Academically and Intellectually Gifted Programs in Orange County, NC

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Background

- 3 million students nationwide are identified as gifted and talented
- Recent discussion on impact of gifted and talented programs on achievement
- National trend of underachievement, defined as a difference in expected and actual achievement, in gifted students
- Potential factors influencing underachievement:
  - Unchallenging curriculum
  - Lack of student motivation
  - School and program factors

The Problem: Reduced Academic Growth for AIG Students

Orange County AIG Growth versus School-wide Achievement

Orange County AIG Students Showing Negative Growth on Exams

Orange County AIG Growth by Grade Level

Orange County AIG Growth by Class Size

Negative Growth Within Schools of More* and Less* Economic Disadvantage

References

1. Bai, S. I., Scott; Craig, Steven (2012). "Poor Results for High Achievers." Education Next 12(1).
2. Xiang, Y. D., Michael; Cronin, John; Theaker, Robert; Durant, Sarah (2011). Do High Flyers Maintain Their Altitude? Performance Trends of Top Students, Thomas Fordham Institute.

AIG in Orange County

- Schools studied
  - 7 Elementary (total of 99 AIG students)
  - 3 Middle (total of 334 AIG students)
- Personnel
  - AIG Specialist for each school
  - AIG Coordinator for district
- Placement
  - 95% or higher on district-approved achievement test or EOG test in identification area OR
  - 95% or higher on district-approved aptitude test
  - Score of Probable on the GATES (Gifted and Talented Evaluation Scales) OR
  - Middle school: Grade of "A" in identification area
- Services
  - Cluster grouping
  - Collaboration between classroom teacher and AIG Specialist
  - Pull out and/or push in for talent area
  - Enrichment opportunities
## Background

### Causes
- **Family Factors**: High mobility, lack of transportation, poor supervision
- **Student Factors**: Lack of safety, poor social skills, mental health and substance use issues
- **School Factors**: Low engagement

### Costs
- 1 dropout costs public $200,000
- A program costing $728,000 with 400 students needs to graduate 1 in 115 students to be cost effective.

### Objectives
**Durham Public Schools Strategic Plan:**
- Enable all students to graduate from high school
- Pursue lifetime goals
- Become engaged citizens in workforce

### Milestones
- Lower annual dropout rate to 3% or lower
- Achieve a 80% four-year graduation rate by 2014

## Ineffective Interventions

### Police-led
- Short term improvement in attendance, long term decline
- Higher delinquency records after contact with police
- Hindered family engagement

### Out-of School Suspension
- Making a student miss school for missing school is ineffective

### Punishment-only
- Punishment only programs have negative effects

## Effective Interventions

### Attendance Monitoring
- **Purpose**: Categorize levels of attendance to match particular interventions with each type of truant
- Exceptional Attendance, Good Attendance, Moderately Absent, Chronically Absent, Severely Absent

### Parent Notifications
- **Personal contacts to parents following unexcused absence(s)
- Most effective when personal and timely
- Shown to reduce truancy at all levels

### STEP: Student Transitional Environment Program
- Transition 6th/9th graders to new social environment
- Homeroom teachers assume role of counselors
- Participants have 4 common classes
- Improves grades and attendance
- STEP students report less depression, anxiety, and delinquent behavior

### Check & Connect
- Mentor assigned to student to
  - Pinpoint causes of disengagement
  - Implement strategies to connect family and student
  - Advocate against out-of-school suspension
- Reduces truancy, absenteeism, dropout rates; increases credit accrual

### Behavior Monitoring & Reinforcement Program
- Reward positive behaviors and provide feedback to parents
- Devise behavioral management strategies
- Improves grades
- Intervention group 66% less likely to have juvenile record
Population by Race/Ethnicity-State

- American Indian/Alaskan Native (2008-2010): 1% - 2%
- Asian (2008-2010): 33%
- Black (2008-2010): 8%
- Hispanic (2008-2010): 56%
- White (2008-2010): 1%

Applicants by Race/Ethnicity-NCSSM

- American Indian or Alaskan Native: 1%
- Asian: 23%
- Black or African American: 14%
- Hispanic of any Race: 8%
- White: 54%

Why are minority students not applying?

- Limited Information
  - Students may not know about NCSSM or be unfamiliar with the admissions process
  - Minority students that excel at math and science may not be encouraged by their high schools to consider NCSSM.

