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TABLE OF CONTENTS

Journal of Urban Learning, Teaching, and Research

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THE DISCOURSE OF CHALLENGE:
INTRODUCTION TO 2013 ISSUE OF JULTR

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As the titles in this issue suggest, the work within and around urban schooling continues to stretch our imaginations and creativity to find pathways to success within systems that can, on the one hand, empower and advocate for urban students and, on the other hand, can contribute to injustice and oppression for the many students who populate urban schools. At first we blamed the kids and their families for failure to be 'proficient' on state tests; now we seem to be focusing on the schools and teachers as the problem. The wider cultural values and practices that we broadly observe and participate in, including an increasing skepticism and distrust of science, a cultural thread of anti-intellectualism as being elitist and anti-democratic, and media choices that can reify our beliefs with no authentic dialogue across differences, are not discussed as correlates of disengagement and academic stagnation.

In St. Louis, a group of suburban schools with high numbers of Black and poor students have recently lost accreditation with the state of Missouri; this echoes the earlier path of the larger St. Louis Public School system which had an elected Board displaced by an appointed 3-member Board by the governor a few years ago. The leadership of these newly 'underperforming' districts deliberated and chose a target district to receive students who wished to transfer. The response of the parents and students in the sending and receiving districts was a lesson in history and a bit of déjà vu since St. Louis had the largest federally mandated court-ordered busing program in the country in the 70s when systematic discrimination by the state of Missouri towards educating Blacks was clearly documented.

Responses to this latest migration was mixed: For example, at town meetings, there were mothers who got up to argue for putting in metal detectors in the receiving high schools (a clear 'othering' perception of 'those' kids); there were also parent groups who attended meetings in the unaccredited districts to assure parents, whose children were choosing the long bus rides, that these new students would be welcome, acknowledging that this was an opportunity for growth and learning for all players. Those who stayed in the unaccredited districts were met with welcoming celebrations from staff and community members. Clearly research needs to guide us to continue efforts to make a difference for students in urban schools.

Strategies for Making a Difference

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The first four articles in JULTR speak to the complex and often conflicting issues around schools labeled as "turnaround", "underperforming" or "low-performing" schools. Although such negative discourse surrounds us, we seldom reflect on the way this language locates the problem in the school as the unit of analysis. Such labels resist a more situated sociocultural analysis of the layered reality within these districts. Burke and Adler (2013) begin this issue by documenting, "how the era of increased accountability and standardization has led to a narrowing of the curriculum and the marginalization of teachers" as they narrate two 5th grade teachers' efforts to negotiate the challenges of urban schools in creative and reasonable ways.

To revitalize urban schools' performance Warren & Kelsen (2013) take a look at in-depth principal mentoring as a pathway to improve school outcomes. They tie the success of the mentoring experience to the performance of students on standardized tests; importantly they include school performance data from one year after the mentoring intervention ends. Although perceived positive leadership and climate were rated higher in the mentor condition of turnaround schools compared to controls, there was not a significant increase in the elusive goal of higher test scores.

Creative Settings for Learning

The next set of articles points our attention to programs designed to reengage urban students by learning in new ways and in new contexts. Ikpeze (2013) reveals how an Expeditionary Learning Model, along with committed teachers made a difference in one K-10 urban school. Using Wenger's (1998) community of practice framework, Curwen & Colón-Muñiz (2013) next provide a case study of an after school bilingual program in a poor Latino neighborhood that integrates and extends school day learning through deep collaboration across programs. Sanchez-Leal, Schorr and Warner (2013) provide a glimpse of the discourse dynamic of "A young male who wanted to 'look smart'" through a micro analysis of interactional talk; Eric calls out an answer in class only to be challenged by peers and the analysis unpacks his feelings of being disrespected and his initial disengagement – the authors show us the nuanced complexity in all learning contexts.

The next two articles grapple with mathematical beliefs and identity issues (Oppland-Cordell, 2013. Since STEM fields continue to be a challenge for US students, we are glad to take this look into the experiences of higher education students negotiating math identities. What are the consequences of having teachers and citizens who internalize an antipathy for math? What needs to change to invite more into STEM areas? The final articles cover a range of topics from improving graduation rates for students with disabilities, to preparing literacy tutors, to evaluating an innovative project based STEM high school. We hope you enjoy and learn from this broad selection of JULTR articles focused on the ins and outs of urban education and we thank our authors for their dedication and insights.

PERSONAL CONSEQUENCES OF COMPLIANCE AND RESISTANCE TO MANDATED REFORMS FOR TEACHERS IN LOW-PERFORMING SCHOOLS

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ABSTRACT

This case study examines the experiences of two fifth grade teachers as they dealt with district mandates while trying to address their high-poverty urban children's learning needs. It reveals their personal struggles that led to both compliance and resistance. In this case, the act of finding the space to engage in the intellectual and creative act of redeveloping the curriculum was an act of political resistance and ultimately an act of caring. By examining the experiences of these two teachers we see again how the era of increased accountability and standardization has led to a narrowing of the curriculum and the marginalization of teachers. This increase in accountability disproportionately impacts teachers and students in urban schools.

Keywords: Urban teachers, District mandates, Compliance, and Resistance

Past recommendations for curricular and instructional improvements (National Commission on Excellence in Education, 1983) and NCLB demands for high stakes accountability and highly qualified teachers (H.R. 1--107th Congress, 2001) have placed teachers squarely in the crosshairs of reform efforts. In order to improve teacher quality, there has been an increasing emphasis on the adoption of the Common Core State Standards (Council of Chief State School Officers, 2010) and commercial curricula (Au, 2011). Schools have developed policies and implemented practices to address teacher quality based on perceptions and fears of annual aggregated standardized test results (Elmore, Abelmann, & Furhman, 1996; McDermott, 2007). Pressures to reform are embedded in increasingly hostile public rhetoric about the condition of public education suggesting the larger system is flawed beyond repair (Au, 2011; Berliner & Biddle, 1995). This study examines the experiences of two fifth grade teachers and the personal consequences of their acts of compliance and resistance to mandated reforms in a high poverty, low-performing urban school district.

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<center>**Theoretical Framework**</center>

We view the work of teachers through Noddings (1988; 2003) framework of care, where the teacher is identified as a caring professional whose students are central to curricular and instructional decisions and who engage in critical reflection to focus instruction with materials and tasks that matter most. Teachers foster analytical and critical problem solving skills (Burbules & Callister, 2000) and are deliberative about their actions within "setting[s] characterized by contradictory realities, negotiation, dependence, and struggle" (Britzman, 2003, p. 31). In this case, the teachers have redefined caring as a political act of resistance. This study is also grounded in the belief that children who reside in high poverty communities and depend on urban schools for academics require caring (Noddings, 2003), culturally appropriate (Ladson-Billings, 1998) teachers who utilize student-centered curriculum and pedagogy (Meier, 2002) and academically challenging content. Effective teachers recognize the dynamic nature of the classroom (Britzman, 2003; Noddings, 2003) and are prepared to re-orient their teaching to impact student learning through instruction that is fluid and changes over time. Effective teachers collaborate to provide optimal learning experiences within a community in which they are actively engaged (Epstein, 2001; Thayer-Bacon, 1998).

Negotiating power in urban schools

This case examines two teachers' efforts to re-envision their curriculum and practice to validate their students' lived experiences (Montgomery, 2000; Nieto, 1994, 1996; Villegas & Lucas, 2002) and to promote cross-curricular connections (Beane, 1995; Erickson, 2002) through inquiry driven practice (Dewey, 1916, 1938; Postman & Weingartner, 1969) while attempting to adhere to standards and district mandates. The district had a history of low academic performance. Although there was a consensus that more effective teaching was needed to meet their predominantly high poverty students' needs, there was not a consensus about how to achieve this goal.

Like other urban districts, Tanglewood[4] was caught up in a perpetual state of reform (Lytle, 1992) long before NCLB became the cause *du jour*, with its focus on highly qualified teachers and adequate yearly progress at the school level (Lytle, 2007). In the years prior to this study, Tanglewood's reform efforts had become increasingly driven by state and federal mandates. The perpetual reform cycle resulted in constant changing of teachers' roles without any evidence of significant changes in student achievement; the top-down mandates challenged teacher autonomy and instituted prescriptive solutions.

Tanglewood's efforts to improve achievement were hampered by a lack of instructional materials, reduced planning time, minimal support for professional

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[3] Tanglewood and the names of the teachers in the study are pseudonyms.

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development, and outdated and/or dilapidated facilities – all environmental conditions, common among urban schools (Kozol, 2005). The lack of resources profoundly impacted teachers and situated their instructional planning within a paradigm of scarcity. The constant pressure of accountability marginalized the teachers, erasing their abilities to maintain professional boundaries and eliminating their own creative spaces (Burke & Burke, 2005).

Methodology

This case study (Stake, 1995) is part of a collaborative action research project (Noffke, 1997) and draws on ethnographic (Geertz, 1973) and critical feminist research methodologies (Maher & Tetreault, 1993). The experiences of two fifth grade teachers were documented as they navigated district-mandated reforms while attempting to implement the student-centered curriculum and instructional strategies developed as part of this collaboration.

Site and Participants

Tanglewood is a small urban district, with three elementary schools, one middle school and one high school, serving 2,357 students (73% African American, 24% Caucasian, 1.4% Hispanic, and 88% eligible for free or reduced lunch). The district, originally created to remedy local racial segregation, combined two working class communities--one predominantly African American, the other Caucasian. Over time, local economic decline and shifts in school demographics returned the district to its previous racially and socio-economically segregated state.

Data Collection

Throughout two years of collaboration, field notes of meetings and classroom observations were kept. These data were shared with Mrs. Morse and Mrs. Knight and key issues were raised at meetings for clarification and further discussion. The researchers were participant observers in both teachers' classrooms and periodically co-taught. This research process could be described as flexible and inclusive whereby teachers and researchers shared both their successes and frustrations during their attempts to implement a culturally relevant curriculum. Teachers wrote weekly reflections chronicling their experiences. Using phenomenological reduction (Van Manen, 1990), we analyzed the data for emergent themes while working to balance these themes with a sense of the whole project. The emergent themes were shared with the participating teachers for member checking.

Three episodes emerged as illustrative windows into the tensions between the two fifth grade teachers and their administrators. The first episode occurred during the fall following the summer of initial planning when the use of a test-prep curriculum, the "Toolkit," was mandated by administration to prepare students for the state's high-stakes standardized assessment. Episode One

highlights the teachers' lack of autonomy. Episode Two was initiated by the implementation of a rigid pacing guide and mandated common assessments. During this episode, the teachers found their professional identities threatened. In the second year, a third episode occurred that highlighted a shift. Unlike the first two that were triggered by district mandates, the third marked a return to the original plans that resulted in the development and implementation of a culturally responsive interdisciplinary unit. Episode Three reveals how the teachers found themselves engaging in "silent" acts of resistance.

The juxtaposition of these episodes illustrates the ways that district mandates that do not allow for teacher input serve to marginalize teachers and limit their efficacy. It also illustrates how collaboration and greater autonomy can lead to greater professionalism and richer instructional outcomes.

Episode One: The "Toolkit" and Teacher Loss of Autonomy

In 2005, the Tanglewood administration responded to the shift in the state's annual assessment from the spring to the fall by mandating a scripted test prep curriculum, the "Toolkit," purchased from another district. The administration considered test preparation essential to address the expected summer learning loss and the district's failure to achieve Annual Yearly Progress (AYP) for several years. The "Toolkit" provided fifteen scripted full-day lessons focused on math, science, and language arts to be implemented prior to the October assessments.

The "Toolkit" proved to be problematic for three reasons. First, lessons contained non-culturally relevant examples; for example, writing prompts required prior knowledge about overnight summer camp. Second, content area mastery was assumed; for example, the math content assessed the composition and decomposition of numbers up to 1,000,000 using place value. The teachers knew that this was an unreasonable assumption for Tanglewood's fifth graders, who enter school with fewer academic opportunities than their suburban middle class peers for whom the "Toolkit" had been developed. Finally, the implementation came at the start of the school year, not allowing time for the establishment of classroom routines or the development of a trusting community of learners.

For Mrs. Morse, who likened herself to a creative artist, drawing on her skills, knowledge, and sense of craftsmanship to enact a vision of effective instruction that inspires students, the events early in the school year challenged her self-image. She wrote,

> I brought to school each day a slice of "me" to impart on my students…Now [while using the "Toolkit"] I realize that my job is more and more determined by someone outside of my classroom, someone who does not observe the reality of his pronouncement on my day to day decisions.

Knowing their students would need instruction to build new knowledge and skills,

both Mrs. Morse and Mrs. Knight did not consider a review to be a viable option. In the past, both teachers routinely planned their instruction during the first few weeks of the school year to build community, set expectations for academic success, and assess students' prior knowledge. Mrs. Knight reported that she felt it was important to have the first two weeks to "get to know the students." The change in testing date and the mandated curriculum curtailed the practices they had developed over several years. She wrote,

> The day before the students arrived, the administrators handed us the "quick fix"—the "Toolkit." This was going to "fix" our scores and help us to make AYP. We were told to take two days to get to know our students, which in my eyes is not enough time to gain trust and build a personal rapport with the children.

Mrs. Knight wrote that the first day of teaching proved to be a disaster; she realized that it was moving too fast. The "kids" had the "deer in the headlights" gaze. Essentially, the teachers' abilities to design lessons to meet student needs were stripped away with the required implementation of the "Toolkit." Teachers' instructions were specifically to follow the scripted lessons, which Mrs. Knight described as "teacher model, teacher direct, and kids do."

In addition, the "Toolkit" required resources that were not readily available; for example, reading lessons were based on trade books not previously used by the district. The teachers became overwhelmed with tasks like photocopying materials and searching local libraries for copies of texts. The time lost impaired their abilities to be reflective in re-crafting the scripted lessons to provide essential scaffolding, responsiveness to student needs, and engagement for effective learning. Instruction became defined by factors external to their classrooms and their relationships with the students. Their wealth of knowledge about and prior experiences with their students were marginalized by the district mandate to implement the "Toolkit" exclusively. Mrs. Knight, realizing what had worked in the past to engage her students to promote learning, summarized this episode in two words: "Road Block!!!!"

