

Food for Thought: The Quality of Durham Public School Lunches

Amy Czaja

The goal of this study is to identify policy strategies to improve the nutritional quality of Durham Public School lunches as part of the Duke School Research Partnership and in collaboration with the Durham Public School Board

The Importance of Nutrition

Nutrition has been shown to have effects on both the cognitive and behavioral outcomes of children

The intake of glucose affects cognition

- Increased performance on short and long-term memory tests, and decreased reaction time after glucose intake

Iron affects cognition and behavior

- Iron deficiency correlated with standardized test scores
- Iron supplementation increases test scores and performance on tasks that measure attention, memory and concentration

Amount of fat in lunches affects cognition and mood

- Lunches with medium amounts of fat and carbohydrates increase concentration and reaction times but cause drowsiness, uncertainty, and despondence
- Lunches with a high fat content correlated with impairment of cognitive abilities

Hunger causes behavioral, emotional and academic problems

- Children with poorer diets display slower reaction times, less attention and poorer problem-solving skills
- Poor diet correlated with lower academic achievement, repeating a grade, psychologist visits, suspensions and difficulty socializing

Fatty acids are linked to hyperactivity

- Research suggests a link between zinc and fatty acids and Attention-Deficit/Hyperactivity Disorder (ADHD)

National School Lunch Program

- The "National School Lunch Act" of 1946 promotes the health and well-being of children by providing states with grants to provide reduced price or free lunches to students
- School lunches should meet one-third to one-half of the minimum daily nutritional requirements of a child 10-12 years old
- The lunches must comply with the 1995 Dietary Guidelines for Americans: contain moderate amounts of salt and sodium and limit total fat to 30% of total calories and saturated fat to less than 10% of total calories
- Studies from the 1990s show that on average, school lunches contained adequate vitamins and minerals but exceeded the recommended fat and saturated fat content

Current Situation in Durham and North Carolina

- Durham Public Schools (DPS) participate in the National School Lunch Program
- The DPS Child Nutrition Program operates on an \$11 million budget and serves 31,000 students each day
- Cost of elementary school lunch = \$2.10, secondary school lunch = \$2.35, reduced lunch = \$0.40
- In the 2009 - 2010 school year, 57% of all students are receiving either free or reduced-price lunches
- North Carolina schools were on their way to reaching the increased nutritional standards posed by the federal government in the 1980s and early 1990s
- Cost of production has increased and funding from the government has decreased, causing North Carolina schools to return to selling fatty, fried foods and fewer fruits and vegetables
- North Carolina schools sell a la carte items (potato chips, French fries, ice-cream, etc.) which are not subject to any nutritional standards but are popular with students and increase revenue
- North Carolina ran pilot studies in elementary schools to increase the nutritional content of its lunches and replace a la carte items with healthier items
- The results were: higher costs of foods, higher production costs, decreased a la carte sales, and the study was abandoned
- The predicted cost of implementing the nutrition standards in North Carolina elementary schools is \$20 million annually

Policy Recommendations

Improve quality through the expertise of chefs

- Chefs have the knowledge and connections with food distributors to help schools create healthier lunches while also cutting costs
- Successfully implemented in Baltimore, New Haven, NY, etc.



Scheduling lunch time after recess

- Pilot programs have shown that children spend more time eating instead of rushing lunch, visit the nurse less, are less likely to be hungry or sick later in the day and are more focused when they return to class
- Adds about 15 minutes of extra classroom instruction
- Around 5% of the countries schools schedule recess before lunch

Nutrition Education

- The CDC and Department of Agriculture researched the best practices for nutrition education and found programs that show positive results on student health
- Model programs include: Team Nutrition and Action for Healthy Kids



Durham Elementary School Lunch Menu Sample from March 2010 Menu

Monday, March 1	Tuesday, March 2	Wed., March 3	Thurs., March 4	Friday, March 5
Breakfast: Assorted Juice Spiced Panc Assorted Cereal Toast & Butter Lunch: Hot Dog w/Chili & Colby Country Style Pork Potato Salad Colby Mac & Cheese Fruit Milk Bread	Breakfast: Assorted Juice Pancake w/Chili Assorted Cereal Toast & Butter Lunch: Turkey, Cheddar & Colby Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Pancake w/Chili Assorted Cereal Toast & Butter Lunch: Cheese W/Chili & Colby Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Spiced Panc Assorted Cereal Toast & Butter Lunch: Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Spiced Panc Assorted Cereal Toast & Butter Lunch: Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread
Monday, March 8	Tuesday, March 9	Wed., March 10	Thurs., March 11	Friday, March 12
Breakfast: Assorted Juice Spiced Panc Assorted Cereal Toast & Butter Lunch: Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Pancake w/Chili Assorted Cereal Toast & Butter Lunch: Turkey, Cheddar & Colby Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Pancake w/Chili Assorted Cereal Toast & Butter Lunch: Cheese W/Chili & Colby Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Spiced Panc Assorted Cereal Toast & Butter Lunch: Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread	Breakfast: Assorted Juice Spiced Panc Assorted Cereal Toast & Butter Lunch: Chicken Salad Potato Salad Green Beans Broccoli White Rice Bread