- Concerns about leaving home
  - Students may be reluctant to leave their family and home community. One former NCSSM student stated “I knew that I won’t get the same tribal community that I had at home here, that’s why so many of my friends never came.”*
  - Difficulty in adjusting to a roommate/boarding school

- Pre-conceived notions about NCSSM
  - Underrepresented students may have inaccurate ideas about student life at NCSSM. One former student stated “All my friends thought that NCSSM is filled with nerds who have no life”*
  - Perceptions that school is highly competitive

- Lack of support from peers & teachers
  - “Are you sure you want to apply there? Are you sure you will succeed there?”
  - “I don’t think you should apply, you’re not qualified enough”

* from interviews, re-writing opinions shared in book ‘STEM the Tide’

Policy Recommendations:

**Summer Program**

Summer program in NCSSM for rising sophomores who are minority students to build interest in Science and Math as well as give them an idea of what it is like to live in a boarding school in Durham:

- Path 1: Could be like the Cornell Summer School where students can gain credit and live in school and experience it
- Path 2: Could be like summer program NCSSM holds in District 1 where students do experiments to build interest in science

Will help overcome the pre-conceived notions as well as give the students a chance to try and live away from home and see how they like it.

**Student Ambassador Program – Special Counties**

- Done to counter mainly the Information factor as well as the other factors
- Build on the current program in place at NCSSM by adding a focus to it
- Have current students or recent graduates speak to under-represented students at schools/counties in counties from where not many minority students apply from. The students could be effective recruiters for the school

**Outreach Program – Special Counties**

- Speak to schools in counties that are successful in sending a large number of minority applicants vs. counties that aren’t successful in sending a large number.
- Compare between this data to see what could be done in the unsuccessful counties

Acknowledgments:

I would like to thank the following individuals for their support of and insights into this project: Sneha Coltrane, Gail Hudson, Dr. Barber, Paula Wilkins, Joel Rosch, Clara Muschkin and the many students who participated in my interviews.

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GOAL: To identify policy strategies to mitigate the academic and behavioral problems associated with the transition from elementary to middle school in the Durham Public Schools as part of the Duke School Research Partnership and in collaboration with Dr. Julie Spencer

Background

• The transition to middle school presents unique challenges to students, parents, teachers, and administrators. Transition difficulties have been linked with multiple negative outcomes, including behavior problems and poor academic performance.

  • Developmental Challenges
    • Change and development in self-concept, self-esteem, and identity
    • Decrease in motivation
    • Physical adjustments brought on by puberty
  • Environmental Challenges (Anderson 2000)
    • Organizational: Increased physical size of the building, larger student population, different daily schedule structure, and the necessity for students to be more independent.
    • Social: Changes in student-teacher relationships, changes in student social integration with new peers, interacting with older students.

• As research demonstrates that behavior problems are closely linked to academic achievement, failure to support and address students’ increased behavioral problems can lead to poor academic performance.

• Poor academic performance has negative consequences for schools because of state and federal policy regarding academic improvement metrics.

School Responses to the Challenge

School districts across the nation have implemented various transition programs to mitigate problems associated with the transition from elementary to middle school.

• Parental Involvement Initiatives
  • Parental involvement in middle school is associated with increased student achievement, which is most strongly reflected in parents communicating to their children the importance of schooling to attain their future goals.
  • Utilize questionnaires to more successfully introduce parents and students to middle school procedures and policies.

• ‘Shadow’ Programs
  • Teachers and school leaders can prepare students by aligning the curriculum, expectations, and environments across classrooms.
  • This goal can be accomplished through a program in which 5th graders “shadow” 6th graders for an entire school day.

• Orientation Programs
  • DPS has implemented this solution in some of its schools. Review of the literature provides ways in which these programs can be strengthened.
  • Smith Middle School in Chapel Hill, NC conducted a three-week orientation for all incoming 6th graders at the start of the school year. The program, designed by Dr. Patrick Akos at the University of North Carolina, Chapel Hill, starts with strong student support, gradually allowing more independence, while addressing students’ concerns regarding logistics, academics, and social components of the new school environment.

• Support Groups
  • This strategy reduces the sentiment of isolation students may feel in facing the challenges in transitioning to middle school.
  • Eccles (1993) cites counselor-led transition groups as the most developmentally appropriate yet underused intervention for students making the transition to middle school.

• Peer Mentoring Programs
  • Multiple school districts have implemented this strategy, however, studies of these programs have revealed no definitively positive outcomes for students in the transition to middle school.

Policy Recommendations for DPS

1. Conduct student and parent needs assessment at each elementary and middle school.

2. Implement one or more of the following transition strategies:
   • Improve existing orientation programs utilizing information gathered from assessments.
   • Increase parental involvement initiatives to improve parental engagement with schools.
   • Implement 6th grade transition groups led by counselors or teachers.
   • Reduce disconnect from 5th to 6th grade by implementing “shadow” program.