Tanglewood's response to the state's move of its high-stakes annual assessment to the fall revealed a lack of respect for its teachers, who were not involved in decisions regarding the purchase and implementation of the "Toolkit." Any sense of ownership over curriculum and instructional decision-making was compromised. Teachers' responses to the new policies were illustrative of how high stakes accountability and standards based curriculum remove teacher autonomy.

Episode 2: Tradebooks: Stripping of Professional Identity

A district wide mandate for common assessments in language arts, specifically reading and writing, led to a required rigid pacing guide soon after the "Toolkit" implementation. Both teachers reflected that the imposition of the pacing guide continued to limit their abilities to be responsive to students' needs.

Knight stated,

> Every child learns differently and at her own pace. As teachers, we must acknowledge that difference and we must reach out in as many ways as we can to help each child learn in a way that she will understand. Every child can learn if we as teachers stick to what we know is "good teaching!

The common assessments and pacing guide relied on a commercial computer-based leveled reading program, with five core texts: *Freaky Friday* (Rodgers, 1972)*, The Secret Garden* (Burnett, 1987)*, Charlie and the Chocolate Factory* (Dahl, 1964)*, Charlotte's Web* (White, 1952), and *Bound for Oregon* (Van Leeuwen, 1994)*. The schedule for common assessments required that all students read the same text during the same two-week time frame. Cross text analysis, used in the state assessment, was chosen to be the focus of writing instruction.

Although the five core texts were identified by the publisher as age appropriate for interest and at a fifth grade reading level, both teachers shared that the books were inappropriate for their students' reading levels and lacked cultural relevance. Most Tanglewood fifth graders were reading below grade level. All but two of Mrs. Morse's students were reading at second and third grade levels as assessed on a qualitative reading inventory. Mrs. Morse and Mrs. Knight were experienced with designing instruction to bridge the reading level gaps; however, these strategies required time and flexibility that were no longer available. Mrs. Morse described her compliance with the pacing guide as "plod[ding] through" in a superficial manner. Lessons were only focused on getting the text read so that the children would have a sense of the overall plot and characters in order to respond to the common assessments. The language arts curriculum had become test-driven. Mrs. Morse regretted the fact that there were no longer opportunities for discussion or extension activities:

> In order to be what I consider a "good" teacher, I must have some latitude to tailor lessons to meet the needs of the students sitting in the room with me. I want to be valued for my expertise, for my ability to individually know each student, and for my skill at relying on teachable moments to delve more deeply into topics.

In previous years when working with the same texts, the teachers were not constrained by the newly adopted pacing guide and common assessments. While they did not consider these texts ideal, they had learned to work with them over time, selecting those that would complement thematic units. For example, Mrs. Morse integrated *Bound for Oregon* (Van Leeuwen, 1994)* with units in social studies and science. In previous years, students created persuasive arguments through advertising campaigns encouraging people to come to Oregon. They studied the river systems and geology of the Oregon Trail and explored components of the Core Democratic Values through a group survival simulation experience. Mrs. Knight developed science lessons examining food

webs and ecosystems in tandem with *Charlotte's Web* (White, 1952) that engaged children in a study of spiders.

The two-week time frame and common assessment eliminated these opportunities. Mrs. Knight reflected,

> My world" is the one that is face-to-face every day with the individuals I call "my" kids. Guiding my thinking and learning are the emotions of the children I encounter eye-to-eye, hand-to-hand, and voice-to-voice every day. Stirring their minds, healing their hearts, and caring about the whole child are what good teachers consider every moment of every lesson. It is hard to put into words what guides my decisions when I make hundreds of them per hour. These decisions are personal because my students are personal! This is why I want and deserve more control over what happens in my classroom … In the frenzy to meet AYP and increase … [state assessment] scores, have we forgotten that students must be personally engaged in school first?

Without the integration and extension of the required texts into the larger curriculum and the experiences of their students, teachers were unable to extend lessons to allow for cultural and conceptual relevance.

Episode Three: Acts of Resistance

In the year following Episode One and Two, the team resumed their work with the design and implementation of a culturally responsive, integrated curriculum. The "Toolkit" curriculum and pacing guides were still in place, but both teachers were committed to trying out new ideas. The team chose the theme of exploration for a social studies unit and began with the development of the language arts component. This choice recognized each teacher's areas of strength (Mrs. Knight in language arts and Mrs. Morse in social studies). After careful deliberation the team selected *Gulliver's Stories* (Dolch, Jackson, & Dolch, 2001) as the core trade book. The text included multiple iterations of fifth grade high frequency vocabulary, allowed for teaching and practicing comprehension skills, presented vocabulary used in the exploration unit, had an engaging storyline, introduced students to a classic in English literature, and allowed for culturally relevant themes to be developed. For example, the children were able to easily connect with issues that emerged from the text, such as physical difference and social conflict as experienced by Gulliver when he became stranded on an unfamiliar land. Text choice factors were essential for making a strong case to administration when requesting to add it to the existing curriculum. Ultimately, only Mrs. Morse's principal agreed with the contingency that she take no more than two weeks to teach it and that no other text be omitted, keeping on pace with the other fifth grade teachers.

Once the go-ahead for the text was obtained, work commenced in earnest.

Both teachers commented on the collaboration being positive and their desires to continue working together. Mrs. Knight, who chose not to seek permission and, thus, not implement the co-developed curriculum, expressed interest in continuing working on the project. She wrote,

> I would definitely like to finish our work on *Gulliver* for sure. Then I am quite flexible. Curriculum planning sounds right up my alley. I will enjoy working on any and all areas of education, so wherever the spirit takes us, I am definitely there.

During the implementation of the social studies exploration unit, both teachers described their work as important. Mrs. Knight brought new ideas to the team for activities to engage the children in the unit. In some sense, her self-image as a teacher was restored. Mrs. Morse wrote that her principal

> . . . is fairly excited about our project. She reviewed the overview integrated curriculum work done so far and was very positive! This is the first positive feedback about our collaboration that I've gotten in a long time from her. I am very encouraged.

Implementation of the exploration unit was not without its challenges. As previously noted, Mrs. Knight participated in the planning but not the implementation and Mrs. Morse's was only allowed two weeks to teach the additional text. Both teachers knew that to teach for both content and literacy required more than two weeks. Furthermore, the social studies curriculum was designed to cover multiple weeks; lessons planned included connections to concepts that emerged from the text.

Mrs. Morse was confident in her decision to continue with the text beyond the two-week limit, particularly when she saw how her students were engaged. Conscious of the fact that her principal might appear unannounced in her classroom, she advised the children to put their books away if and when the principal came to the class once they were well beyond the two-week window. In addition, she got off schedule with her fifth grade colleagues within the district. During district-wide grade level meetings when curriculum matters were being discussed, she chose to be silent, atypical of her previous participation.

The teachers found themselves in an awkward position. They shared that the planning they were doing in our weekly meetings validated their sense of being highly qualified professional educators. Their lesson planning was guided by the collaboration, framed by their understandings of culturally relevant pedagogy and effective instruction, and informed by their insights into their students' academic needs. However, their work was constantly being monitored and they were reminded not to deviate from the required pacing guide. At the same time one key administrator explicitly told them that they were not good teachers or team players in district's centralization efforts. In their effort to

address the district's struggle to make AYP the administration responded by centralizing the curriculum and instructional decision-making process, believing this to be the best way to directly align instruction with the state assessment. Sadly, both teachers' efforts to adapt the curriculum to be engaging, culturally relevant, integrated and focused on students' needs were devalued by administrators.

The work on the social studies unit was a very trying experience for the teachers. While they felt empowered by the collaboration and were pleased with the positive responses of their students who showed increased interest in school and academic achievement, as documented anecdotally, they felt marginalized from their colleagues. At a meeting toward the end of the school year when the researchers described the teachers' responses to the state and district policy as subversive acts, their reactions were instant and strong. They verbalized discomfort with being characterized as subversive and did not view their actions as political; they saw their actions, such as instructing students to hide their books, as instructionally pragmatic. However, they also recognized that over the course of the two years of the collaboration, they had increasingly engaged in small acts of defiance, teaching behind closed doors, not sharing at grade level meetings what they were teaching, and making their "official" lesson plans less and less specific.

Conclusion and Significance

In this case study, we argue that well-intended mandates within the context of high stakes accountability can result in an adversarial climate that reduces the creative moments available to teachers, constrains their abilities to respond to emergent needs in the classroom, marginalizes and causes them to respond to district initiatives in resistant ways, while "acting" in compliance. The art of teaching takes place when teachers effectively work to balance the competing needs of diverse students, content standards, and available resources. As Ms. Morse stated, her ability to be creative and more importantly her self-perception as a creative teacher were undermined by the systematic removal of her ability to make instructional decisions. The current tiered model of compliance where national standards drive state assessments, forcing administrators to evaluate teacher performance can create a context where acting as caring professionals and implementing curriculum around their knowledge and insights into their students can lead teachers to acts of political resistance.

Our study adds to the body of work that demonstrates the need to take into account teacher knowledge, self-efficacy, and their abilities to develop and implement curriculum so as to address positive student (Brimijoin, 2005; Britzman, 2003; Burbules & Callister, 2000; Burke, Adler & Linker, 2008; Cimbricz, 2002; Mahiri, 2005). Mrs. Knight's and Mrs. Morse's responses to district mandates provide windows through which we can see how the artistic nature of teaching can be compromised, stripping away autonomy and a sense of professionalism, what Au (2011) identifies as the new Taylorism. We contend that teachers who have politicized the act of caring through small acts of resistance

reassert their creative authority (Noddings, 2003). It is through their responses to conflict and quiet resolution that the space and freedom in which the coherent flow and thoughtfulness of the art of teaching are reasserted. In this case, finding the space to engage in the intellectual and creative act of redeveloping the curriculum was an act of resistance and ultimately an act of caring.

By examining the experiences of these two teachers we see again how the era of increased accountability and standardization has led to a narrowing of the curriculum (Boote, 2006; Crocco & Costigan, 2007) and the marginalization of teachers (Crocco & Costigan, 2007). This increase in accountability disproportionately impacts teachers and students in urban schools. Efforts to improve educational achievement for students in high-poverty urban schools needs to go beyond accountability to include the voices and narratives of the individuals who work and learn in urban classrooms if they are going to address the "societal reasons for the continuing poor academic performance of most students attending urban public schools" (Lytle, 2007, p. 879). Teachers who work in schools where children are viewed within an "at risk" frame of reference experience challenges to reform in personal ways. This continued achievement gap can be damaging for low-income urban children who depend on their schools for academic opportunities and achievement.

References

Au, W. (2011). Teaching under the new Taylorism: high-stakes testing and the standardization of the 21st century curriculum. *Journal of Curriculum Studies, 43*(1), 25-45.

Beane, J. A. (Ed.). (1995). *Toward a coherent curriculum*. Alexandria, VA: Association for Curriculum Development.

Berliner, D.C., & Biddle, B.J .(1995). *The manufactured crisis: Myths, fraud, and the attack on America's public schools*. Reading, MA: Addison-Wesley.

Boote, D. N. (2006). Teachers' professional discretion and the curricula. *Teachers and Teaching, 12*(4), 461-478.

Brimijoin, K. (2005). Differentiation and high-stakes testing: An oxymoron? *Theory into Practice, 44*(3), 254-261.

Britzman, D. (2003). P*ractice makes practice: A critical study of learning to teach* (Revised ed.). Albany, NY: State University of New York Press.

Burke, C. J. F. & Burke, W. (2005) Student-ready schools for every student: From elementary to high school. *Childhood Education*, *81*(5), 281-286.

Burke, C. J. F., Adler, M., & Linker, M. (2008). Resisting erasure: Cultivating opportunities for a humanizing curriculum. *Multicultural Perspectives, 10*(2), 65-72.

Burbules, N. C., & Callister, T. A., Jr. (2000). Universities in transition: The promise and the challenge of new technologies. *Teachers College Record*, *102*(2), 273-295.

Burnett, F. H. (1987). *The Secret Garden*. New York, NY: Random House.

Cimbricz, S. (2002). State-mandated testing and teacher's beliefs and practices. *Education Policy Analysis Archives, 10*(2). Retrieved from

http://epaa.asu.edu/ojs/article/view/281/407

Council of Chief State School Officers. (2010). *Common Core State Standards*. Washington, DC: National Governors Association Center for Best Practices, Council of Chief State School Officers.

Crocco, M. S., & Costigan, A. T. (2007). The narrowing of curriculum and pedagogy in the age of accountability: Urban educators speak out. *Urban Education, 42*, 512-535.

Dahl, R. (1964). *Charlie and the Chocolate Factory*. New York: Random House.

Dewey, J. (1916). *Democracy and education; an introduction to the philosophy of education*. New York: Macmillan.

Dewey, J. (1938). *Experience and education*. New York: Collier Books.

Dolch, E., Jackson, B., & Dolch, M. (2001). *Gulliver's stories*. New York: Scholastic Paperbacks.

Elmore, R.F., Abelmann, C. H., & Furhman, S. H. (1996). The new accountability in state education reform: From process to performance. In H. F. Ladd (Ed.), *Holding schools accountable: Performance–based reform in education* (pp. 65–98). Washington, DC: Brookings Institution.

Epstein, J. L. (2001). *School, family, and community partnerships: Preparing educators and improving schools.* Boulder, CO: Westview Press.

Erickson, H. L. (2002). *Concept-based curriculum and instruction: Teaching beyond facts* Thousand Oaks, CA: Corwin Press Inc.

Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.

H.R. 1--107th Congress: No Child Left Behind Act of 2001. (2001). Retrieved from http://www.govtrack.us/congress/bills/107/hr1

Kozol, J. (2005). *The shame of the nation: The restoration of apartheid schooling in America* (1st ed.). New York: Crown Publishers.

Ladson-Billings, G. (1998). Teaching in dangerous times: Culturally relevant approaches to teacher assessment. *Journal of Negro Education, 67*(3), 255-267.

Lytle, J. H. (1992). Prospects for reforming urban schools. *Urban Education, 27*(2), 109-131.

Lytle, J. H. (2007). Urban school reform: To what end? In W. T. Pink and G. W. Noblit (Eds.), I*nternational handbook of urban education*, (pp. 841-858). The Netherlands: Springer.