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Impacts of Mobility and School Transition on Spanish-Speaking Immigrant Youth in Durham

Anne Marie Gordon

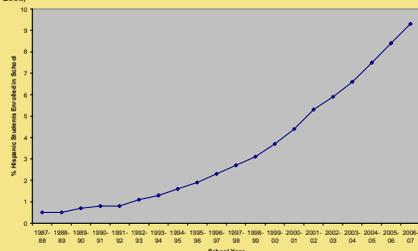
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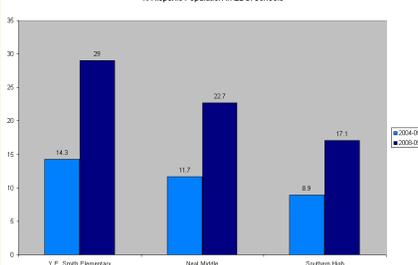
Background

- The Hispanic population of North Carolina is one of the fastest growing in the U.S. – while the nation's Hispanic population has increased by 355 percent over the past thirty years, North Carolina's growth over the same period has exceeded 1,000% (North Carolina Latinos, 2003).

- Indicative of the overwhelming proportional growth of the Hispanic population in the state, enrollment in public schools has grown by 2,614% in comparison to a 24% overall enrollment growth rate in the state (Kasarda, 2006).



% Hispanic Population in EDCI Schools



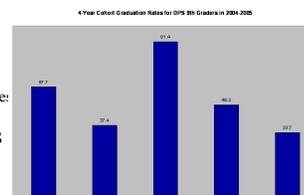
Source: NC Dep't of Public Instruction

- Schools within the East Durham Children's Initiative have experienced increases in Hispanic enrollment over time, coupled with low and, in some cases, decreasing End-of-Grade passing percentages for students classified as Limited English Proficient (LEP). (NC Dep't of Public Instruction)

- The EDCI's awareness of this group's particular challenges can serve as both a vital tool in expanding the EDCI's comprehensiveness and as a highly valuable component of support to the new and growing population of Spanish-speaking students

Specific Challenges Regarding Mobility and School Transition

- Mobility**
 - Difficulties associated with school transition further widen gaps in academic achievement due to transitional difficulties that accompany moving
 - The impacts of mobility are compounded for immigrant students. Not only do they experience the normal challenges associated with school change, but they must simultaneously adjust to a new lifestyle, culture, and school system in the United States:
- Risk of dropout**
 - Severe educational attainment disparities exist within the student population in DPS
 - Hispanic and Limited English Proficient (LEP) students have alarmingly low graduation rates, especially in comparison to other students in the district
- School involvement**
 - Less attachment to a school results in lower rates of extracurricular participation
 - Failure to form connections with a school proliferates feelings of social disconnectedness
- Stress and isolation**
 - Physical shift due to mobility risks damaging an adolescent's self-confidence as their former self-understanding is tested in the midst of a new geographic home and a different set of peers with whom to interact
 - Mobility tends to have a negative effect on the psychological wellbeing of students due to general anxiety that accompanies significant life changes
- Development of stable student-adult relationships**
 - Positive teacher attitudes towards students and the ability of a teacher-student relationship to develop serve as stable and dependable support through student development. Fewer opportunities for these connections to be made due to mobility can hinder the formation of genuine in-school relationships
- Social network formation**
 - For newcomer immigrants, lack of a secure peer network lends to lower academic performance
 - The level of a student's value as perceived within the school's hierarchy correlates with the value they place on educational success



Sources: Delgado-Gaitan 1988, South 2007, Xie et al. 2009



Percentage of Students with Limited English Proficiency (LEP) Passing End-of-Grade Tests

	2008-2009	2007-2008	2006-2007	2005-2006	2004-2005
State of North Carolina	34.6	19.8	38.3	34.8	49.7
Durham Public Schools	28.5	13.8	31.7	32.2	42.2
Y.E. Smith Elementary	32.1	<5	31.3	46.2	63.6
Neal Middle	18.6	<5	11.1	14.9	21.1
Southern High	30	30.1	16.7	30.1	12.5

Source: NC Dep't of Public Instruction

Y.E. Smith Elementary, Neal Middle, and Southern High School – the three schools served by the East Durham Children's Initiative – exhibit historically low LEP passing rates for End-of-Grade tests, both when compared with aggregate proportions in Durham Public Schools and the state of North Carolina. Currently, Y.E. Smith and Southern are performing above the average for the district, but slightly below the average for the state. Neal is consistently and substantially lower-performing than the rest of the district and state.