3. Contact and consult with Dr. Patrick Akos, who has done extensive research on transition programs as well as worked on the Smith Middle School orientation program in Chapel Hill, to Develop a program for DPS

Themes Identified in Successful Programs

• Developmentally appropriate for adolescents and the emotional and physical challenges students face at this stage.
• Tailored to specific needs and problems that students, parents, and teachers at each individual school identify.
• Address the procedural, logistical, and structural changes that students experience in the transition from elementary to middle school.

Addressing the Problem: New DPS 6th Grade Summer Camp

• With the goal of easing students’ transition to middle school in the fall, DPS utilized and incorporated some of my research to create this new 6th grade summer camp:
  • 3 weeks
  • Full days Monday through Thursday
  • Target high-risk students that are identified through a data system
  • 50 students at each school
  • Camp will be held at the students’ schools for next year
  • College and career readiness institute that will bring in speakers, events, field trips to inform students of opportunities after their education
**Best Practices for Implementing a One-to-One Laptop Program**

Christopher L. Gierl  
Advisor: Dr. Elizabeth Gifford

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**One-to-One Laptop Program in Orange County**

- What is one-to-one laptop program?
  - A school with a one-to-one laptop program has a laptop for every student and teacher in the school
  - 6 states and many school districts now have one-to-one laptop programs
  - Computers become embedded in the curriculum and student experience

- Orange County’s One-To-One Laptop Program
  - Funding from local taxes was recently allocated from local taxes
  - Teachers will receive laptops this summer
  - Students in grades 6-12 will receive laptops this upcoming fall. Grades 4 and 5 will receive laptops in the 2013-2014 school year

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**Recommendations for Implementing a One-to-One Laptop Program**

- High-quality, continuous professional development
  - Provide pedagogical training over the summer and throughout the school year to ensure teachers incorporate effective teaching strategies
  - Support teacher professional development through organizational policies such as professional development communities and time dedicated for training
  - Adequate technological infrastructure and support
  - Ensure that the necessary technical aspects, such as the network capacity and electricity access, are in place before laptops are dispersed to the district
  - Committed leadership in securing and sustaining stakeholder buy-in
  - Involve key stakeholders in decision making to ensure continued buy-in for the one-to-one laptop program

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**Implementation of One-to-One Laptop Programs**

- Literature has expressed mixed results for one-to-one laptop programs, but computers seem to be the way of the future. There are indications that one explanation for the differences between programs is concerns regarding implementation.

- There is a growing body of knowledge on important components of successful one-to-one laptop programs, but implementation is key to connecting the research with the application in schools. Programs that have great potential to improve outcomes for students may fail due to poor implementation

- Implementation of a program will go through several stages, but Core Implementation Components (Fixsen et al., 2005) should be focused on in order to implement a successful program. These component interact with one another and overlap such that strong components can compensate for weaker ones.

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**Methods**

- Best practices were determined through interviews with three Directors of Technology of North Carolina districts that have successful or long-running one-to-one laptop programs.

- These interviews were analyzed through the lens of the Core Implementation Components framework

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Two Goals of Education: 1) increase academic performance 2) to foster individual development. Students must be prepared for success in the 21st century marketplace and in the 21st century society.

Which placement strategy yields the best outcomes for both achievement and development?

**Age-Based Grouping**

**Grade Levels**

*Purpose:* Graded schooling developed as an element of the factory school model, promoting time- and cost-efficient education.

*Criticism:* The rigidity of grade-level expectations assumes that students of the same age develop at similar rates and perform similarly.

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**Performance-Based Grouping**

**Tracking, Ability Grouping**

*Purpose:* This method, also an element of the factory model, tailors instruction to level of performance.

*Criticism:* Disproportionate placement of minority and low-income students in low-performance tracks and ability groups develops in practice.

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**Recommended Placement Strategy: Mixed-Age, Mixed-Ability**

**Mixed-Age Grouping**

This type of grouping creates a family-like environment as peer age differences resemble sibling age differences. Students form friendships across a wider age range outside of the graded school than when in school.

<table>
<thead>
<tr>
<th>Average age difference between unrelated friends</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>In school</em></td>
</tr>
<tr>
<td>6.04 months</td>
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**Mixed-Ability Grouping**

Grouping students by ability may encourage more student interaction and is related to improved performance for minority and low-income students.