Maher, F. A., & Tetreault, M. K. T. (1993). Doing feminist ethnography: Lessons from feminist classrooms. *Qualitative Studies in Education, 6*(1), 19-32.

Mahiri, J. (2005). From 3 R's to 3 C's: Corporate curriculum and culture in public schools. *Social Justice, 32*(3), 72-88.

McDermott, K. A. (2007). "Expanding the moral community" or "blaming the victim"? The politics of state education accountability policy. *American Educational Research Journal, 44*(1), 77-111.

Meier, D. (2002). *The power of their ideas: Lessons for America from a small school in Harlem*. Boston, MA: Beacon Press.

Montgomery, W. (2000). Literature discussion in the elementary school classroom: Developing cultural understanding. *Multicultural Education, 8*(1), 33-36.

National Commission of Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: US Government Printing Office.

Nieto, S. (1994). Lessons from students on creating a chance to dream. *Harvard Educational Review, 64*, 392-426.

Nieto, S. (1996). *Affirming diversity* (2nd ed.). New York: Longman.

Noddings, N. (1988). An ethic of caring and its implications for instructional arrangements. *American Journal of Education, 96*(2), 215-230.

Noddings, N. (2003). *Caring: A feminine approach to ethics & moral education*. Berkeley, CA: University of California Press.

Noffke, S. (1997). Professional, personal, and political dimensions of action research. *Review of Research in Education, 22*, 305-343.

Postman, N., & Weingartner, C. (1969). *Teaching as a subversive activity*. New York: Dell Publishing.

Rodgers, M. (1972). *Freaky Friday*. New York: Scholastic Inc.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.

Thayer-Bacon, B. (1998). Pragmatism and feminism: Reweaving the social fabric. *Educational Studies, 29*(1), 19-19.

Van Leeuwen, J. (1994). *Bound for Oregon*. New York: Penguin Group.

Van Manen, M. (1990). *Researching lived experience: The human science for an action sensitive pedagogy*. London, Ontario, Canada: Althouse Press.

Villegas, A. M., & Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum. *Journal of Teacher Education, 53*(1), 20-32.

White, E. B. (1952). *Charlotte's web*. New York: Harper Collins Publishers.

LEADERSHIP COACHING: BUILDING THE CAPACITY OF URBAN PRINCIPALS IN UNDERPERFORMING SCHOOLS

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ABSTRACT

This investigation assesses the effects of leadership coaching on the knowledge, skills, and dispositions of urban public school administrators in P-12 underperforming schools. The study specifically examines leadership, management, and student achievement growth during the time of coaching. Utilizing a mixed-methods approach, three domains were assessed: (a) urban principals' perceptions about changes in their leadership behaviors, (b) student achievement growth on standardized tests during the time of coaching, and (c) participants' and coaches' perceptions of their experience in the program from interviews and coaches' logs. Results demonstrate significantly increased principal capacity in nine leadership responsibilities and positive student achievement gains after coaching the principals. This information will assist professional developers, university professors, and school personnel as they structure and implement programs to support urban school administrators.

Keywords: Leadership Coaching, Principals, Student Achievement, Urban

School principals directly impact school climate, teachers' classroom practices and attitudes, organization of curriculum and instruction, and, most importantly, student achievement (Marzano, Waters, & McNulty, 2005; Mendels & Mitgang, 2013). Despite the connections found in the research among effective principals, successful schools, and student achievement, many principals find themselves beginning their careers at or being transferred to ineffective schools with limited knowledge of how to transform the school and little to no support from the district (Béteille, Kalogrides, & Loeb, 2012; Houle, 2006; Mitgang, 2012; Weingartner, 2009). Today's leaders, particularly in urban schools, must be willing and equipped to address inequities in access to opportunities provided for students (Darling-Hammond, 2010).

Leadership coaching is vital to the induction of early career principals, though there is relatively little in the literature about its effectiveness as measured by student achievement. An abundance of literature about mentoring programs for

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beginning principals can be found; however, there have been few empirical or evaluative studies about these programs. Furthermore, few if any studies have been conducted that seek to gain knowledge from leadership coaches who have worked with urban school administrators (Alsbury & Hackmann, 2006; Hansford & Erich, 2005; Mitgang, 2012).

This investigation assessed the effects of leadership coaching on the knowledge, skills, and dispositions of urban public school administrators in P-12 schools designated by the California state as underperforming. The study specifically examined the leadership and management practices of school principals participating in a coaching program and the subsequent extent of student achievement growth at their schools. The following research questions guided the investigators as they analyzed the nature and extent of change in urban school principals who participated in a county office of education-sponsored program focusing on coaching leaders to promote student success.

Research Questions:

- What managerial and leadership challenges do urban principals identify, and are they addressed by coaches?
- How effective is coaching for urban principals as measured by perceived changes in nine of 21 responsibilities of school leaders specific to the principal (Marzano et al., 2005)?
- Does student academic achievement measured by standardized test scores increase, and to what extent, when principals are being coached? Does the increase persist the year after coaching?

Conceptual Framework

It is vitally important to provide access to high quality schooling for every child. However, a recent Civil Rights Data Collection report released by the US Department of Education (2011) indicates that "far too many students are still not getting access to the kinds of classes, resources, and opportunities they need to be successful" (para. 3). In many cases, urban students face this type of *under-education* in greater proportion (US Department of Education, 2011). Training school leaders to connect all students to high quality schooling that addresses their individual needs is one promising solution (Delpit, 2006; Larson & Barton, 2013). Elements of the most successful training programs include an analysis of the educator's core values—and a highly selective screening process, specific and direct teaching about how to engage and nurture community involvement, and research-based guidance on improving instruction, especially in mathematics and reading/language arts (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Mitgang, 2012; Orr, Berg, Shore, & Meier, 2008).

The Role of an Urban Principal

Principals in urban schools, particularly those labeled as low performing,

confront numerous challenges as they struggle to improve student achievement. These leaders often face public scrutiny due to state and federal legislation identifying their schools as failing (Houle, 2006). Leading a school in the context of the No Child Left Behind Act of 2002 has resulted in increased accountability measured in ways some deem biased or limited (Christensen, 2012; Contreras, 2005; Hilliard, 2012; McNeil, 2000; Miner, 2012; Neill, 2003, 2012; Williams & Miner, 2012). Additionally, ongoing challenges for these schools and principals include inadequate funding, balancing school management with instructional leadership, new curriculum standards, and possible termination if their schools do not show immediate results (Mitgang, 2012). These conditions have created increased job stress for many urban principals, resulting in a shortage of talented educators to lead urban schools (Darling-Hammond, 2010).

Challenging working conditions have made the principalship less appealing as a career option for many educators. This phenomenon occurs even more often in urban districts with low performing schools (Stein & Gewirtzman, 2003; Weingartner, 2009; Winter & Morgenthal, 2002). Darling-Hammond (2010) and Mitgang (2012) report that principal turnover has reached crisis proportions. The Association of California School Administrators (ACSA) claims that the average tenure of a California principal is three years. This is often due to lack of success on the job, largely determined by the more narrow measures imposed by NCLB. ACSA also predicts a turnover of nearly 40% of the state's principals in the next few years (Adler & Bossi, 2008). Given this reality, districts must retain current leaders and make the job more attractive to potential candidates (Larson & Barton, 2013; Novak, Reilly, & Williams, 2010).

Leadership Coaching Fundamentals

One means of retaining school principals is through leadership coaching. Leadership coaching, though a relatively new aspect of educational administration, provides the support principals need and a structure for contextualized job training. Leadership coaches experienced in educational administration can give their coachees, such as early career principals, a direct connection to practical knowledge (Browne-Ferrigno & Muth, 2006). Further, the job-embedded nature of the coach-principal relationship offers practical and timely opportunities for relevant learning (Fullan, 2008; Novak et al., 2010; Smith, 2007; Stein & Gewirtzman, 2003).

An effective leadership coach-principal relationship is intentionally structured. Principals are paired with a coach from outside of their district whose leadership style and experience complement their own and who is deemed successful and respected. Then, the coach establishes a relationship of trust and support with the principal, while providing opportunities for purposeful reflection and interaction where the boundaries for the time investment have been clearly established (Bloom, Castagna, Moir, & Warren, 2005). Coaches work most efficiently when they have empathy and foresight about the challenges to and goals for student achievement faced by early career principals (Conyers, 2004; Rich & Jackson, 2005; Weingartner, 2009).

Principal's Role in Student Achievement

The quality of the principal's work is second only to the quality of teachers when determining factors that influence school improvement, particularly in high-poverty schools. Recent reports have suggested that principals account for 25% of the school-level impact on student achievement (Kearney, 2011; Woodard, 2013). As a coach and principal work together, they build a principal's self-efficacy and consequently their ability to improve student achievement (Kearney, 2010).

Principals who work with a coach learn how to navigate the challenges of the job while reflecting about their ability to improve student achievement (Alsbury & Hackmann, 2006; Darling-Hammond, Meyerson, LaPointe, & Orr, 2010). ACSA is a pioneer in training leadership coaches to work with school administrators and in studying the effectiveness of the leadership coaching process. The organization set out to determine if principals who participated in their two-year coaching program led schools whose test scores increased during the years they were coached and whether or not the student achievement continued to increase the year after the coaching. Student achievement was measured by changes in the school's Academic Performance Index (API). API is a measurement in California based on a formula using student academic achievement on state-mandated standardized tests. While questions about the legitimacy and validity of high-stakes standardized tests as an authentic measurement of student achievement remain, such instruments represent one of the most common assessment tools used in the evaluation of school quality at this time (Christensen, 2012; Contreras, 2005; Hilliard, 2012; McNeil, 2000; Miner, 2012; Neill, 2003, 2012; Williams & Miner, 2012).

Given the limitations and bias inherent in standardized testing and API tabulation, the ACSA study's findings showed 40 of the 50 participants in the two-year coaching program were at schools with positive API growth from the first year through the second year of coaching. One cohort achieved an average 20.6 points, and the other cohort attained a 22-point growth in API scores during the two years of coaching. API scores from one of the two cohorts of principals were reported and analyzed for report for their first year the first year after participating principals received coaching. Twenty-two of these 25 principals led schools where scores increased with an average growth of 12.36 API points (Adler & Bossi, 2008). The ACSA program is the same coaching model used by the participants in this study.

Method and Data Sources

Participants

Participants included a purposeful sampling of principals and coaches from two large, urban districts who had participated in the county office of education coaching program. All 22 principals from these districts and their eight

coaches who participated in the coaching program one to two years during 2005-2010 were contacted by telephone and/or email by the county office and this research team and invited to participate in the study. Participation in the study was voluntary with informed consent obtained from all participants. Participants' data were coded to ensure confidentiality throughout the investigation. Five of the six principals in District A, thirteen of sixteen principals in District B, and all eight coaches elected to participate in the interviews; ten principals completed surveys; and ten coach logs (documenting all coaching sessions for each principal) were randomly selected for review.

The principal participants all worked at elementary, middle, or high school Program Improvement Schools (based on NCLB Annual Yearly Progress scores; see Table 1). Six (32%) of the principals self-identified as African American, three (16%) as Hispanic/Latino, and ten (52%) as White. One (12%) of the coaches self-identified as African American and seven (88%) as White. According to the coaching program administrators, all of the coaches had previously worked as administrators in the same level and county in which the coaches served as principals.

Table 1

Demographic Data for the Districts Where Participants Served as Principals

	District A Grades P-8	District B Grades P-12
Total Number of Students Enrolled	22,561	27,453
Hispanic/Latino	87.54%	75.5%
Caucasian	5.53%	5.4%
African American	3.29%	15.9%
Asian American	2.08%	1.0%
American Indian	.51%	.3%
Native Hawaiian/Other Pacific Islander	1.04%	1.0%
Multiple Races or No Response	--	.8
English Learners	52%	32%
Students with Special Needs	10%	7.2%
Students Qualifying for Free/Reduced Priced Meals	85.3%	80.2%

All data retrieved from DataQuest (http://www.cde.ca.gov)

Quantitative Methods

Two quantitative measures were employed with the principal participants. First, an electronic questionnaire was used to determine the principals' attitudes toward the coaching received (Babbie, 1990). Principal participants were asked to complete an online self-administered questionnaire (Fink, 1995) based on the

Mid-Continent Research in Education Laboratory's (McRel) Balanced Leadership Framework that assesses 21 leadership responsibilities (Marzano et al., 2005). These authors grouped the 21 responsibilities into two sets, nine of which are the principal's specific responsibility to perform. The principal uses the nine responsibilities to equip the leadership team to carry out the other twelve responsibilities. For the purposes of this study, the nine responsibilities identified by McRel as critical for principals in building a *purposeful community* with a strong leadership team were analyzed (See Table 2). A school that is a *purposeful community* has collective efficacy (the sense that together members can all make a difference) and the ability to build and use assets to achieve shared goals. While the principal can use the nine responsibilities to enlist the leadership of others, it is the full leadership team that enacts all 21 responsibilities and brings about true school transformation.

The 276-item self-assessment tool measured perceived changes in the principals' leadership behaviors and the impact of the leadership coaching. Each set of items asked the participants to reflect on their ability to carry out the behavior before working with a coach, their ability to carry it out after working with a coach (both Likert scale items), and whether or not the coach had helped develop the leadership behavior described in the item (yes/no format). Items were grouped by leadership responsibility. The data were analyzed using paired tests to determine perceived growth in the nine principal leadership behaviors during the time of the coaching.

Table 2

The Nine Leadership Responsibilities a Principal Uses to Build a School Staff's Leadership Capacity and a Purposeful Community

Leadership Responsibility	The Extent to Which the Principal...
Input	Involves teachers in the design and implementation of important decisions and policies
Affirmation	Recognizes and celebrates accomplishments and acknowledges failures
Relationship	Demonstrates an awareness of the personal aspects of teachers and staff
Visibility	Has quality contact and interactions with teachers and students
Situational Awareness	Is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems
Communication	Establishes strong lines of communication with and among teachers and students
Optimizer	Inspires and leads new and challenging innovations
Ideals/Beliefs	Communicates and operates from strong ideals and beliefs about schooling

Culture	Fosters shared beliefs and a sense of community and cooperation

(Marzano et al., 2005)

The second quantitative measure utilized to determine changes in student achievement was the school's API. Student achievement was measured by changes in the school's API during the time the principal led the school and was coached and the year following coaching. A score of 800 out of a possible 1000 points is the target for all schools. Schools not attaining the state target are assigned a yearly growth target. The principals in this study were leading urban schools scoring well below the 800-point target.