The East Durham Children's Initiative

Vision of the East Durham Children's Initiative:

"To develop the support and resources for children and families to provide a pathway or pipeline from birth through high school graduation ready for college or career."

- Organization that focuses on community outreach and empowerment services for both students and adults within the zone's jurisdiction

- Breadth of the EDCI encompasses nearly the entire attendance zones for:

- Y.E. Smith Elementary School
- Neal Middle School
- Southern High School

- Implemented over the past two years, the EDCI's services include parenting courses, child and adult literacy, tutoring, and miscellaneous other programs that aim to create an atmosphere of positive expectations and powerful dreams for students in the area

Source: <http://eastdurhamchilddrinitiative.org>



Programs and Methods to Target Needs of Immigrant Youth

- Targeted parental outreach helps parents overcome specific barriers**
 - Logistics – financial pressures as a result of recent immigration, lack of social network support
 - Attitudes – dissatisfaction with personal school abilities, view of the school as an impenetrable bureaucracy
 - Misunderstood expectations – uncertainty about level of involvement necessary in students' school life, parents feel judged by occupation, economic status, or personal education levels
- Newcomer-oriented programming helps students attain basic English comprehension and begin the process of acculturation**
 - Middle and high school students require more focused intervention in order to transition most effectively into mainstream education
 - Models currently exist in states with large populations of immigrants: California, New York, New Jersey, and Texas
 - Either through part-time or full-day instruction, immigrant students' learning is accelerated in order to prepare them for life in the United States and success in the U.S. school system

Sources: Riggs 2006, Short 2002, South 2007

Overcoming Barriers: Parental Involvement in Schools

Naomi Gabrielle Harris

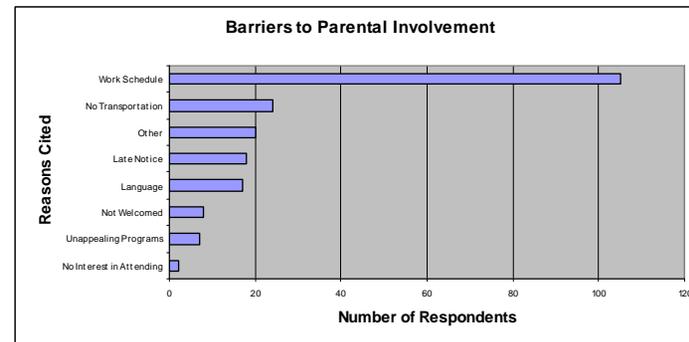
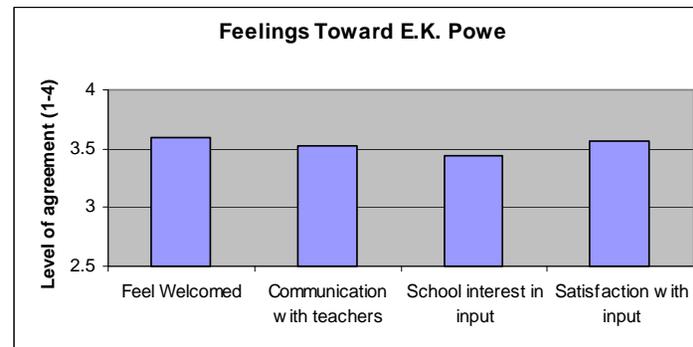
Background:

- Parental Involvement in their child's school has been shown to improve students' academic performance and their overall school adjustment.
- Minority families and families of low socioeconomic status (SES) have been shown to be less involved with their children's school than their White counterparts.
- Specific barriers have been found to hinder these populations from being more involved in their student's school activities.
- Due to low involvement, these populations may be underrepresented in regards to decisions about the school and their children may be at a disadvantage in comparison to their peers with more involved parents.
- The goal of this project was to examine factors that may impede involvement of low income families and minority families in activities at E.K. Powe.

