the policy of the Houston Independent School District not to discriminate on the basis of age, color, handicap or disability, ancestry, national origin, marital status, race, religion, sex, veteran status, or political affiliation in its educational or employment programs and activities.

FIRST CLASS BREAKFAST PROGRAM

FINDINGS RELATED TO STUDENT PERFORMANCE, 2010–2011

Executive Summary

In 2010, the HISD Board of Education mandated the First Class Breakfast (FCB) program to provide students with a nutritious meal every day in the classroom during the first segment of the first class (HISD, 2010). The Food Research and Action Center (FRAC) reports that “students who eat school breakfast increase their math and reading scores as well as improve their speed and memory in cognitive tests” (FRAC, 2010; Vaisman, Voet, Akivis, & Vakil, 1996). FRAC also cites research that “children who eat breakfast at school—closer to class and test-taking time—perform better on standardized tests than those who skip breakfast or eat breakfast at home.”

The purpose of this report is to examine how participation in the FCB program in 2010–2011 influenced various measures of student performance. To accomplish this, within-school comparisons were made from 2009–2010 to 2010–2011. Specific measures of student performance include:

- Attendance rates, by school;
- Number of disciplinary actions, by school;
- Percentage of students that met or exceeded passing standards on the Texas Assessment of Knowledge and Skills (TAKS) reading and math tests.

Highlights

- A comparison of student profiles for FCB schools and HISD, overall, revealed that in 2010–2011, the distribution of males and females in FCB schools paralleled overall HISD percentages. However, FCB schools had lower percentages of African American students and higher percentages of both Hispanic and White students. These differences were not significant (Table 1).
- The majority of both elementary and middle schools participating in the FCB program experienced statistically significant increases in attendance rates from 2009–2010 and 2010–2011 (Table 2, Figure 2, Table 3).
- The majority of elementary and middle schools participating in the FCB program saw a decrease in disciplinary actions from 2009–2010 and 2010–2011. This decrease in number of disciplinary actions was statistically significant at the elementary school level, but not at the middle school level (Table 2, Figure 3, Table 3).
- From 2009–2010 to 2010–2011, there were slight increases in elementary and middle school passing rates on the TAKS reading test, however, these increases were not statistically significant at either school level (Table 4).
- In contrast, 2009–2010 and 2010–2011 passing rates on the TAKS mathematics test revealed statistically significant increases in the percentage of students that met or exceeded passing standards at both the elementary and middle school levels for students participating in the FCB program (Table 4).

Methods

- All HISD elementary and middle schools participated in the FCB program in 2010–2011; however, the FCB program was implemented at different points in time throughout 2010. To assure meaningful comparisons, only outcomes from those schools with consistent implementation dates were included.
- Of 169 elementary schools, the comparative analysis only included the 125 schools that started the FCB program between January and May of 2010. Each of the included elementary schools was compared to itself based on half a year of participation in 2009–2010 and a full year in 2010–2011. Of 41 middle schools, the 38 that began the FCB program in 2010–2011 were included. At the middle school level, each school was compared to itself based on no participation in the FCB program in 2009–2010 and a full year in 2010–2011.
- The attached tables and figures present information pertaining to school-level data on the various measures of student performance during the 2009–2010 and 2010–2011 academic years. The 2009–2010 school year was considered the pre-implementation stage and the 2010–2011 school year was considered the post-implementation stage.
- Attendance rates for FCB schools were obtained from the PEIMS ADA file for 2009–2010 and 2010–2011. Disciplinary action counts were retrieved from the PEIMS 425 Record (Discipline) from 2009–2010 and 2010–2011. The TAKS passing rate used in the analysis was the combined passing rate for all grades within each school, based on the spring 2011 TAKS administration. Rate changes were calculated by comparing each school's attendance, disciplinary action data, and TAKS performance from 2009–2010 to the same data from 2010–2011.
- Limitations: As all elementary and middle schools in HISD participated in the FCB program to some degree, comparisons could only be made to pre and post implementation and not a control group. Therefore, the statistically significant differences can be attributed to some extent to the implementation of the program but not to a direct causal link.

Conclusions

- In 2010–2011, students at FCB schools were slightly more likely to be economically disadvantaged and slightly less likely to be considered at risk than HISD students in general. A closer analysis revealed that, in approximately one-half of all FCB schools, at least 67 percent of the students enrolled were at risk. In approximately two thirds of all FCB schools, at least 90 percent of the students were considered economically disadvantaged, qualifying for free or reduced-price lunch.
- Compared to pre-implementation levels in HISD elementary schools, implementation of the FCB program was significantly associated with increases in attendance rates, decreases in disciplinary actions, and increases in TAKS mathematics passing rates.
- Similarly, implementation of the FCB program in HISD middle schools was related to increases in attendance rates and TAKS mathematics passing rates.
- Currently, 214 schools participate in the FCB program. The food services staff and district administration continue to encourage the remaining campuses (predominately high schools) to implement similar programs. Providing a healthy breakfast to as many students as possible will help strengthen the district's academic initiatives and support overall student learning.