Validity and reliability of the instrument

The Balanced Leadership Framework questionnaire was modified for the purpose of this study, with permission of the publisher. The McRel questionnaire had a Cronbach's alpha reliability of .92 (Marzano et al., 2005). For this study, the coefficient alpha range of the nine scales was from .48 to .88 on the pre-survey and from .72 to .93 on the post-survey.

Qualitative Methods

The three qualitative measures in the study included principal interviews, leadership coach interviews, and detailed log entries by coaches for each visit. Interviews of 45-60 minutes were conducted at a predetermined time and location selected by the participant. There were two sets of interview questions: one for principals (19 items) and one for leadership coaches (18 items). The items addressed the managerial and leadership aspects of then confirmed, named, and grouped the principal's work, the coach's role, the relationship between the principal and coach, and how these impacted student achievement. Interviews were tape-recorded and transcribed for analysis of content. Two years of coaches' session logs were analyzed.

Triangulation was accomplished by a team of five researchers through analysis of the coaches' logs and both types of interviews using a constant comparison method (Corbin & Strauss, 2008). Coded categories were determined and to determine the effectiveness of the coaching program. They focused on (a) the nature of the change, (b) factors influencing the change, and (c) the depth of change.

Results

Quantitative

Globally, all nine areas of leadership responsibilities as seen in Table 3 showed significant growth. The principal participants strongly acknowledged the contributions of their coaches to growth in these areas. Furthermore, analysis of student achievement based on state API scores at the participants' schools indicates positive gains (Table 4). The average targeted growth for the county was six points. Most of these participants far exceeded their targets during coaching and maintained it the year following. These student achievement gains are also greater than those reported in the ACSA study (Adler & Bossi, 2008) for participants who were in a similar program for two years.

Table 3

Pre and Post Mean Differences from Survey on Impact of Coaching on Nine Leadership Responsibilities

	Before Coaching		After Coaching		
	M	SD	M	SD	df
Input	3.3	0.66	3.83	0.67	30
4.05 ***					
Affirmation	3.44	0.59	3.96	0.77	30
4.68***					
Relationship	3.53	0.74	3.87	0.74	30
3.59*					
Visibility	3.87	0.62	4.2	0.72	30
2.68*					
Situational Awareness	3.45	0.53	3.93	0.69	29
3.97***					
Communication	3.65	0.51	4.06	0.72	30
3.46*					
Optimizer	3.9	0.59	4.24	0.71	30
2.6*					
Ideals/Beliefs	3.75	0.56	4.2	0.57	29
4.38***					
Culture	3.12	0.61	4.95	0.67	30
6.0***					

*p < .05.   ***p < .001.

Table 4

Student Achievement Gains at Principals' Schools Measured by School Academic Performance Index (API) Yearly Increases during Years Coached and One Year after Coaching

	Number	Percentage	API Growth
Principals Participating in First Year of Coaching	24		
Principals with Positive API Growth During First Year of Coaching	16	73	
Average API Growth During First Year of Coaching			8.27
Principals Participating in Second Year of Coaching	7		
Principals with Positive API Growth During Second Year of Coaching	7	100	
Average API Growth During Second Year of Coaching			20.29
Principals at Same School One Year After Coaching (Data only available for District B)	15		
Principals at Same School with Positive API Growth One Year After Coaching	14	93	
Average API Growth One Year After Coaching			21.8

Note: Student achievement was measured by changes in the school's API during the time the principal led the school and was coached and the year following coaching. All data retrieved from DataQuest (http://www.cde.ca.gov)

Qualitative

Analysis of the three qualitative data sources in Table 5 reveals several

patterns to support themes related to the leadership capacities principals gained through the coaching experience.

Principals and coaches noted high levels of change in knowledge, skills, and dispositions as a result of the coaching experience. Both sets of respondents identified the importance of context-specific instruction, modeling, and reflection inherent in the *blended coaching model* (New Teacher Center, 2009). The blended coaching model includes two aspects: instructional coaching and facilitative coaching.

Table 5

Leadership Capacities Principals Gained Through the Coaching Experience as Reported by Principals and Coaches in Interviews and Logs, and Corresponding Nine Leadership Responsibilities

	The principals and their coaches acknowledged through interviews and logs that the coaching experience provided support through:	Corresponding Nine Leadership Responsibilities from McRel's Balanced Leadership Framework (Marzano et al., 2005)
Trusting Relationships	A trusting relationship with an outside, experienced expert	
Feedback	Feedback that was constructive, corrective, goal-oriented, and non-evaluative	
Resources	Resources in the form of readings, site visits, and referrals to outside experts	
Relationship Building	Relationship building ideas on how to work with, support, and communicate with teachers, students, staff, parents, and the district office	Communication, Relationship, Affirmation, Visibility
Changing School Cultures, Team Building, Political Savvy	Ideas for changing school cultures, team building, and becoming more politically savvy	Culture, Input, Situational Awareness
School Management	School management help with site specific examples	Situational Awareness
Reflection and Accountability	encouragement to become more reflective and accountable	Optimizer
Instructional Leadership	A focus on instructional leadership toward student achievement, always guided by	Ideals/Beliefs

a vision and beliefs, including use of data to guide decisions

Participants revealed they were guided to understand the difference between *equal* and *equitable*, use disaggregated data to drive all decisions, and provide high-quality staff development—practices proven to provide access for marginalized students from underrepresented groups and improve school culture (Larson & Barton, 2013). Illustrated by the comment of one principal below, many of the participants shared that their coach guided them in transforming the school and increasing student success:

> My coach helped me navigate through tougher personalities, union issues, and he really emphasized the importance of relationships. I absolutely attribute our student success to the change in culture he helped me achieve. We've gone up 160 API points in three years. Our morale is up, our discipline is wonderful on campus.

Participants acknowledged that the focus on *instructional coaching* with more didactic teaching strategies, including showing and telling, was beneficial, particularly as they learned specific strategies that focused on raising student achievement. One principal, when attributing growth in her capacity to be an instructional leader to her coach, shared:

> My coach had a wealth of experience and she was able to share a variety of different strategies that she had used over the years with her own experiences....We would sit down and talk about what we were going to do and we would walk through classrooms and then discuss my next steps in helping the school to improve student achievement. She even gave me timelines.

The participants also recognized their own professional growth and self-actualized reflective practice gained through *facilitative coaching*. Highlighted by one principal's response below, they realized the importance of collaborating as they included others in the school community for transformation:

> My coach had a huge positive impact on me. He taught me how to win teachers over. We role-played situations with me acting as the principal and him acting as the teacher to figure out what the focus plan might look like. He'd ask, "How did that play out?" He was good at giving practice and getting me to reflect right on the spot" (Principal).

These qualitative themes support the nine leadership responsibilities found in the survey results to have significant growth due to coaching (Table 5).

Discussion and Implications

Urban principals at underperforming schools hold a vitally important role, particularly in regard to student achievement. To effectively carry out this role, principals need job-embedded training. Leadership coaching by an experienced former school administrator may provide such training, easing the transition and equipping them with tools to enhance student learning. The coaching becomes even more powerful when the coach brings an understanding of the context of the coachee's school. It is highly desirable that the coach have experience at the school level and in working with the demographics of the coachee's school.

This investigation revealed areas in which leadership coaching positively impacted the knowledge, skills, and dispositions of P-12 public school administrators in two large, urban school districts and documented growth in student achievement at their schools during the time the principals were coached. The researchers, however, acknowledge two areas as possible limitations to the findings of the study: (a) the complicated nature of suggesting causality between student test scores and a school principal's job performance, and (b) the length of time that passed between the leadership coaching sessions and reports by both groups about their experiences.

Inasmuch as school improvement can be measured by the Academic Performance Index, the schools led by principals and coaches participating in this study showed growth in student learning. As new, less biased means of measuring individual student learning become more widely available, it is likely that leadership coaching of principals will become even more structured and direct. Principals will need more opportunities to learn about the context-specific needs of students attending their schools. Ultimately, this study set out to discover how one county office's leadership coaching program has effectively brought about improvements in student learning and more educational opportunities. This is the highest calling of today's educational leader. This information will inform professional developers, university professors, and school personnel as they structure and implement programs to support urban P-12 school administrators.

References

Adler, S. & Bossi, M. (2008). Does leadership coaching really work? *Leadership, 38*(1), 31-36.

Alsbury, T.L., & Hackmann, D. G. (2006). Learning from experience: Initial findings of a mentoring/induction program for novice principals and superintendents. *Planning and Changing, 37*, 169-189.

Babbie, E. (1990). *Survey research methods* (2nd ed.). Belmont, CA: Wadsworth.

Béteille, T., Kalogrides, D., & Loeb, S. (2012). Stepping stones: Principal career paths and school outcomes. *Social Science Research 41*, 904–916.

Bloom, G., Castagna, C., Moir, E., & Warren, B. (2005). *Blended coaching: Skills and strategies to support principal development.* Thousand Oaks, CA: Corwin.

Browne-Ferrigno, T., & Muth, R. (2006). Leadership mentoring and situated learning: Catalysts for principalship readiness and lifelong mentoring. *Mentoring and Tutoring, 14*, 275-295.

Christensen, L. (2012). High-stakes hard: Teaching students to read tests. In W. Au & M. B. Tempel (Eds.), *Pencils down: Rethinking high-stakes testing and*

accountability in public schools (pp. 169-174). Milwaukee, WI: Rethinking Schools.

Contreras, F. (2005, July). Access, achievement, and social capital: Standardized exams and the Latino college-bound population, *Journal of Hispanic Higher Education, 4*(3), 197-214.

Conyers, J.G. (2004). Thinking outside to support newcomers. *School Administrator, 61*, 18-21.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Newbury Park, CA: Sage Publications.

Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future.* New York, NY: Teachers College Press.

Darling-Hammond, L., Meyerson, D., LaPointe, M., & Orr, M. T. (2010). *Preparing principals for a changing world: Lessons from effective school leadership programs.* San Francisco, CA: Jossey-Bass.

Delpit, L. (2006). *Other people's children: Cultural conflict in the classroom*. New York, NY: W.W. Norton Co., Inc.

Fink, A. (1995). *The survey handbook* (Vol. 1). Thousand Oaks, CA: Sage.

Fullan, M. (2008). *What's worth fighting for in the principalship* (2nd ed.). New York, NY: Teachers' College Press.

Hansford, B., & Ehrich, L. C. (2005). The principalship: How significant is mentoring? *Journal of Educational Administration, 44*, 36-52.

Hilliard, A. (2012). Standards: Decoy or quality control? In W. Au & M. B. Tempel (Eds.), *Pencils down: Rethinking high-stakes testing and accountability in public schools* (pp. 16-20). Milwaukee, WI: Rethinking Schools.

Houle, J. C. (2006, February). Professional development for urban principals in underperforming schools. *Education and Urban Society, 38*(2), 142-159.

Kearney, K. (2010). *Effective Principals for California Schools: Building a Coherent Leadership Development System*. San Francisco: WestEd.

Kearney, K. (2011). Factoring principals into school improvement. *R & D Alert. 12*(3). Retrieved from http://www.wested.org/wp-content/files_mf/1372726556article_schoolimproveprincipals_2011.pdf.

Larson, R. & Barton, R. (2013). Lessons on leading for equity. *Principal Leadership, 13*(8), 19-24.

Leithwood, K., Louis. K. S., Anderson, S., & Wahlstrom, K. (2004). How leadership influences student learning. New York: The Wallace Foundation. Retrieved from: http://www.wallacefoundation.org/knowledge-center/school-leadership/key-research/Pages/How-Leadership-Influences-Student-Learning.aspx .

Marzano, R., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results*. Alexandria, VA: Association for Supervision and Curriculum Development.

McNeil, L. M. (2000). *Contradictions of school reform: Educational costs of standardized testing.* New York: Routledge.

Mendels, P. & Mitgang, L. (2013). Creating strong principals. *Educational Leadership, 70(7), 22-29.*

Miner, B. (2012). Responding to test-driven reform. In W. Au & M. B. Tempel (Eds.), *Pencils down: Rethinking high-stakes testing and accountability in public*

schools (pp. 167-168). Milwaukee, WI: Rethinking Schools.

Mitgang, L. (2012). The making of the principal: Five lessons in leadership training. New York, NY: The Wallace Foundation. Retrieved from http://www.wallacefoundation.org/knowledge-center/school-leadership/effective-principal-leadership/Documents/The-Making-of-the-Principal-Five-Lessons-in-Leadership-Training.pdf.

Neill, M. (2003). Leaving children behind: How No Child Left Behind will fail our children. *The Phi Delta Kappan, 85*(3)*, 225-228.

Neill, M. (2012). A child is not a test score. In W. Au & M. B. Tempel (Eds.), *Pencils down: Rethinking high-stakes testing and accountability in public schools* (pp. 21-30). Milwaukee, WI: Rethinking Schools.

New Teacher Center (2009). *Coaching Leaders to Attain Student Success: Professional development for coaches of school administrators* (4th Edition). Santa Cruz, CA: University of California, Santa Cruz.

Novak, D., Reilly, M., & Williams, D. (2010). Leadership practices accelerate into high speed. *The Journal of the National Staff Development Council, 31(3), 32-37.*

Orr, M., Berg, B., Shore, R., Meier, E. (2008). Putting the pieces together: Leadership for change in low-performing urban schools. *Education and Urban Society, 40*(6), 670-693.

Rich, R.A., & Jackson, S.H. (2005). Peer coaching: Principals learning from principals. *Principal, 84.* 30-33.

Smith, A. A. (2007). Mentoring for experienced school principals: Professional learning in a safe place. *Mentoring & Tutoring, 15,* 277-291.

Stein, S. J., & Gewirtzman, L. (2003). *Principal training on the ground: Ensuring highly qualified leadership.* Portsmouth, NH: Heinemann.