Methods:

- **Participants:** Parents/Guardians of E.K. Powe Elementary School students located in Durham, NC
- **Procedure:** Surveys were distributed to parents/guardians. Questions assessed their attitudes towards the school, their current involvement at Powe, and obstacles that may hinder them from attending more events, etc. were included.
- **Data Analysis:** Surveys were analyzed using SAS.

Results:



References:

- Grolnick, W., & Slowiaczek, M. (1994). Parents' involvement in children's schooling: a multidimensional conceptualization and motivation model. *Child Development, 65*, 237-252.
- Kim, Y. (2009). Minority parental involvement and school barriers: Moving the focus away from deficiencies of parents. *Educational Research Review, 4*, 80-102.
- Pelco, L. E., Ries, R.R., Jacobson L., & Melka, S. (2000). Perspectives and practices in family-school partnerships: a national survey of school psychologists. *School Psychology Review, 29*, 239-254.

Results:

- ~56% response rate
- Respondents reported strong positive feelings towards E.K. Powe and the faculty.
- Low SES was not significantly linked to any barrier listed.
- 23% of Hispanic parents reported that language barrier hindered their involvement.
- 36% of White parents stated that late notice about events hindered their involvement.
- African American parents were more likely to report that work conflicts limited their involvement.

Discussion:

- Using multiple and diverse methods to communicate with parents and learning about their concerns may encourage greater parental involvement.
- Certain barriers are experienced by all racial groups.
- Language barrier is a concern that should be reevaluated for effectiveness.
- Having a broader range of events or responsibilities that parents can be involved in may increase parental participation.

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Corrective Reading Program Efficacy and Fidelity in the Durham Public School System

Chelsea Koglmeier
Advisor: Ann Skinner

Research Information and Plan

• Question:

• Is there a significant difference in the efficacy of the Corrective Reading Program (CRP) in classrooms which receive additional interventionist support versus classrooms that do not receive additional support ?

• Hypothesis:

• Additional support in classrooms will lead to a significant increase in student performance

• 3-tiered Data Analysis:

• *Peer-reviewed journals* – to give background information on CRP and find historical documentation of it's effectiveness on the reading development of exceptional children. Also, to cite evidence about the correlation between fidelity adherence and program efficacy.

• *Observations* – to give perspective on the everyday implications of CRP when teachers receive additional support versus not receiving support

• *Benchmark exam statistics** - to give statistical evidence about the effectiveness of CRP on the exceptional children population given support level

**The benchmark statistics have not yet been analyzed. This work needs to*



Corrective Reading Program Components

- CRP is a direct instruction program that focuses on:
 - 1) increasing reading accuracy
 - 2) reading fluency
 - 3) reading comprehension.
- There are 2 major intervention strands and 4 instructional levels
 - *Intervention Strands:* Decoding (vocabulary expansion, logical sentence structure/textual organization) and Comprehension (clarity in thought, words, and speech)
 - *Instructional Levels:* A, B1, B2, and C (based on original reading level)
- Small group or one-on-one lessons
- Lessons are 45 minutes and are taught 4-5 times a week
- Each lesson has 30-45 minutes of teacher-directed work and 10-15 minutes of independent student work.
- Lessons are further broken down into four parts:
 - 1) Word attack skills
 - 2) Group reading
 - 3) Workbook exercises
 - 4) Individual reading Checkouts

Research on Corrective Reading Program

• CRP has been shown to be more effective than other reading programs (specific programs not specified) when used with learning disabled populations (Polloway et al., 1986).

• CRP has been shown to be more effective than general remedial instruction (i.e. pull-out methods) on students reading below their grade level (Gregory, 1982).

• CRP saw additionally significant results when there was additional teacher support and systems in place for monitoring program implementation (Gregory, 1982).

• CRP has had mixed results for student improvement in reading fluency, two studies claiming student fluency was increased (Slavon et al., 2006 and Torgeson et al., 2006) and another claiming CRP had no effect on reading fluency, but strong gains in word skill development (Bradford et al., 2006).

Research on General Reading Intervention Programs

• In order to effectively institute and utilize certain teaching programs, there needs to be a significant investment of time, funds, and resources that many school districts are unable to provide without additional support (Douglas M., 1995).

Research on Fidelity adherence

• Fidelity has been shown to be "central to the validity of any intervention study and is closely related to the statistical power of outcome analysis" (Dumas et al., 2001).

• Without maintaining the fidelity of an intervention program, the internal validity of the program can be lost and the program may be less effective (Dumas et al., 2001).