Supporting Research

Since 2006, the number of meals served to students participating in the various HISD breakfast programs has increased from 49,132 to 109,511 meals per day. The HISD breakfast is free to all students and a significant majority of its participants are students from economically disadvantaged households. School Breakfast in America's Big Cities: School Year 2010–2011 (FRAC, 2012) finds that the HISD ranks third among urban school districts in terms of the percentage of eligible students eating breakfast at school. According to HISD Food Services records, in the 2010–2011 school year, almost four out of five (78.1 percent) low-income students at HISD participated in the school breakfast program, compared to just over half (56.2 percent) in the previous year.

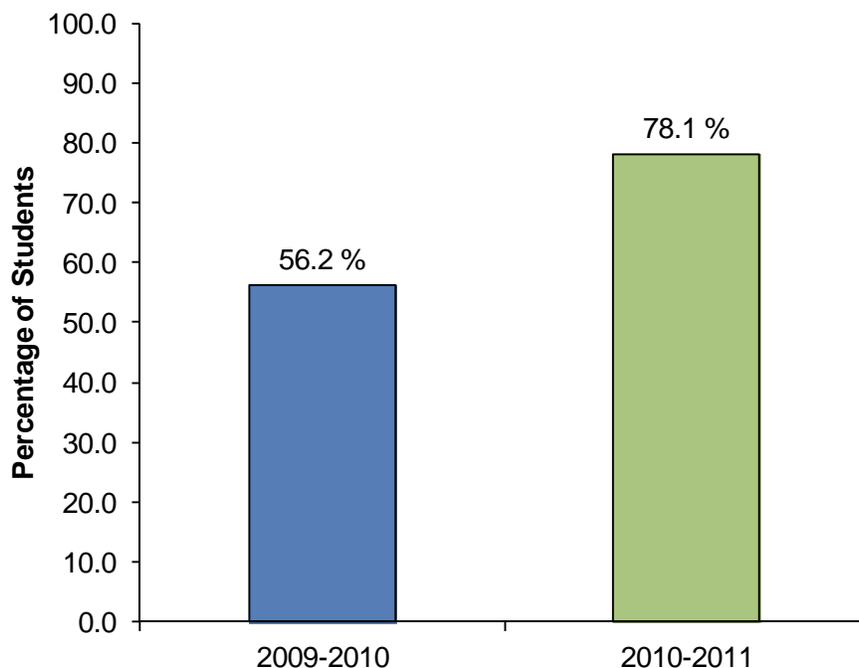


Figure 1. Percentage of low-income students participating in the FCB program

Administrative Response

Significant improvements continue to be made in the First Class Breakfast program. The most recent initiative improves customer service and participation while addressing previous concerns about food waste. The program initiative is called “offer vs. serve.” This delivery model has been implemented on 92 campuses and offers students a choice of entrée and side selections, but does not require them to take all items of the meal. Students are allowed to choose the items they want to take, but are only required to take a minimum of two items. Although this method takes a few extra minutes per classroom, allowing students to choose their food items significantly reduces food waste and increases students’ interest in eating school breakfast.

Table 1: Student Profile of Schools Participating in the FCB Program and HISD Overall, 2010–2011

	2009–2010				2010–2011			
	FCB (N = 65,342)		HISD (N = 202,773)		FCB (N = 126,070)		HISD (N = 204,245)	
	N	%	N	%	N	%	N	%
Gender								
Male	33,660	51.5	103,599	51.1	64,456	51.1	104,364	51.1
Female	31,682	48.5	99,174	48.9	61,614	48.9	99,881	48.9
Ethnicity								
African Am.	15,087	23.1	53,680	26.5	29,190	23.2	53,530	26.2
Am. Indian	116	0.2	531	0.3	264	0.2	484	0.2
Asian	1,017	1.6	5,962	2.9	4,316	3.4	6,273	3.1
Hispanic	47,707	73.0	125,097	61.7	80,230	63.6	126,373	61.9
Pacific Islander	54	0.1	373	0.2	132	0.1	283	0.1
White	1,179	1.8	15,889	7.8	10,970	8.7	15,920	7.8
Two or More	182	0.3	1,241	0.6	968	0.8	1,382	0.7
Econ. Disadv.								
Yes	61,207	93.7	162,424	80.1	102,798	81.5	164,247	80.4
No	4,135	6.3	40,349	19.9	23,272	18.5	39,998	19.6
At Risk								
Yes	46,872	71.7	128,160	63.2	78,146	62.0	130,829	64.1
No	18,470	28.3	74,613	36.8	47,924	38.0	73,416	35.9