US Department of Education (2011, June 30). New data from the U.S. Department of Education 2009-10 civil rights data collection show continuing disparities in educational opportunities and resources. Retrieved from http://www.ed.gov/news/press-releases/new-data-us-department-education-2009-10-civil-rights-data-collection-show-conti.

Weingartner, C. J. (2009). *Principal mentoring: A safe, simple, and supportive approach*. Thousand Oaks, CA: Corwin.

Williams, K. & Miner, B. (2012). Failing our kids: Why the testing craze won't fix our schools. In W. Au & M. B. Tempel (Eds.), *Pencils down: Rethinking high-stakes testing and accountability in public schools* (pp. 9-11). Milwaukee, WI: Rethinking Schools.

Winter, P. A. & Morgenthal, J. R. (2002, August). Principal recruitment in a reform environment: Effects of school achievement and school level on applicant attraction to the job. *Educational Administration Quarterly, 38*(3), 319-340.

Woodard, D. (2013, January 24). Moving education forward: It starts with school leaders. *ASCD BLOG*. Alexandria, VA: Association for Supervision and Curriculum Development.

CAUGHT IN THE MIDDLE: URBAN PRINCIPALS' ATTEMPTS TO ACHIEVE SCHOOL AUTONOMY AND DEVOLVE DECISION-MAKING

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ABSTRACT

Based on two years of extensive data collection in four urban elementary schools, this paper examines the role of principals in the implementation of the Together Initiative (TI), a school reform model for schools labeled low-performing per state accountability standards. The reform model aims to increase school autonomy from district mandates and devolve decision-making to include teachers, parents, and community members. The differences in the manner in which principals implemented TI appear to be influenced by the level of support at the district level, as well as principals' own commitment to the tenets of the initiative. Balancing devolved school leadership with district relationships requires reimagining the boundaries between responsibilities of the principalship, teaching, and administration.

Introduction

Many formal teacher leadership roles that focus on instructional improvement have flourished in urban districts (York-Barr & Duke, 2004). Some teachers welcome the emergence of teacher leadership (Provasnik & Dorfman, 2005), and there is some evidence to suggest this leadership leverages student learning (Marsh et al., 2008). Despite its promise, teacher leadership must overcome numerous obstacles, including teaching's isolationist culture, competing reforms (Camburn, Kimball, & Lowenhaupt, 2008), and lack of teacher-leader knowledge and skills (Scribner & Bradley-Levine, 2010). Perhaps the most critical influence is the extent to which principals can define and support teachers' work and school change. Meta-analytic and case study research suggests that, within schools, principals' impact on student achievement as measured by standardized test scores is second only to that of teachers (Hallinger & Heck,

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1996; Supovitz, Sirinides, & May, 2010). In addition, researchers suggest that under many scenarios, principals are well positioned to generate the momentum to carry out school change (Sebring, Allensworth, Bryk, Easton, & Luppescu (2006).

While the role of the principal in school improvement efforts has received increased recognition, we still have much to learn about how principals effect change in teachers' behaviors and what distributed leadership looks like in schools forced to undergo dramatic change due to NCLB provisions. This paper examines the role of principals in the implementation of the Together Initiative (TI), a "turnaround" model introduced in several urban K-8 schools that had not successfully met Adequate Yearly Progress (AYP) for at least two consecutive years in one northeastern state. TI is a reform model built on tenets of both distributed leadership (Spillane, 2006) and autonomy from unilateral district mandates (Honig, 2009). The model was introduced in one northeastern state as an alternative to charter schools—the original designers of the model hoped to create school contexts that were free from the bureaucratic constraints that limit innovative reform efforts.

Overall, we found a constellation of personal leadership attributes and district contextual factors play into principals' abilities to act as catalysts and as developers of teacher leadership and school autonomy. Principals who were strong catalysts for change believed that their teachers could become effective leaders—even if their leadership had to be developed across time. Principals also fostered positive communications within their schools and allowed teachers to see their own decision-making and struggles in order to model effective leadership and to build a sense of community. Strong developers of organizational changes were able to let go of their own power while, at the same time, convince district leaders to allow them latitude. These activities require that positive relationships with district administrators also be in place. Thus, leadership practice and policy implementation does not rest solely on the individual leader—but is also a product of the sociocultural context (Spillane, 2006) of where the implementation takes place (Leithwood, Louis, Anderson, & Wahlstrom, 2004).

Context of the Together Initiative

The Together Initiative (TI) is a locally developed, state-funded, "turnaround" model that aimed to raise academic achievement by increasing school autonomy from districts, expanding teachers' decision-making authority, and involving parents, students, and community members more centrally in schools. In this model, teachers self-identify areas in need of improvement and design their own improvement plans (e.g., professional development, curricular changes, intervention programs). In some cases, this approach called upon principals to adopt entirely different leadership roles.

Conceptual Framework

According to the Consortium on Chicago Schools Research (CCSR) model, principals are critically important to implementing distributed leadership

models because they act both as the "catalysts" and ongoing "developers" of change efforts. Principals act as *catalysts* when they initiate a vision for change and work to maintain initiative alignment for the school as a whole. As catalysts, principals play a crucial role in helping teachers make sense of policies that originate at the federal, state, and district levels (see Yanow, 2000) thus influencing how teachers respond to these policies (Coburn, 2005).

Principals enact a *developer* role when they support core organizational elements, such as teacher leadership skills and a student-centered school culture (Sebring et al., 2006). As developers, principals must orchestrate organizational changes that support the goals of a given policy. Effective principal developers engender both informal and formal teacher leadership roles that enable teachers to lead both inside and outside the classroom (Childs-Bowen, Moller, & Scrivner, 2000). Increased teacher leadership that is promoted by the principal can lead to an increase in teacher investment and buy-in (Weiss, Cambone, & Wyeth, 1992), an improvement in organizational culture (Silva, Gimbert, & Nolan, 2000), and an increase in the principals' own leadership capacities.

Given this theoretical context, our research question is: What leadership characteristics and contextual factors explain variations in the principals' enactment of developer and catalyst roles as they attempted to implement the TI school reform?

Methods

We used a comparative case study approach (Merriam, 1998) to examine the role of principals in four urban K-8 schools. Our study began as the schools were beginning to implement the TI model and continued for the first two years of the initiative[i]. By employing a comparative case study method we focused on processes and role enactment, rather than outcomes (see, e.g., Merriam, 1998).

Data Sources

The data that informed these analyses derived from interviews and site observations conducted by researchers from the local state university. In the first year of the study, we conducted 97 semi-structured interviews with representative samples of teachers and principals across the four schools in four different mid-size urban districts; an additional 83 interviews were conducted in the second year. We conducted more than 100 hours of observations at school sites, then created thematic summaries of field notes after each site visit. Observations typically lasted for a full school day plus any after-school meetings of teachers and/or administrators. In addition to interviews and observations, we administered school climate surveys to teachers in the TI schools annually and received 95% response rates. Surveys included questions about teacher autonomy and teacher-principal relationships.

Analytical Procedures

We used open, axial, and selective coding strategies (Strauss & Corbin, 1990) to code interview transcripts, thematic summaries of observations, and document artifacts. We used the constant comparative method to identify emerging themes across sites. Throughout this process, our group of researchers—eight scholars with diverse academic and personal backgrounds—provided a vital check on each other's interpretations (Lincoln & Guba, 1985). Triangulation of interpretations such as the extent of teacher decision-making at a particular site or the relationship between a principal and teachers was made possible through checking patterns across interviews against school climate surveys. (Mertens, 1998).

Findings

Teachers at the four schools we examined experienced very different guidance from their principals as they attempted to implement TI's core tenets. Table 1 summarizes the degree to which the roles of catalyst and developer were assumed by principals of TI schools.

Table 1

Leadership Typologies of TI Principals

Principal Leadership Typology	Relationship with Teachers	Relationship with District
High Catalyst/ High Developer	Pre-existing trust in teachers and their ability to make decisions. Willing to give up decision-making authority.	Able to mediate and compromise with district administrators.
High Catalyst/ Low Developer	Lack of trust in teachers' abilities to make decisions. Unwilling to give up power because of district pressure.	Unsupportive district hinders principal attempts to make organizational changes at the school level.

We found all of the principals in this study most easily assumed the *catalyst* role in their schools. In this study, principals who most often exhibited the role of catalyst espoused the vision of TI and clearly articulated the goals of the TI model to teachers. At all four schools, teachers were able to express a basic understanding of the initiative and were excited about changes in teacher decision-making, suggesting principals had effectively communicated TI's vision to their teachers.

Our analyses suggest that the role of *developer* was much more challenging for principals to assume. In the case of TI, the key *developer* role for principals related to their efforts to increase teachers' leadership roles in schools. Two principals were unable to develop the TI tenets in their schools after catalyzing the reform. These principals struggled with mediating pressures from

their districts to raise test scores and quickly turn around their schools, while at the same time, allowing teachers to make the decisions about how to do so. Substantial difference across *high catalyst/high developer principals* and *high catalyst/low developer principals* emerged within two primary themes: principals' leadership styles, including the extent to which they trusted their teachers to make good decisions for the school; and principals' management position between districts and schools, particularly in mediating accountability pressures and district-wide mandates.

High Catalyst, <u>High</u> Developer Principals

Two of the schools implementing TI, Harkness School and Pinkerton Elementary School[9], were led by principals who were skilled catalysts for change and persistent developers of teacher leadership. These schools realized increased autonomy from the district, as envisioned for the reform model, in part through the skill of the principals and in part due to broader supportive district contexts. These schools also instituted a high degree of teacher leadership practices, with principals able and willing to devolve decision- making to teachers who, in large part, embraced this new role.

Relationship with Teachers. Both of the principals who enacted high catalyst and high developer roles during the school reform process espoused leadership styles that put faith in their teachers' ability to make decisions. The principal at Harkness School stated she always desired shared leadership in her school: "I've always wanted to engage the staff in being part of the decision-making process – I've tried to get as much feedback and input in advance of making decisions as possible. I guess what this does now is it provides more input, more structure, more research behind the decisions." Because the principal already agreed that teacher leadership was a viable means of running a school, she was readily able to develop this aspect of the TI model.

At Pinkerton, the principal not only allowed her teachers to be involved in the decision-making process, but she also recognized the value of permitting them to make mistakes: "I mean there are often times when –it's like, I know they're doing it wrong but this is like helping a child, you've got to let them develop, make their own mistakes and find it." She acknowledged that allowing the teachers to grapple with difficult decisions would allow her teachers to grow in a way that top-down decision-making would not. Illustrated by the quote from one teacher, the teachers felt her support and many expressed a comfort with trying new ways of doing things as a result: "There has never been a project I've taken to the principal that she's ever said no. She always said, give it a try and if it fails, well that's okay. But if it succeeds, that's wonderful." This leadership development approach fostered innovation among the teaching staff as they figured out which strategies best fit their needs.

Relationship with District. Teachers at both Harkness School and

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[9] All schools, districts, and principals have been given pseudonyms to protect their identities.

Pinkerton Elementary discussed their principals' abilities to mediate the relationship between the school and the district to obtain a substantial amount of autonomy. These were not principals who strictly enacted district policies within their schools-they were willing to push back at times. While acknowledging that the school did still have to meet certain district expectations—such as increasing student reading scores-a teacher at Pinkerton Elementary stated that they were given some leeway in how to do so: "Through [the Together Initiative] we're able to still adhere to what the district wants, but do it in a different way. And as long as success is the end result, it doesn't matter how you get there." In part, this flexibility relied on support for the TI model from the superintendent. In the example given by this teacher, a different reading curriculum from the rest of the district was put in place only because the superintendent approved the deviation from district policy.

In order to gain some autonomy from the district, teachers at both schools described their principals as mediators of compromise. One teacher at Harkness School described his principal as someone who knew when to pick his battles. Instead of simply demanding that the teachers take part in a district-wide accountability mandate, the principal took the time to talk with teachers about using compromise as a strategy to gain autonomy over other decisions. "He said, 'Listen, just bear with me here. It's like – you know what? The board is requiring it. There's nothing else I can do about it. Everything else, I'm trying to – I protected you from this and this and this. Let's just give on this one." Other teachers echoed similar sentiments about the principal's transparency: teachers knew that the principal shielded the school from district mandates when he could, which made them more willing to compromise with him when he asked them to do so.

High Catalyst, <u>Low</u> Developer Principals

The other two schools, Newmar School and Swinton School, had principals who were catalysts for implementing TI, but were not strong developers after the initial push for the reform. Teachers in these schools clearly articulated the goals of TI, saying that they are "trying to work smarter instead of harder" by listening to what works and what is not working. Descriptions of valuing teachers' perspectives and sharing responsibility were typical in teacher interviews and teachers displayed a clear understanding of the theory of action behind devolving leadership within schools.

The principals and assistant principals in these two schools clearly acted as conduits for establishing the purpose of changing the way the schools' power structures worked. However, they did less to make sure there were deep organizational changes to support and sustain the devolution of decision-making. At Newmar Elementary, teachers described the solicitation for teacher opinions as superficial and inconsistent, as illustrated by one teacher's comment: "I feel like of the times that we could be utilized, we are – but I still feel like there's that, core go-to group. Our principal really has the final say on what goes on. So sometimes we're asked for our input, but it doesn't really change anything." Similar

sentiments were echoed in interviews with teachers at Swinton School, with one teacher making the distinction between having the freedom to *look at* many issues, but not to *make changes* in many issues. Tension between the initial encouragement of autonomy and lack of follow-through characterized these principals as high catalysts and low developers.

Relationship with Teachers. The high catalyst/low developer principals displayed different leadership styles compared to the strong developers in the study. High catalyst/low developer principals had trouble giving up their authority and did not express the belief that teachers could learn to work effectively as decision-makers. Swinton School's principal shared, "Part of my weaknesses is – being narcissistic: I believe I can fix all these problems. I'm a psychologist. I'm a Special Ed teacher, all that…Okay, so I believe that I have the skills to do all this." At Newmar Elementary, the principal stated that she was trying to become more flexible in her decision-making process, but admitted that "I'm much more comfortable in telling people what to do. Especially when I think I'm right and they're wrong."