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**Structural changes must complement placement of students.**

Concerns to address:

- Inappropriate expectations per grade level when students vary in development and performance
- Race- and class-based disparities that emerge from inequitable performance-based grouping methods

Responsibility for reform lies on educators, not on students. By allowing inappropriate expectations and inequitable practices to persist, schools fail to meet the needs of their students.

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**Policy Recommendations**

1. **Evaluate course placement processes for presence of de facto tracking**

   While de jure tracking may have been dismantled, ability grouping and other performance-based grouping methods may exhibit de facto tracking in practice. Students are hindered by hidden prerequisites for high-track courses and selective responsiveness to requests for placement in high-track classes.

2. **Invest in teacher training for developmentally appropriate instruction**

   Because student placement does not yield adequately homogenous groups, the specialized instruction that grouping methods are meant to facilitate is obstructed. Developmentally appropriate teaching includes team teaching, cooperative group work, differentiated instruction, integrated curriculum, and encouragement of peer interactions.

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Purpose: To research the effects of gender-based schooling on the academic achievement and social adjustment of middle and high school students, and to recommend strategies to maximize the effectiveness of gender-based schooling should Durham Public Schools introduce this option.

Context

Educating males and females separately is a potential solution to the shortcomings of coeducation, and is gaining popularity in the public school realm. Gender-based schooling is particularly relevant for middle and high school students, as an academic learning loss is frequently observed during the transition to middle school, associated with the increased complexity of cross-sex interactions that also accompanies this transition.

Shortcomings of coeducation include:

• As compared to females in all-girl classrooms and/or schools, female students in coed environments report higher levels of sexual harassment, preoccupation with physical appearance, and harsh criticism from peers about various behaviors, coupled with a lower sense of global self-worth.
• Competition for male attention undermines friendships between females.
• Females in coed environments experience higher levels of sexual harassment than females in single-gender environments.
• Teachers’ gender-based stereotypes negatively impact students’ experiences. Girls are often discouraged from pursuing mathematical interests, and boys are disciplined on a more frequent and arbitrary basis than girls.
• Boys use a disproportionately high percentage of physical classroom space, and are permitted to speak out of turn more often for longer periods of time than girls.

Impacts and Potential Drawbacks of Gender-Based Schooling

Single-gender schooling benefits students academically and socially, and improved academic achievement may result from improved social adjustment.

Academically, single-gender schooling is most effective in improving mathematical performance in girls, and in encouraging boys’ participation in subjects traditionally deemed “feminine” (music, drama, art, etc.). Socially, students (especially female students) feel freer to be themselves. Additionally, when a teacher shares the same gender as his or her students, students are more comfortable addressing issues such as sexual pressures. This bond between students and their teachers improves overall school achievement.

Single-gender schooling has the greatest impact for student populations least served by coeducational environments. Academic and social benefits have been most profound among students of racial or ethnic minority groups and of low socioeconomic status, as well as economically disadvantaged females. Similarly, boys lacking positive male role models (generally from disadvantaged backgrounds) typically perform poorly in coeducational classrooms, especially with female teachers, but improve in single-gender classrooms, particularly with male teachers.

Negative ramifications may occur from single-gender models of education.

Teachers’ gender-based stereotypes commonly intensify in single-gender environments. Girls’ teachers (unwittingly) encourage students to seek constant and unnecessary affirmation, a phenomenon observed less commonly in coed and boys’ schools.

Confounding variables, as well as a selection bias of single-gender school students, skew studies’ results.

Most single-gender programs receive significant extra funding from school districts or research grants, which may influence documented gains. Additionally, findings are complicated by the increased levels of enthusiasm demonstrated by single-gender school educators as well as these educators’ general support for novel initiatives. Finally, the selection bias of higher-achieving students into gender-based schooling, the overall higher socioeconomic status of single-gender school students, and intensified academic focus of most single-gender schools challenges the legitimacy of much current research.

Policy Recommendations

1. Clearly define measurable district goals in adopting gender-based schooling

Gender-based schooling benefits some students more than others; apply this information to predict if a specific goal can be met. For instance, if the achievement of African-American males is of particular concern, gender-based schooling is likely a good choice for that cohort of students, but may or may not be logical to implement at a district-wide level.

2. Assess community support

Gender-based schooling must be voluntary. Evaluate demand to appropriately plan staffing assignments, classroom configurations, etc.

3. After assessment, create a school choice plan to determine how single-gender classes/schools will be filled

Investigate districts that currently use public-school choice policies to learn best practices.

4. Train teachers in gender-equitable practices

This will require financial investment, and would involve raising teachers’ awareness about unconscious ways they may be stereotyping their students, particularly when the students are the same gender.