Table 2: Differences in 2009–2010 and 2010–2011 Attendance Rates and Disciplinary Actions for FCB Elementary Schools

	Decreased Rates		No Change		Increased Rates	
	N	%	N	%	N	%
Attendance Rates						
Elementary Schools	7	5.6	0	0.0	118	94.4
Middle Schools	2	5.3	0	0.0	36	94.7
Total	9	5.5	0	0.0	154	94.5
Disciplinary Actions						
Elementary Schools	76	60.8	3	2.4	46	36.8
Middle Schools	23	60.5	0	0.0	15	39.5
Total	99	60.7	3	1.8	61	37.4

Note. Elementary school comparisons are based on half of a year of participation in 2009–2010 and a full year of participation in 2010–2011. Middle school comparisons are based on no participation in 2009–2010 and a full year of participation in 2010–2011. The only non-FCB schools were high schools and these schools were not comparable to elementary or middle schools.

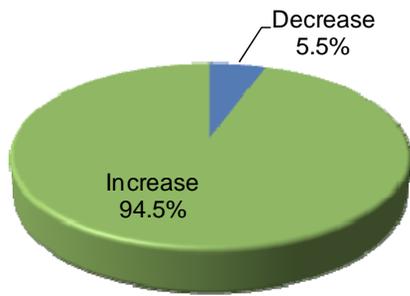


Figure 2. Change in Combined Attendance Rates from 2009–2010 to 2010–2011

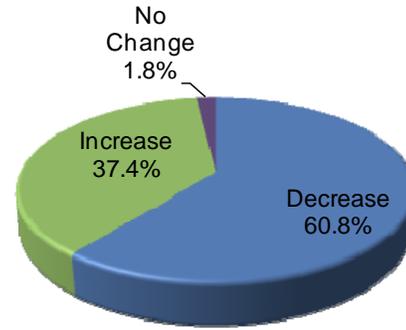


Figure 3. Change in Combined Disciplinary Actions from 2009–2010 to 2010–2011

Table 3: Descriptive Statistics and Paired Samples T-test for Attendance Rates and Disciplinary Actions for FCB Elementary and Middle Schools, 2009–2010 and 2010–2011

	2009–2010		2010–2011		<i>t</i>	<i>df</i>	<i>p</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>			
Attendance Rates							
Elementary Schools	96.23	.98	96.87	.83	-15.39	124	<.0005
Middle Schools	94.86	1.75	95.74	1.39	-7.07	37	<.0005
Disciplinary Actions							
Elementary Schools	62.65	67.18	49.11	51.31	3.78	124	<.0005
Middle Schools	953.29	702.46	925.87	655.16	.40	37	.96

Note. Elementary school comparisons are based on half of a year of participation in 2009–2010 and a full year of participation in 2010–2011. Middle school comparisons are based on no participation in 2009–2010 and a full year of participation in 2010–2011. The only non-FCB schools were high schools and these schools were not comparable to elementary or middle schools.

Table 4: Descriptive Statistics and Paired Samples T-test for TAKS Reading and Mathematics Passing Rates in FCB Elementary Schools, 2009–2010 and 2010–2011

TAKS Subtest	2009–2010		2010–2011		<i>t</i>	<i>df</i>	<i>p</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>			
Reading							
Elementary Schools	86.20	6.96	86.91	6.83	-1.44	120	.15
Middle Schools	83.09	8.96	83.88	9.35	-1.37	37	.18
Mathematics							
Elementary Schools	87.05	6.64	88.18	7.69	-2.17	120	.03
Middle Schools	79.00	11.81	82.40	10.66	-3.49	37	.001

Note. Elementary school comparisons are based on half of a year of participation in 2009–2010 and a full year of participation in 2010–2011. Middle school comparisons are based on no participation in 2009–2010 and a full year of participation in 2010–2011. The only non-FCB schools were high schools and these schools were not comparable to elementary or middle schools.

References

- Food Research and Action Center (n.d.). *School breakfast program* [fact sheet]. Retrieved from http://frac.org/wp-content/uploads/2009/09school_breakfast_program_fact_sheet.pdf.
- Houston Independent School District (2010). *First class breakfast* [Brochure]. Retrieved from http://www.houstonisd.org/FoodServices/Images/3FCB_Jan2010.pdf.
- Vaisman, N., Voet, H., Akivis, A., & Vakil, E. (1996). Effects of breakfast timing on the cognitive functions of elementary school students. *Archives of Pediatric and Adolescent Medicine*, 150, 1089-1092.