The leadership styles of the principals at these schools seemed to stem partially from a lack of faith in the teachers. At Swinton, the principal expressed frustration at not being able to "phase out" certain teachers: "They shouldn't be here. If they don't buy into [reform strategies] and they're not willing to work 110 percent on it, then they need to go." Principals reported feeling that it was easier to remove dissenters rather than build teachers' capacity to participate in devolved decision-making. Such a perspective suggests a lack of commitment to implementing shared leadership with teachers.

Relationship with District. While the principals at these two schools did not report that they understood the full value of developing *teacher* autonomy, both were motivated to achieve some independence from their district in order to pursue their own agendas. At Newmar the principal cited the needs of his school as being unique within the district as his reason for joining TI; "I think that it's very difficult for good decisions to be made downtown when they don't know our school. And so, to put more site-based kind of stuff in – I felt that that could be a really, really good thing." Both principals said that they agreed to become TI schools with the expectation that they would be released from some, if not all, district mandates, provided they proposed reasonable alternatives.

However, both the low developer principals were at schools located within relatively inflexible districts. As a teacher leader at Swinton explained, "I don't think district office fully wanted the [TI reform] nor the school board fully went into it, despite what was on paper." Teachers at these schools also talked about the district as being fairly controlling and their principal as having little, if any power, to mitigate district mandates. When asked whether teachers have seen any changes in how the school is run, one teacher at Newmar said, "I think because everything is so driven by the district, what they tell us, we have to do. I don't feel like [the school administrators] have total control." Overall, our findings suggest

that rigid school-district relationships also prevented these principals from taking on the role of *developer.*

Implications

This paper informs policy and practice on the original charter concept—autonomous, innovative schools where teachers and school leaders can influence all aspects of the organization. While efforts to decentralize school districts continue to be implemented in cities such as post-Katrina New Orleans, New York, and Chicago (see Saltman, 2010), there is little research that examines the role that principals play in efforts to devolve decision-making to teachers at the school site. We know that good leadership matters in the effective operation of schools (Mayer, Donaldson, LeChasseur, Welton, & Cobb, 2013; Webb, Neumann, & Jones, 2004); we know far less about how principals can foster teacher leadership in the midst of heightened accountability pressures and the "invisible hand" of state and federal mandates.

Balancing devolved school leadership with district relationships requires reimagining the responsibilities of the principalship and the boundaries of their relationships with their districts. Thus, principals are caught in the middle when they attempt to involve teachers in district-level politics in ways that preserve shared leadership. While individual principals may want to distribute leadership to teachers, district pressures often make this difficult to realize. The principals in this study all took on a catalyst role, bringing the TI reform to their schools. They explained the tenets of the model and communicated their visions for distributing leadership within the school and obtaining autonomy from the district. This ability to see the possibilities for radical change and get teachers on board is certainly a critical part of school leadership during reform implementation. However, it was more difficult for principals to sustain these visions and only two of the four principals successfully enacted a developer role. Two principals struggled to trust their staff to make decisions and were not successful at finding ways to mediate district mandates that ultimately overrode the school autonomy afforded by TI.

This study begins to delve into the possibilities for understanding the role of the principal as it shifts from more traditional positions at the top of the school and at the bottom of district mandates to the tenuous position in the middle of both. Our findings indicate that school leadership in decentralized, autonomous schools requires not only enough trust in teachers to allow them to try new things (and perhaps learn from their own mistakes), but also the skill to protect the school from district pressures. Articulating a vision for school change is not enough—these principals must avoid getting caught in the middle between teachers taking on new school leadership roles and district officials continuing to demand outcomes at any cost. [10]

References

Camburn, E. M., Kimball, S. M., & Lowenhaupt, R. (2008). Going to scale with teacher leadership. In Mangin M. & Stoelinga, S. (Eds.), *Effective teacher leadership: Using research to inform and reform*. (pp. 120-143). New York: Teachers College Press.

Childs-Bowen, D., Moller, G., & Scrivner, J. (2000). Principals: Leaders of leaders. *NASSP Bulletin, 84*(616), 27–34.

Coburn, C. (2005). Shaping teacher sense making: School leaders and the enactment of reading policy. *Educational Policy, 19*(3), 476-509.

Hallinger, P., & Heck, R. H. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995. *Educational Administration Quarterly, 32*(1), 5-44.

Honig, M. I. (2009). No small thing: School district central office bureaucracies and the implementation of new small autonomous schools initiatives. *American Educational Research Journal, 46*(2), 387-422.

Leithwood, K., Louis, K. S., Anderson, S. & Wahlstrom, K. (2004). *How leadership influences student learning*. Center for Applied Research and Educational Improvement and Ontario Institute for Studies in Education.

Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Marsh, J., McCombs, J., Lockwood, J.R., Martorell, F., Gershwin, D. Naftel, S., Le, V., Shea, M., Barney, H., & Crego, A. (2008). *Supporting literacy across the sunshine state: A study of Florida middle school reading coaches.* Santa Monica, CA: RAND.

Mayer, A. P., Donaldson, M. L., LeChasseur, K., Welton, A. D., & Cobb, C. D. (2013). Negotiating site-based management and expanded teacher decision making: A case study of six urban schools. *Educational Administration Quarterly*. On-line. doi: 10.1177/0013161X13492793.

Merriam, S. (1998). *Qualitative research and case study applications in education: Revised and expanded from case study research in education.* San Francisco, CA: Jossey-Bass.

Mertens, D. (1998). *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches.* Thousand Oaks, CA: Sage Publications.

Provasnik, S., & Dorfman, S. (2005). *Mobility in the teacher workforce.* NCES 2005-114. Washington, DC: National Center for Educational Statistics.

Saltman, K. J. (2010). *Urban school decentralization and the growth of "portfolio districts."* East Lansing, MI: The Great Lakes Center for Education Research & Practice.

Scribner, S. M. P., & Bradley-Levine, J. (2010). The meaning(s) of teacher leadership in an urban high school reform. *Educational Administration Quarterly*, *46*(4), 491-522.

Sebring, P. B., Allensworth, E., Bryk, A., Easton, J., & Luppescu, S. (2006). *The essential supports for school improvement.* The Consortium on Chicago School Research at the University of Chicago.

Silva, D. Y., Gimbert, B., & Nolan, J. (2000). Sliding the doors: Locking and unlocking possibilities for teacher leadership. *Teachers College Record, 102,* 779–804.

Spillane, J. (2006). *Distributed leadership*. San Francisco: Jossey-Bass.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage Publication.

Supovitz, J., Sirinides, P., & May, H. (2010). How principals and peers influence teaching and learning. *Educational Administration Quarterly, 46*(1), 31-56.

Webb, P.T., Neumann, M., Jones, L.C. (2004). Politics, school improvement, and social justice: A triadic model of teacher leadership. *The Educational Forum, 68*(3), 254-262.

Weiss, C. H., Cambone, J., & Wyeth, A. (1992). Trouble in paradise: Teacher conflicts in shared decision making. *Educational Administration Quarterly, 28,* 350–367.

Yanow, D. (2000). Seeing organizational learning: A cultural view. *Organization*, *7*(2), 247-268.

York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research, 74*(3), 255–316**.**

BEYOND STANDARDIZED TEST SCORES: AN EXAMINATION OF LEADERSHIP AND CLIMATE AS LEADING INDICATORS OF FUTURE SUCCESS IN THE TRANSFORMATION OF TURNAROUND SCHOOLS

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ABSTRACT

Districts throughout the nation are engaged in comprehensive transformation to "turn around" low performing schools. Standardized test scores are used to gauge student achievement; however, academic gains may lag behind leading indicators such as improved school climate and effective leadership. This study examines 16 underperforming schools to discover what factors may be considered leading indicators. Turnaround and traditional schools were compared on three factors: leadership, climate and achievement. Assessment tools included the Multifactor Leadership Questionnaire (MLQ) (Avolio & Bass, 2004), standardized assessments, and participant ratings of overall school climate on an A to F grading scale. Findings show that turnaround teachers rated their leader significantly higher on all MLQ subscales and assigned significantly higher climate "grades," to their schools than traditional school teachers but demonstrated no significant academic gains. The authors assert that leading indicators may be indicative of the future growth of lagging indicators such as test scores, and should be considered benchmarks in the transformation process.

Keywords: Turnaround schools, Transformative leadership, Urban school reform, School Climate

Historian Diane Ravitch (2013) refers to educational reform in America as "corporate reform because reformers want to use crude metrics to judge teachers and schools. They think data are better measures of quality than professional judgment. On the basis of standardized test scores they are happy to label schools as failing if their scores are low" (2013, para. 4). While Ravitch's observations may appear somewhat pessimistic, U.S. schools and policymakers continue the struggle to establish practical research based strategies to improve and measure

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student gains in low performing schools. Under the current version of No Child Left Behind (NCLB), the Department of Education predicts that failing schools could jump from 37% to 82% with estimates that four out of five public schools could be labeled as failing (Associated Press, 2011) with the majority attributed to struggling urban schools.

This investigation probes what variables indicate that a school may be on course for a positive transformation process. Kowal and Ableidinger (2011) refer to leading indicators as those "early signs used regularly to determine whether an organization is on the right track" (p.1). In a 2010 Department of Education briefing Secretary of Education Arne Duncan expressed that "leading indicators like attendance and school climate should be considered in rating schools…..sometimes test scores are lagging indicators" (Toppo, 2010, para. 12). Leading indicators or variables examined in this study include principal leadership effectiveness, standardized assessment scores in grades 3 – 8 in reading and math, and perceptions of overall school climate on an A to F grading scale. Analyses were conducted on eight elementary schools identified as turnaround schools, and eight elementary schools identified as traditional schools. The purpose of the study was to discover if differences existed between the traditional and turnaround schools after two years of turnaround strategy implementation. Strategies include additional curricular, administrative, and data analysis support, professional development, and resources for parent support groups   In addition to assessing achievement and perceived climate, the study utilizes the Multifactor Leadership Questionnaire (Avolio & Bass, 2004) to evaluate principal leadership behavior.

Turnaround Schools

According to the National Governors Association, there are three million students in America who attend five thousand failing schools (NGA Center for Best Practices, 2011)). In the midst of such significant school failure, leaders are calling for dramatic intervention to keep the US competitive in the global marketplace (Bracy, 2008; Wallace, Deem, O'Reilly, & Tomlinson, 2011). No Child Left Behind defines school turnaround as "dramatic and comprehensive intervention in low performing schools that produce significant gains in student achievement within two academic years; and readies the school for the longer process of transformation into a high-performance organization (Kutash, Nico, Gorin, Rahmatullah & Tallant, 2010, p. 4). "Turnaround Schools" have become increasingly popular over the last decade with nearly 18% of the nation's schools identified as "in need of improvement" (Mathis 2009, p. 2).

Since 2009, an estimated $8.5 billion dollars in federal funds have been allotted for initiatives to address school improvement, representing a significant investment by the federal government to entice school districts to embark on creative and innovative models to turnaround failing schools. Secretary Duncan asserts that school improvement models "require schools to institute far-reaching changes to improve student learning." (U.S. Department of Education, March 19, 2012, para. 15). Kutash, et.al. (2010) and McMurrer (2012) describe the four

models of School Improvement Grants outlined under NCLB for struggling schools:

1. Closing the school and enrolling students in higher achieving schools (school closure).
2. Converting to a charter school (restart).
3. Replacing the principal for increased teacher and leader effectiveness, rehiring less than 50% of the staff, and implementing strategies to increase learning time (turnaround).
4. Replacing the principal for increased teacher and leader effectiveness, instituting comprehensive instructional reforms, increasing learning time and community connections, and providing operational flexibility and sustained support (transformation).

While there are pockets of reported success in many states, the turnaround concept has its detractors. Smarick (2010), a former distinguished visiting fellow at the Thomas Fordham Institute, laments in the *Turnaround Fallacy* that "overall turnaround efforts have consistently fallen short of hopes and expectations" (p. 21). The turnaround approach, while robust and innovative, remains contrary to many researchers' findings in the area of change and organizational effectiveness; they view change as a methodical, incrementally gradual process (see Collins, 2001; Kotter, 1996; Quinn & Snyder 1999; Senge, 1990; Walters, Marzano & McNulty, 2003).

Perhaps the most significant research conducted on turnaround schools was completed by the Mass Insight Education and Research Institute (2007) who identifies six critical zones for successful turnaround efforts. Their critical zones include 1. Recognition of the challenge. 2. Dramatic, foundational reform. 3. Urgency. 4. Supportive operating conditions. 5. New-model, high capacity partners. 6. New state and district structures. Mass Insight (2007) notes that 'turnaround' is a different and far more difficult undertaking than school improvement. It should be viewed as a distinct professional discipline that requires specialized experience, training and support. Secondly, turnarounds require transformation. Schools that serve high poverty students, require creatively rigorous environments to meet the needs of diverse students. Third, turnaround schools produce significant achievement gains within two years, while readying the school for subsequent maturation into a high performance organization. Fourth, turnaround leaders must be empowered to make decisions regarding all school aspects, based on mission, strategy and data. Fifth, the work in turnaround schools demands skillful change management at the ground level. And lastly, turnaround requires innovation from policymakers at all levels.

Most states have established criteria to measure success, typically relying on achievement scores, but determining causality for success in turnaround schools is nebulous at best, given the myriad of variables such as student population, leader and teacher quality, levels of funding, and union support. In the *School Turnaround Field Guide,* Kutash, et.al. (2010) identify four areas to consider when establishing measures of school improvement including school

climate, school connectivity, teacher and school leader engagement and effectiveness, and measures of student progress and outcomes. This present study focuses on three of Kutash's et.al. measures and seeks to find if school leader effectiveness, measures of student progress, and perceived school climate may serve as leading indicators for turnaround school improvement.

The Role of Climate in Student Achievement

The impact of climate on school effectiveness has been a focus of study, research, and debate for decades. Cohen, McCabe, Michelli and Pickeral (2009) site an increasing body of literature that indicate positive school climate is "associated with and predictive of academic achievement" (p. 181). School climate is a "relatively enduring quality of the school environment that is experienced by teachers, student and staff, affects their behavior, and is based on their collective perceptions of behavior in schools" (Hoy & Miskel, 2005, p. 185). Many researchers suggest that variables associated with school climate, such as social support, caring classroom, teacher commitment, and student teacher relations are not only desirable, but, prerequisites for positive behavioral change (Flay, 2000; Zullig, Huebner & Patton, 2010).