5. Explore alternate solutions

The strengthened student-teacher bonds that often accompany gender-based schooling are extremely influential in determining student success. There may be ways to facilitate such bonding in a manner that is less costly and complicated than gender-based schooling. Options such as a single-gender, after-school mentoring programs or discussion forum might be worth looking into.

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**Methodology**

- Literature review to identify key elements of successful Freshman Academies.
- Structured interview with the Freshman Academy Guidance Counselor at each school to elicit the academy’s design and implementation.
- Survey of Freshman Academy teachers at Jordan and Northern High Schools. Evaluated the teachers’ perceptions of the academy along the following metrics:
  - Effective Use of Teacher Teams
  - Autonomy in Decision Making
  - Strong School Leadership
  - Professional Development
- Using information gathered, I created the Freshman Academy Rating Scale that can guide further evaluation and improvements within the Durham Public Schools.

**Background**

- The transition to high school is a critical time in a student’s academic career. The decision to drop out most often occurs during the ninth grade.
- Small Learning Communities (SLCs) aim to break up larger schools internally so that they function more like small schools, with smaller class sizes and more personal student/teacher interactions.
- Freshman Academies are a type of SLC designed to bridge the gap between middle school and high school. The key components of a Freshman Academy are:
  - Teacher teams (less than 140 students per teacher team)
  - Common planning time for teachers
  - Administrator and guidance counselor assigned to the academy.
  - Decision-making occurs autonomously within the academy.
  - Separate identity – either a floor or a wing – within the school.
- Primary goal of most Freshman Academies is to reduce the number of 9th graders retained in what is often called the “9th grade bulge”. The 9th grade bulge is often followed by the “10th grade dip” in students who enroll in the 10th grade.
- The charts below track what is called the “promoting power” of Jordan and Northern High School since 2002. The promoting power is the number of enrolled 10th graders over number of enrolled ninth graders.

**The Freshman Academy Rating Scale**

- Evaluation rubric that can be used as a research instrument and a program evaluation tool.
- Evaluates Freshman Academies on 16 indicators clustered in five categories (diagram on left).
- Each indicator is assessed on a “low”, “moderate”, or “high” implementation scale.

**Policy Recommendations for Durham Public Schools**

- Provide a physical presence for the Freshman Academy within the school building.
  - This is the mechanism through which the Freshman Academy makes the school feel physically “smaller” for the 9th graders. This is already occurring at Jordan and Hillside.
  - Benefits of a physical presence include increased teacher collaboration and student contact.
- Clearly identify the primary outcome goal and the outcome metrics that will be used to assess this goal.
  - Communicate the primary outcome goal clearly to both school staff and district-level staff.
  - Use backward design model to then identify evaluation metrics and the processes that will be used to get students to reach this goal.
  - Track and share data across district and school personnel.
- Integrate ongoing assessments of both the Academy itself and the effectiveness of producing the desired learning outcomes in students.
- Provide weekly common planning time during the regular school day.
  - Common planning time should be dedicated to teacher collaboration, not administrative meetings.
- Strengthen the quality of Freshman Academy professional development.
  - Teachers have identified a need for content-specific, grassroots professional development.
  - “Lesson Study” professional development may be an effective option that fits well into the collaboration inherent among Freshman Academies.

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Beginning Teacher Mentoring in Durham Public Schools

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Background

• During the 2005-2006 school year, DPS became the first school in North Carolina to implement the New Teacher Center model of teacher mentoring. Under this model, about 30 full-time mentors worked with up to 15 novice teachers while receiving extensive training in mentoring strategies. (New Teacher Center, 2010)
• Currently, Durham Public Schools is unable to grant mentors full release time. The New Teacher Center model has effectively been eliminated due to lack of funding. This elimination requires examination of how mentoring impacts new teachers. Policy makers must also look for new ways to facilitate mentoring, given limited resources.

The figure below describes current new teacher mentoring practices in Durham Public Schools.

Interview Methods

• To understand the specific experiences of beginning teachers in Durham Public Schools, I conducted in person interviews with six first year Durham public school teachers.
• Each interview focused on the teacher’s experience with district’s current mentoring program.
• Questions focused on the mentor-mentee relationship, categories of mentor support, support outside of the mentoring relationship, and suggestions for future mentoring programs.

Specific Benefits and Challenges Regarding Beginning Teacher Mentoring in Durham Public Schools

Benefits

• Emotional Support
  -- All of the teachers interviewed spoke about the importance of having someone to talk to during the school day.
  -- Daily “check-ins” in the hall or during lunch proved beneficial for mentees.
  -- All of the teachers reported having a positive and friendly relationship with their mentors, and this type of comfort allowed for honest and open discussion.