• Teachers' background characteristics (i.e. professional/programmatic experience), can effect their attention to fidelity in practice (Zvoch, 2009).

• Teachers seem to maintain higher rates of fidelity in activity related tasks versus instructional processes – both of which are CRP components (Pence et al., 2008).

• Fidelity differs with the passage of time and consistent monitoring is necessary to ensure program efficacy (Pence et al., 2008).

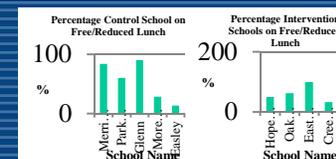
Benchmark Score Analysis*:

Nine elementary schools from DPS (with similar demographics and sizes) were chosen for comparing the results of student's benchmark scores.

• 4 Intervention Schools (receiving additional support) with 6 participating teachers and 48 students

• 5 Control Schools with a currently undefined number of teachers and students

*The statistical analysis and final data compilation needs to be completed for this information



Conclusions and Recommendations

• Based on research, there seems to be a correlation between fidelity monitoring/teacher support and the efficacy of reading programs.

• Taking into consideration that the school district is running on limited funds, there should be some steps taken to try and increase support for those teachers receiving none. Suggestions:

• Use volunteers to conduct fidelity checks (parents, university students, community volunteers, etc..) given necessary training

• Have teachers using CRP do peer evaluations and fidelity checks of one another (benefit: increased community amongst teachers, cost: money to cover classrooms while teacher is not present)

• Create a secure chat group/forum for teachers to exchange ideas

• Apply for additional grant money

Effective Alternatives to Suspension and Behavior Management for Durham Public Secondary Schools

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Advisor: Dr. Anne-Marie Iselin

Suspension in Durham Public Schools

- The number of suspensions has decreased over the last two years, but there has been an increase in violent acts among students in DPS secondary schools.
- This raises many questions that have significant policy implications:
 - What are the problems with current suspension policy?
 - What are the needs of secondary schools in Durham with regard to suspension policy?
 - What are the evidence-based alternatives to suspension?
 - Can they resolve the needs of Durham Public Schools(DPS)? What roadblocks might DPS face when implementing these alternatives to suspension?
 - What additional research needs to be done on alternatives to suspension?
- This paper examined answers to these questions through evidence gathered from interviews with experts (i.e., an attorney, a law professor, & superintendent and director of student services), reports from the Department of Public Instruction, and research literatures.

What are the problems with current suspension policy?

- Suspensions are not effective in reducing the behavior problems they are intended to address.
 - They are ineffective deterrents of disruptive or violent behavior.
- For the most part, suspensions are overused and are unhelpful for the student involved.
 - Suspensions place the student in an out-of-school environment where they are more likely to be exposed to violence and drugs.
 - Suspensions are related to increased risks of dropping out of school and being involved in the justice system.
- Oftentimes, suspensions do not recognize the context of a situation.
 - For example, some schools still suspend students for truancy.
- Current policy focuses too much on addressing behaviors as a singular issue and not enough on addressing the student and his/her complex needs.

What are the needs of secondary schools in Durham with regards to suspension policy?

- Durham's secondary schools need a program that:
 - Maintains a safe and orderly school environment
 - Prevents future suspensions
 - Does not deny the students' right to an education
 - Contains preventative and proactive features
 - Deals with the unique context of situations and matches the method of discipline to the specific misbehavior

What are the evidence-based alternatives to suspension?

- Positive Behavior Support (PBS) seems to be the most effective, evidence-based alternative to suspension.

Policy Recommendations:

- Fully-implement Positive Behavior Support (PBS) System with an additional post-misbehavior component
- PBS is a multifaceted, evidence-based approach that emphasizes teaching and encouraging desired social behaviors, maximizing academic success, and removing factors that promote and sustain problem behavior.
- In the case of a problem behavior still occurring, there must be some sort of reactive discipline strategy.
 - Options include community service, peer mediation/counseling, and behavior contracts.

Can evidence-based policies resolve the needs of DPS? What roadblocks might DPS face?

- Specific discipline is approved by each principal, so fidelity to the district's policy may be an obstacle.
- Funding may be the most difficult issue.
- PBS is currently being implemented, but full-implementation (extra staff and training) is more costly.

What additional research is needed?

- More in-depth look into the needs and expectations of all stakeholders in DPS suspension policy (students, parents, teachers, administration, other staff, etc.)
- Avenues for funding a full-implementation of Positive Behavior Support in Durham Public Schools
- Continue evaluating other alternatives to suspension



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