The authors surmise that policies such as No Child Left Behind are driven by accountability measures drawing distinctly linear connections between assessment scores and school improvement and a growing body of research suggests the inclusion of school climate as a measureable variable. McMurrer (2012) describes an in-depth report on schools in their first 18 months of School Improvement Grant implementation across three states. The common denominator in her findings reflects improvements in school climate as a leading indicator that the schools were "moving in the right direction" (p. 5). The study reports principals seized the early momentum of their improved school climate as the impetus for instructional reform. In lieu of compelling research reflecting the pivotal nature of positive school climate for teachers and students, policymakers have been remiss in incorporating this research into policies, practices, and evaluative structures in the school improvement process (Cohen et al., 2009, p. 182). Kowal and Hassel (2005) assert that the ability of a strong leader is the most pivotal factor in the success or failure of a turnaround effort.

Effective Leadership for Turnaround Schools

The role of the school leader continues to be a key ingredient in creating effective schools. Halawah (2005) notes the "effect of the principal on student learning cannot be overemphasized" (p. 334). Researchers assert the principal maintains a significant effect on the effectiveness of the school and the academic success of the students (Hallinger & Heck, 1998; Halawah, 2005; Murphy, 2010). Turning around a school organization depends on the leaders' ability to change the attitudes and behaviors of its members. Murphy (2010) surmises that turning around a failing school requires moving people to understand the need for immediate action.

The literature is replete with leader characteristics most likely to lead people to change. Kouzes and Posner (2007), refer to the "kind of leadership that gets people to infuse their energy into strategies is called transformational leadership" (p. 122). Considered one of the foremost scholars of transformational leadership, Burke (n.d.) quotes Burns (1978) who contends that the transformational leader "looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower" (para. 7). The result "is a relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents" (as cited in Antonakis et al., 2004, p. 173). In 1985 Bass operationalized Burns' research and developed the MLQ, which assesses the presence of behaviors associated with transformational leadership as well as three other dimensions of leadership. Bass asserts that by engaging in transformative leadership behaviors, leaders transform followers (as cited in Antonakis, Cianciolo, & Sternberg 2004, p. 175).

This study examines schools in the transformation process and the leading indicators (variables) that may serve to signal if schools are on track for future success. The following research questions guided this component of the larger 2-year study: Do differences exist in staff reported transformational leadership behaviors between turnaround and traditional schools?

1. Do differences exist in grades 3-8 math and reading scores between turnaround and traditional schools as measured by the Ohio Achievement Assessment?
2. Do differences exist between turnaround and traditional school staff in the grades (A –F) they assign their schools in relationship to perceived school climate?

Methods

The study included 510 teachers and 16 principals from 16 K – 8 school buildings in the Cleveland Metropolitan School District (CMSD) in Cleveland, Ohio. Eight of the lowest performing schools, identified as turnaround schools were demographically matched to eight traditional schools on the following seven variables: (a) student enrollment, (b) free and reduced lunch rate, (c) achievement rating on state report card, (d) average teacher tenure, (e) performance index score, (f) humanware safety factor (number of violent incidents), and (g) average number of subgroups for adequate yearly progress.

The distinct intervention strategies or "treatments" shared by the eight turnaround schools include a dedicated Assistant Superintendent, a dedicated full-time curriculum specialist, a full-time assistant principal, a part-time on-site leadership coach, a scope and sequence core curriculum plan, a part-time data analyst, a significantly increased professional development plan and additional resources for parent support groups.

Instruments and Data Analysis

46

The MLQ is a useful 45-item questionnaire on a 5-point Likert-type scale that measures key leadership and effectiveness behaviors shown in previous research to correlate to organizational and individual success. The instrument assesses both how teachers perceive the leadership ability of their principals, as well as how the principals perceive their own abilities. They are assessed on 12 subscales, which are attributed to four leadership styles: (a) *Transformational Leadership* includes assessment of idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration behaviors; (b) *Transactional Leadership* includes assessment of contingent reward and management-by-exception (active) behaviors; (c) *Passive Avoidant* includes assessment of management-by-exception (passive) and laissez-faire behaviors and (d) *Outcomes of Leadership* includes assessment of extra effort, effectiveness, and satisfaction (Avolio & Bass, 2004).

In addition to the MLQ, the 526 teachers and principals were asked to rate the overall school climate in their buildings with a letter grade of A, B, C, D or F (A being the highest) in consideration of the following three questions:

1. I feel there is a positive climate in my school.
2. The leadership in my school is open to change.
3. My school leadership is upbeat and creates a pleasant working environment.

Both the MLQ and the perceptions of school climate grade ratings were self-administered and confidentially number coded by school using (T) for teachers and (P) for principal.

A general linear model (GLM) is used to analyze the study data. As an extension of the linear regression model, a GLM is a valuable tool because it allows for the discovery of correlations between more than one independent variable and identifies those that remain unchanged by linear transformations.

Findings

Research question one examines if differences exist in staff reported transformational leadership behaviors between turnaround and traditional schools. Results of the ANOVA, $F(1, 11)=13.12$, $p=.000$ at .05 significance level, indicate that the turnaround schools had significantly higher mean ratings on all but one (Management by Exception-Passive) of the 12 MLQ subscales than did the traditional schools. The average subscale rating for the traditional schools was 2.298, with a standard deviation of 0.658, and the average subscale rating for the turnaround schools was 2.457, with a standard deviation of 0.637.

As depicted in the mean comparisons in Table 1, teachers in the eight turnaround schools were significantly more likely to ascribe transformational leadership qualities (Idealized Influence – Attributed [IA], Idealized Influence – Behavior [IB], Inspirational Motivation [IM], Intellectual Stimulation [IS], and Individual Consideration [IC]) to their principals than the teachers in the eight traditional schools.

Table 1

Mean Ratings on MLQ Subscales for Turnaround and Traditional Schools

Variable	Turnaround Schools	Traditional Schools
Idealized Attributes		
Leaders	3.35	3.24
Raters	2.86	2.49
Idealized Behaviors		
Leaders	3.41	3.38
Raters	2.82	2.51
Inspirational Motivation		
Leaders	3.53	3.56
Raters	3.02	2.68
Intellectual Stimulation		
Leaders	3.00	3.15
Raters	2.45	2.17
Individualized Consideration		
Leaders	2.95	2.84
Raters	2.43	2.05

On the MLQ scales measuring overall leader effectiveness (Extra Effort, Effectiveness, and Satisfaction), turnaround teachers were significantly more likely to assign their principals higher averages on all three measures than teachers in the traditional schools. Additionally, teachers and principals in the turnaround schools demonstrated more alignment in their perceptual rankings than the teachers and principals in the traditional schools. Response comparisons between the teachers and principals in the traditional schools show consistently larger variance between the principals' average frequency rating of themselves and the teachers' average frequency rating of them on measures of extra effort, effectiveness and satisfaction. Table 2 presents the mean ratings.

Table 2

Mean Ratings on Overall Leader Effectiveness for Turnaround and Traditional Schools

Variable	Turnaround Schools	Traditional Schools
Extra Effort		
Leaders	3.58	3.38
Raters	2.78	2.48
Effectiveness		
Leaders	3.50	3.47
Raters	2.87	2.41
Satisfaction		
Leaders	3.31	3.50
Raters	2.82	2.42

Research question two examines if differences exist in grades 3-8 reading and math scores between turnaround and traditional schools as measured by the Ohio Achievement Assessment over a three-year period (2008 – 2011). Results indicate that the traditional schools significantly outperformed the turnaround schools in both reading and math. The reading and math scores are standardized using the NCE (normal curve equivalent) to allow all scores to be on the same scale with a mean of 50. The range of scores was from 0 to 99. To make this conversion, each original score was transformed into a Z-value by using the scaled mean and standard deviation of each year, grade, and subject.

As depicted in Table 3, at the .05 significance level, the traditional schools' reading score averages are significantly higher than the turnaround schools ($F = 9.93$, $p = 0.002$). The average NCE reading score for the traditional schools is 31.270, with a standard deviation of 7.180. The average NCE reading score for the turnaround school is 28.752, with a standard deviation of 6.350. Similarly, the traditional schools' average NCE math score averages are significantly higher than the turnaround schools ($F=20.191$, $p=0.000$). The average NCE math score for the traditional schools is 31.533, with a standard deviation of 7.126. The average NCE math score for the turnaround schools is 28.048, with a standard deviation of 6.149.

Table 3

Average NCE Reading and Math OAA Scores for Turnaround and Traditional Schools

	Turnaround Schools		Traditional Schools		
	NCE Score	*SD*	*NCE Score*	*SD*	*p*
Math	28.048	6.149	31.533	7.126	.002
Reading	28.752	6.500	31.270	7.180	.000

Research question three examines if there are differences in how staff perceive the overall school climate between the turnaround and traditional schools. Results of the two sample t-test $t(-3.94)$, $p = 00$ found that the turnaround schools assigned significantly higher grades when rating their school climate than the traditional schools. The average grade assigned to the turnaround and traditional schools ($p < .05$) was 2.7 and 2.4 respectively.

Discussion

Presently, policy-makers and the wider external public perceive gains in standardized test scores as the identifying marker to gauge measures of success in low performing schools. The findings in this study, however, add to a growing body of research suggesting that indicators of success may be broader in scope

than the benchmarks associated with academic gains alone.

If research suggests a relationship between effective leadership, perceptions of school climate and academic improvement (Halawah, 2005; McMurrer 2012;), then fostering leading indicators, such as the significant variables in this study seem not only imperative, but also a common sense best practice approach for schools showing success.

Effective Leadership for Turnaround Schools

Effective building leadership has shown to positively influence the learning environment and student academic gains (Halawah, 2005; Hallinger & Heck, 1998, Murphy, 2010; Zullig et al., 2010). Facilitating the dramatic change required to turnaround failing schools requires leadership capable of organizational transformation. While Burns (1978) appropriately captured the skills required for transformational leadership as the process of moving the organization to a higher level, Caldwell, et al. (2012) assert the organizational challenges in today's society requires transformational leadership that draws the "attention of followers and inspires them to a new vision of what is possible-within their organization, within themselves, and within their communities" (p. 184).

As illustrated in the MLQ study results, teachers in the turnaround schools believe their leaders demonstrated more of the characteristics of transformational leadership required for sustained change and growth. Instituting new leadership in the turnaround schools supports recent literature noting that transformative leaders must pursue innovative answers to old problems that challenge current belief systems (Jones, Harris & Santana, 2008). Principals, who are perceived to be transformational such as in the turnaround schools, are more likely to engender learning environments where staff members perceive their contributions are valued. Teachers who feel appreciated, connected, and energized by their colleagues bring out the best in their students (Beaudoin, 2011), and Cohen et al., (2009) site the principal as one of the most critical factors in determining the climate of the school.

The Role of School Climate in Turnaround Schools

The findings show that the teachers and principals in the turnaround schools are significantly more likely to assign their schools a higher grade on overall positive climate than the traditional schools in the study. Literature continues to point to the connections between positive climate and improved academic achievement (Cohen, McCabe, Michelli, & Pickeral, 2009; Halawah, 2005; Shocket, Dadd, Ham & Montague, 2006). In spite of compelling research supporting a positive school climate as a fundamental component in school effectiveness and student achievement, policymakers have been reluctant to recognize climate as a measurable leading indicator and a precursor to future success. In a report examining schools with federal improvement grants entitled, McMurrer (2012) notes that principals indicate they were able to build on the

early success of improved school climate to "push their instructional program" (p.8). Further, the schools included in McMurrer's study prioritized initiatives geared toward improving school climate before embarking on other objectives in the transformation process. Steps principals took to improve school climate include creating a shared vision, creating a feeling of community among teachers, students and parents, and addressing school safety, discipline, and student engagement. The current study utilized additional leadership and curricular support, on site leadership coaching, data analysis assistance, significantly increased professional development and additional resources for parent support groups.

Academic Gains in Turnaround Schools

Study results show that the reading and math scores in grades 3 - 8 in the turnaround schools were significantly lagging behind the traditional schools. If the standardized test scores are utilized as the only measureable indicator of schools on the track for success, the impact of the leadership and climate indicators would not merit the significant consideration in the decision making process. Cohen, et.al. (2009) point to a "growing awareness that we need to not only consider the measurement of cognitive gains, but also the social, emotional, and ethical dimensions of school life" (p.196).

Summary and Recommendations for Further Study

The results demonstrated that the turnaround schools perceived their leadership and climate to be significantly more effective than the traditional schools. And while all 16 schools are chronically low performing, the eight turnaround schools did not show measurable academic gains commensurate with the other data results. Utilizing academic gains as the single indicator in evaluating the progress of the transformation effort in the turnaround schools would eliminate consideration of compelling and significant empirical evidence that effective leadership and improved positive school climate are significant leading indicators that may predict the likelihood of future success.

The results of this investigation suggest that reliance on lagging indicators such as standardized test scores to determine the quality of the school turnaround process may be counterintuitive. Kowal and Ableidinger (2011) suggest allowing early indicators to take the lead in making strategic decisions to modify procedures to radically increase the probability of success. Further Kowal and Ableidinger recommend educational leaders at the district level act on early success or failure by collecting and analyzing data monthly, recognizing that true transformation is a marathon and not a sprint.

The authors of this study believe the findings lead to more areas of inquiry relative to evaluating the success of turnaround schools and several recommendations for further research are offered. The first recommendation includes a longitudinal analysis of the standardized test scores in the turnaround and traditional schools to measure student gains. The second recommendation is a

qualitative analysis to further examine the breadth and depth of what teachers and principals characterize as specific measures of improved school climate. Third, given the new teacher evaluation system in Ohio, the authors suggest an investigation of teacher perceptions of the relationship of teacher quality and school achievement. And the final recommendation for further study includes an examination of communication styles, personality traits, and ability to provide and facilitate a vision for turnaround school environments.

References

Antonakis, J., Cianciolo, A. T., & Sternberg, R. I. (2004). *The nature of leadership*. Thousand Oaks, CA: Sage.