• Professional Practices
  -- All teachers reported being observed by their mentors at least once per month during their first semester teaching.
  -- Teachers described advantages of receiving an outsider’s perspective on classroom management and teaching strategies.

• Mutual Reflection
  -- Reflection helped new teachers realize areas for improvement and derived from a comfortable relationship with their mentors.
  -- One teacher spoke about how his mentor taught him to constructively self-evaluate his teaching practices.

Challenges

• Time
  -- All of the teachers reported that finding time for meetings and observations was a primary challenge.

• Communication
  -- Three out of six teachers said that they were unaware of the district’s accountability requirement of recording mentoring hours online.

• The Match
  -- A veteran special education teacher expressed her frustration when she was granted a full release time mentor (2005-2006), but that mentor had no experience teaching special education.
  -- Other teachers were pleased that their mentors wanted to mentor because they heard of situations where the mentor did not take his or her job seriously.

Policy Recommendations to Improve New Teacher Mentoring in Durham Public Schools

• Allow mentors and mentees to form a relationship based on a mutual process
• Provide time during the school day for mentoring
• If possible, create a voluntary on-line discussion board for mentors and beginning teachers to discuss teaching practices and strategies.
• Match new teachers with mentors who teach the same content area whenever possible
• Clarify the accountability requirements for the district (on-line logs, meeting requirements, etc.) so that both mentors and mentees are fully informed about the expectations for record keeping
• Maintain the current practice of requiring that mentors observe beginning teachers on a regular basis.

Goals of New Teacher Mentoring

“Mentoring, when done right, can stabilize the shifting ground on which new teachers try to stand.” (Darling-Hammond, 2000)

• Teacher Retention
  • Several factors contribute to teacher turnover including, low salaries, excessive workloads, views of teaching as a temporary profession, high-stakes testing, and dissatisfaction with administration. (Brill & McCarthy, 2008)
  • Mentoring can push and support beginning teachers through the initial difficulties within the classroom and school environment so that they experience professional growth and success.

• Student Achievement
  • Although a gap exists in the literature examining the effects of teacher mentoring on student achievement, research suggests that teacher quality and professional development are positively correlated with student achievement in reading and mathematics. (Hattie & Timperley, 2007)
  • Future research should examine the correlation between teacher mentoring and student achievement.

This word cloud represents the frequency of words used during the 6 interviews with Durham Public Schools teachers.

Selected quotes from each interview were inputted into an online application to create this image.

• The most frequent words in quotes from the interviews were mentor, first, time, teacher, and school.
Recommendations for a Family Academy that Increases Academic Achievement in Durham Public Schools

Ivy Prince
Advisor: Ann Skinner

Key Characteristics of Effective Family Academies

1. Perform a self-assessment and survey families’ needs
2. Increase number of families involved in their children’s schooling
3. Choose workshop topics that meet a variety of needs
   a. Academic needs of families
   b. Strategies to help children learn at home
   c. Family well-being
4. Demonstrate how to continue the learning at home and online
5. Recognize and honor diversity in the school community
6. Identify and prepare for barriers to family involvement

Durham Public Schools’ Strategic Plan

The DPS strategic plan was created to link DPS, the Durham community and families to provide guidance and direction for the next ten years. The mission of the strategic plan is to “provide all students with an outstanding education that motivates them to reach their full potential and enables them to discover their interests and talents, pursue their goals and dreams, and succeed in college, in the workforce and as engaged citizens.” To help achieve this mission and as Strategy 2 of Goal 11.4 in the strategic plan, DPS hopes to establish a family academy in partnership with local educational institutions and parent-support agencies.

Existing Effective Family Academies

1. Miami-Dade Parent Academy
2. Guilford County Parent Academy
3. Rutgers’ Center for Family Involvement

Model of Recommended Family Academy

Location
- Offer same academy at multiple locations (Elementary schools, community centers)
- Near a bus line/easily accessible to public transportation

Time
- Option: families can attend on weekend or weeknight
- Offer same academy at multiple times so more families can attend (ex: Tuesday evening and Saturday afternoon)

Implementation
- Pilot academy on a small scale, get feedback (give evaluation form before attending academy and after to gauge effectiveness)

Teachers
- Important to have workshops led by school staff to further develop relationships (teachers, principals)
- Provide incentives: approval for CEU’s, unprotected workday off

Frequency
- As often as possible with follow-up services provided online
- Effective to offer shorter, smaller-scale workshops rather than an all-day workshop so that if a family member occasionally misses one, all is not lost
- Work towards building a culture of parent involvement

Importance

“Picture yourself in any one of these hypothetical scenarios: you’re a parent who never graduated high school; you’re a parent whose only interactions with schools have been negative ones; you’re a parent who has zero recollection of how to divide fractions; you’re a parent who has no clue as to what the important dates are on the college-application calendar. Now picture yourself experiencing all of these hypothetical scenarios at once, and then imagine how your child would suffer from your knowledge deficit. For as much as the current wave of education reformers like to maintain that quality teachers and schools can help overcome environmental factors, a child’s home life plays an undeniable role in how well they learn.”

-Karen Mapp, director of the Education Policy and Management Program at the Harvard Graduate School of Education.

Next Steps

1. Review websites for the Miami-Dade Parent Academy, Guilford County Parent Academy, and Rutgers’ Center for Family Involvement which offer resources, a calendar of workshops, and other useful information.

2. Assess the needs and preferences of DPS families.

3. Design a Durham Family Academy within the appropriate budget with as many options available to families as possible.

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The goal of this study was to provide information on the best way for Communities in Schools of Durham to create a summer program to reduce the loss in math achievement for elementary school children over the summer. The recommendations are based on the characteristics of successful summer and year-round math programs.

**Policy Recommendations**

When creating a summer math program, focus on the ways students and teachers will interact in the classroom.

- The best way to improve children’s math achievement in classrooms is to change the way students and teachers interact in the classroom.
- Therefore, an effective summer math program should be taught by experienced teachers who can manage time effectively, encourage interactive learning, and motivate students to want to learn math.

A summer math program should include a computer-based component in addition to regular classroom instruction.

- Coupling regular classroom learning with computer assisted instruction has positive effects on students’ mathematics achievement.
- A computer-based component is a cheap and effective way to improve students’ math skills.

**Characteristics of Successful Summer Math Programs**

- **Involve parents**
- **Contain substantial academic components**
- **Coordinate summer learning experiences with school-year experiences**
- **Be aligned with statewide standards**
- **Begin at a young age**
- **Provide small-group or individual instruction**
- **Have a strict program plan created purposely to achieve program goals**
- **Have qualified staff**
- **Forge strong relationships with schools**
- **Create linkages to outside groups in the community**
- **Incorporate fun activities like field trips and hands-on learning experiences**

**Why should CIS create a summer math program?**

- On average, children lose one month of math skills over the summer. This loss is more pronounced for low income students.
- Remedial summer programs targeted at disadvantaged students can help close the achievement gap.

- There are many more summer programs for reading than for math. CIS of Durham already has a summer reading program called Durham Reads. However, this does not make sense because children lose math skills even faster than they lose reading skills.

- Children do not encounter math in their daily lives over the summer so they have no opportunities to practice their math skills.
- Existing summer math programs have been successful in getting at-risk students caught up with their peers and preparing them for the following school year.

**Computer Assisted Instruction**

Adding a computer-based component to classroom instruction has positive results on student achievement.

- There are summer math programs that are solely computer based, such as TenMarks. TenMarks is a series of tests and worksheets that track students’ progress. The summer program had a 72% success rate in a trial at an elementary school in California.

A study looked into the most effective ways to improve math achievement. Computer assisted instruction and changing the classroom instruction methods were the most effective.

- Although the study did not look into programs that combine CAI and instructional process approaches, it predicts that there will be very large positive effects.

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Thanks to my faculty advisor, Joel Rosch, for his support this semester and to David Rabiner and Jenni Owen for coordinating the School Research Partnership program.
Impacting Student Motivation to Stay in School:
Recommendations for Communities in School’s Graduation Coaches

By Allie Yee

Motivation

Scope of Research

This research draws from the following three areas:

- Dropout Intervention Studies
- Achievement Motivation Studies
- Counseling Studies

These studies focus on techniques for instructors in the classroom to motivate students. GCs do not provide direct academic support, but many of these strategies can inform their work.

Counseling Studies

These studies deal with youth and adults who have more serious psychological needs than GCs are expected to address, but there is much to learn from this literature’s discussion of client motivation, autonomy and counselor-client relationships.

Motivation: A Brief Overview

- Motivation is complex phenomenon fueled by a variety of individual needs and preferences.
- Motivation is broadly defined as “that which moves us to act” and consists of two components: energy to move and take action and direction to guide actions toward a goal.
- Motivational theories consider whether someone feels they can accomplish a task and their reasons for doing so.

Major Themes

The following are three major areas of motivation drawn from the literature.

- Ability: Belief in one’s abilities to reach a goal or change behavior is called self-efficacy. Studies in achievement motivation and counseling have found that students and clients with higher self-efficacy are more likely to achieve their goals. GCs should consider strategies to build students’ skills and improve their sense of self-efficacy.
- Direction: Studies, particularly those in dropout intervention and achievement motivation, find that students who are future oriented are more likely to stay in school and to improve academic achievement. Counseling studies have also found that clients with a sense of autonomy and self-direction are more likely to successfully change behavior. Thus, GCs should help students develop long-term goals and become future oriented.
- Connectedness: Both dropout intervention and counseling studies emphasize the importance of students and clients feeling connected with and significant to others. Individuals in many dropout intervention studies said that positive, supportive relationships with a mentor or a school counselor helped them through school. GCs should nurture open and trusting relationships with their students. Motivational Interviewing may be a good strategy to develop such a relationship.

Purpose

- At the request of Communities in Schools of Durham’s executive director, Bud Lavery, this research considers important aspects of student motivation to stay in school and recommends strategies for Communities in School’s Graduation Coaches to incorporate to motivate students with whom they work one-on-one.
- This research draws from literature in dropout intervention studies, achievement motivation studies, and counseling studies to identify important aspects of motivation that are pertinent to Graduation Coaches’ work. It then looks at programs and strategies that incorporate these aspects of motivation and recommends on how they might be incorporated into the program.

Community Partner

- Communities in Schools of Durham is the local branch of a national wide dropout prevention network of a non-profit organization called Communities in Schools (CIS). The Durham branch seeks ways to motivate students in Durham who drop out of high school, which is about 400 students per year.
- One such program is the Graduation Coaches model, where Graduation Coaches work with students in groups and individually to help them stay in school and graduate.

Graduation Coaches

- In Durham, each CIS Graduation Coach (GC) is responsible for 30-75 students at a middle school or high school. GCs currently work in 4 schools in Durham.
- Students are identified for the program based on their attendance, academics, and behavior. Students are considered at risk within the scope of the GC program if they have 15-25 absences per year or 2-3 absences per month, lower than a 2.0 grade point average, and 1-4 suspensions. GCs work with students who have two or three of these risk factors.
- Within the program, GCs work with students through Level 1 and Level 2 interventions. Level 1 refers to broader interventions through school-wide programs or group sessions. Level 2 is individually focused interventions. Depending on students’ needs, they may participate in Level 1 or Level 1 and 2 interventions. The focus of this research is to suggest strategies for GCs to help students through Level 2, one-on-one interactions.

Check & Connect

Check & Connect is an evidence-based mentoring program that CIS of Durham may consider as a model for its program design. The Check & Connect model incorporates the three identified aspects of motivation—ability, direction, and connectedness.

Program Design: In Check & Connect, mentors check on students consistently and monitor their school attendance, suspensions, etc. to make sure students stay on track. When issues arise, mentors connect with families and school personnel to help address the problem.

Ability: By tracking students’ attendance and behavior, mentors help increase the time that students are present and engaged in classroom, by which students are more likely to get regular practice and build on their skills and abilities in school.

Direction: Mentors engage students in discussions about their future aspirations.

Connectedness: Mentors are required to work with students for two years and follow an individual student if he or she changes school. This long-term commitment promotes meaningful relationships between mentors, students, and their families.

Recommendation: The GC program currently incorporates many of these components, except for the long-term commitment. CIS should consider extending GCs’ commitment from 1 academic year to 2 years and following students who change schools to promote consistency and relationship development.

Motivational Interviewing

Motivational Interviewing (MI) is a counseling technique used to help reluctant substance abusers prepare to change their behavior. The approach has been adapted for use in other counseling areas including dropout prevention. CIS should consider adapting this technique to use with students who are struggling to stay in school.

Method: MI is a structured conversation that helps clients resolve their ambivalence towards change by “rolling with resistance” rather than countering it. Through open conversations, clients realize the need to change their behavior as discrepancies between their goals and desires and their actions arise.

Ability: Counselors help clients believe in their capacity to change by pointing out past accomplishments upon which they can build.

Direction: Counselors discuss clients’ goals, desires, etc. and help them consider how their current behavior contributes to or detracts from them.

Connectedness: Counselors express empathy and promote an open, trusting relationship to help clients honestly express their thoughts and feelings.

Recommendation: CIS should consider training GCs to use MI with their students. Training should be comprehensive and GCs should follow MI techniques closely with students to evaluate the efficacy of the intervention with their students.