Associated Press (2011, March 15). *Are 82% of the U.S. schools really failing*? Retrieved from www.huffingtonpost.com/2011/03/15/82-percent-failing-schools_n_836232.html .

Avolio, B.J. & Bass, B.M. (2004). *Multifactor Leadership Questionnaire Manual and sampler set* (3rd.). Mind Garden. Retrieved from www.mindgarden.com/products/mlqc.htm#mlqrs .

Beaudoin, M. N. (2011). Respect: Where do we start? *Educational Leadership*, *69*(1), 40-44.

Burke, W. W. (n.d.). "Leadership as empowering others." Retrieved from http://seejanesoar.com/wp-content/uploads/2011/04/Meeting-6-Leadership-as-Empowering-Others.pdf .

Caldwell, C., Dixon, R. D., Floyd, L. A., Chaudoin, J., Post, J., & Cheokas, G. (2012).Transformative leadership: Achieving unparalleled excellence. *Journal of Business Ethics*, *109*, 175- 187.

Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record 111*(1), 180-213.

Collins, J. (2001). *Good to great. Why some companies make the leap…and others don't.* NewYork: Harper Collins.

Flay, B. R. (2000). Approaches to substance use prevention utilizing school curriculum plus environmental social change. *Addictive Behaviors*, 25, 861-885.

Halawah, I. (2005). The relationship between effective communication of high school principal and school climate. *Education, 126*(2), 334-345.

Hallinger, P. & Heck, R.H. (1998). Exploring the principal's contribution to school effectiveness: 1980-1985. *School Effectiveness and School Improvement 9*(2), 157-191.

Hoy, W. K. & Miskel, C. G. (2005). *Educational administration: Theory, research, and practice ,*(7th Ed.). Boston, MA: McGraw Hill.

Jones, B., Harris, M. E., & Santana, M. (2008). Mastering developing new leadership for transformative change. *Journal of the Academy of Business & Economics*, *8*(2), 66- 74.

Kowal, J. & Ableidinger, J. (2011). Leading indicators of turnaround schools: How to know when dramatic change is on track. Chapel Hill, NC: Public

Impact. Retrieved from http://216.229.194.99/docs/school-recovery/leading_indicators_of_school_turnarounds.pdf

Kowal, J. M. & Hassel, E. A. (2005). *Turnarounds with new leaders and new staff.* Center for Comprehensive School Reform Movement Washington, DC: Learning Point Associates.

Kotter, J. P. (1996). *Leading Change*. Cambridge, MA: Harvard Business School Press.

Kutash, J., Nico, E., Gorin, E., Rahmatullah, S., & Tallant, R. (2010). *The school turnaround field guide*. Retrieved from http://www.wallacefoundation.org/knowledge-center/school leadership/district-policy-and-practice/Documents/The-School-Turnaround-Field-Guide.pdf

Kouzes, J. M. & Posner, B. Z. (2007). *The leadership challenge.* (4th ed.). San Francisco, CA: Jossey-Bass.

Mass Insight Education and Research Institute (2007). The turnaround challenge: Why America's best opportunity to dramatically improve student achievement lies in our worst performing schools. Retrieved from http://www.massinsight.org/publications/turnaround/51/file/1/pubs/2010/04/15/TheTurnaroundChallenge_MainReport.pdf .

Mathis, W. J. (2009). NCLB's ultimate restructuring alternatives: Do they improve quality education? *Great Lakes Center for Education Research & Practice*. Retrieved from www.greatlakescenter.org

McMurrer, J. (2012, August). Changing school climate is the first step to reform in many schools with federal improvement grants. *Center on Educational Policy.* Retrieved from www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED533561

Murphy, J. (2010). Nine lessons for turning around failing schools. *Phi Delta Kappan, 91*(8), 93-97.

Murphy, J. (2009). Turning around failing schools: Policy insights from the corporate, government, and nonprofit sectors. *Educational Policy*, *23*(6), 796-830.

NGA Center for Best Practices (2011, March). State strategies for fixing failing schools and districts (Issue Brief). Washington, DC

Quinn, R. E. & Snyder, N. T. (1999). Advanced change theory. In J. A. Conger, G. M. Spreitzer, & E. E. Lawler (Eds.), *The Leader's Change Handbook: An Essential Guide to Setting Direction and Taking Action* (pp.162-194). San Francisco: Jossey-Bass.

Ravitch, D. (2013, April 10). Is there a corporate school reform movement? Retrieved from http://dianeravitch.net/2013/04/10/is-there-a-corporate-school-reform-movement/ .

Senge, P. M. (1990). *The fifth discipline. The art and practice of the learning organization*. New York: Doubleday.

Smarick, A. (2010, Winter), The turnaround fallacy. *Education Next*, *10*(1). Retrieved from http://educationnext.org/the-turnaround-fallacy/ .

Toppo, G. (2010, March 13). Duncan wants 3 ratings for schools in education overhaul. Retrieved from

http://usatoday30.usaallentoday.com/news/education/2010-03-13-education13_ST_N.htm

U.S. Department of Education. (2012, March 19). Working in the nation's lowest-performing schools: A progress report. Remarks by Secretary Duncan to the 2nd annual Building a Grand Nation summit. Retrieved from http://www.ed.gov/news/speeches/working-nations-lowest-performing-schools-progress-report

Wallace, M., Deem, R., O'Reilly, D., & Tomlinson, M. (2011, March). Developing leadership capacity in English secondary schools and universities: Global positioning and local mediation. *British Journal of Educational Studies*, *59* (1), 21-40.

Walters, T., Marzano, R. J., & McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement*. Aurora, Co: Mid-continent Research for Education and Learning.

Zullig, K. J., Huebner, E. S., & Patton, J. M. (2010). Relationships among school climate domains and school satisfaction. *Psychology in the Schools*, *48*(2), 133-145.

INCREASING URBAN STUDENTS' ENGAGEMENT WITH SCHOOL: TOWARD THE EXPEDITIONARY LEARNING MODEL

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ABSTRACT

This paper documents the findings of a case study of one K-10 urban expeditionary learning (EL) school. Drawing on theoretical perspectives consistent with the sociocultural theory, data were collected from a variety of sources that included a survey, interviews, field notes from classroom observations and other school activities. Thematic analysis was used to analyze data. The study revealed that expeditionary learning in York school was successful because of the school culture, structure, teachers' commitment, and community engagement. This implies that urban school reform hinges on choosing the right reform model, committed teachers and an engaging curriculum.

Keywords: Expeditionary learning, Urban school reform, Student engagement

Historically, among public schools in the US, inner-city students—mostly minorities—experience disproportionate underachievement (Beecher & Sweeny, 2008; Delpit, 2006). This tendency is often referred to as the achievement gap. Although the challenge to close this gap has received attention from well-intentioned teachers and policy makers for years, they have achieved only a limited success (Beecher & Sweeny, 2008; Bryk, Sebring, Allensworth, Luppescu & Easton, 2010; Cunningham, 2007; Darling-Hammond; 2010). Researchers believe that improving disadvantaged urban schools is a complex and multifaceted endeavor that requires a comprehensive and integrated set of community, school, and related social programs (Bryk et al., 2010). In order to be effective, such schools must alter the quality and quantity of learning opportunities that these students encounter (Darling-Hammond, 2010).

Since World War II, efforts to improve instruction and student achievement in American schools have led to several approaches to moving research into practice which have motivated successive waves of federal education policies, beginning with the curriculum reform of the 1960s, the development of federal programs during the 1970s and beyond, and the No Child Left Behind Act of 2001. In 1991, The New American Schools Development Corporation issued a call for proposals for comprehensive "break the mold" school reforms to improve achievement in the country's lowest-performing schools. In response, Outward Bound organized a design team made up of several

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interest groups and wrote a proposal for Expeditionary Learning. In 1993, ten demonstration schools in five cities agreed to partner with Expeditionary Learning. Expeditionary Learning has been found to be an effective model of school reform (Cross, 2004).

Expeditionary Learning (EL) Schools' Outward Bound program is a comprehensive K-12 educational design that combines rigorous academic content and real world projects called "learning expeditions" with active teaching and community service. EL schools' literature states that they are "interested in creating good schools of a certain kind—more humane, adventurous and rigorous than the norm" (Woodfin, 2009, p. 196). Expeditionary learning is experiential in nature and conceptualized on some design principles, among which are the primacy of self-discovery, collaboration and competition, service and compassion, and taking responsibility for learning (Cousins, 2000). I argue the need to recognize EL as a highly promising model of urban school reform. This study aims to highlight key aspects of one EL school that promotes engagement and student achievement.

The following questions are pertinent to the study: What cultural, structural, or pedagogical factors within one EL school facilitate student engagement and ultimately student achievement? How do these factors manifest in everyday interaction between teachers and students and among students?

Theoretical Frame

I approach this study using a sociocultural framework, which posits that human activity and mental functioning do not occur in isolation but rather emerge as people interact within particular spaces (Vygotsky, 1978). Socioculturalists believe that elements in the social environment such as the classroom, school, and family/community impact teaching and learning processes and thereby impact educational outcomes (Schoen, 2011). Knowledge is mutually constituted and dynamically co-constructed by both teachers and students and the classroom is conceived as a learning-centered context for learning. Sociocultural theory emphasizes the building of a community of learners that utilizes collaborative learning, authentic assessment, and active students' participation in three mutually constituted planes: apprenticeship, guided participation, and participatory appropriation (Larson & Marsh, 2005; Rogoff, 1994; Wertsch, 1995). This perspective therefore offers a way to examine one expeditionary learning school as a social unit and how its unique approach to educating urban students increases their engagement with school.

Context of the Study

Transcripts for this study were obtained from a year-long study of one expeditionary school located in an urban district of a medium-sized city in the northeastern USA. The school district has 34,000 students and about 3500 teachers. York school (all names are pseudonyms) is a K-10 school and will become K-12 by 2015. Seventy-two percent of the students are on free or reduced

cost meals. The racial makeup of the school is Black, 75%, Hispanics, 8%, White, 14% and others 3%.

York operated as a traditional school until 2001 when the teachers and administrators were given the option to choose a reform model from choices such as Reading First, America's Choice, Success for All and the Expeditionary Learning (EL) model. York teachers and staff voted overwhelmingly to adopt the EL model (Peck, 2010; Woodfin, 2009). Since then, the school has been described as a hallmark of success and has won numerous awards such as the "High Performing Gap Closing School" Award, and a National Blue Ribbon School Award from the United States Department of Education in 2010. Admission into this school is based on a city-wide drawing and students are not restricted by geographic zone. The school accepts students based on a random lottery for approximately 30 kindergarten slots and a few other slots in other grade levels that inevitably open up each year due to attrition.

Data sources for this study included interviews, survey, and field notes from classroom observations of three grade levels. Data analysis was ongoing and recursive and was aimed at uncovering patterns of actions, events, practices, and behavior among participants (Bodgan & Biklen, 1998). This process involved a thematic analysis (Elly, Anzul, Friedman, Garner, & Steinmetz, 1991). Steps in the thematic analysis include establishing thinking units, categories, themes and integrating findings. By examining what teachers and students were doing, what they said, and the activities and contexts in which they were immersed, I was able to deduce themes. Triangulation of data sources, refining working themes and member checks were additional standards used to enhance trustworthiness.

York school has a unique culture and structure that contribute to student engagement and overall academic achievement. Other aspects of the school that contribute to its success include teacher professional development as well as its community outreach programs.

School Culture

A very important factor in York school's success is the school culture. Some of the unique aspects of the school culture include collaboration, the use of learning expeditions, service learning, and its community orientation. Rogoff (2003) defines a community as a group of people who have some common and continuing organization, values, understanding, history, and practices. Perhaps one of the most distinguishing characteristics of this school is the sense of community within the school. One of the ways that this community is achieved is through the school-wide morning meetings. This is a 45-50 minute weekly gathering of teachers, students, administrators, and some parents. The school-wide morning meeting can best be described as a complete entertainment package, interspersed with powerful learning. It is, in the words of Woodfin (2009), a celebration of the music and dance styles of African American urban culture as much as a demonstration of how learning can be connected powerfully to performance. It also serves an integration purpose as content area subjects such as math, science, social studies, music, and art are all integrated with literacy

through performance.

For this meeting, all the teachers and their students file into the school gym and arrange themselves in a semi-circular formation during which they are initially treated to different popular hip-pop music such as the Black Eyed Peas "Let's Get It Started" and others like the "Gangnam Style" by PSY. The entire series of events are facilitated by the sixth-grade disc jockeys of the school's mock radio station, WGYB (We Got Your Back). The assembly starts by having the students recite the Pledge of Allegiance, the school pledge, and the model citizens' pledge. Standard events include announcements and awards of various kinds, recitation of poems, performances about letters, numbers, and books of the week. Each week, one grade level performs at the meeting. Lisa, an eighth grader who transferred to York school from another school reflected on this:

> In this school we do things more as a community. In my former school it was separate; the whole school never really did anything together. But in this school, we do things together and it's more of a community than just separate parts. It's like a family kind of. We all look out for each other and teachers look out for us… so like a family. We all got to know each other really well. We do a lot of stuff as a group so we get to know different students. We don't just work in groups with the people we've become friends with; we work with new people each time

The way this student felt as a member of the school community contrasts sharply from that of her former school where individualism prevailed. Her response also highlights a very important aspect of the school: collaboration.

Collaboration

In York school, collaboration is a core practice which teachers and students adhere to. Teachers work collaboratively to design and implement the curriculum. A second grade teacher, Mrs. Watson had this to say about collaboration in the school:

> We do a lot of collaboration. That was new to me when I came to this school; I was always used to just doing my own thing, doing things my way, but when I came here, everything is teamwork, everything is collaboration. So we have two planning periods a week, which are an hour long. We have two specials back to back for the kids so it gives us a full hour twice a week. During that time we plan each week together and we're doing the same thing in each classroom. So the three teachers – the special education teacher, the other second grade teacher and I – we collaborate in everything, all the plans, all the assessments, everything there is.

Collaboration ensures that all teachers have a common goal of meeting curricular standards and implement them uniformly. Collaboration among teachers is just one side of the coin; students are encouraged and in fact collaborate daily in their learning. Within the spirit of collaboration, students are encouraged to compete, not with each other but with their own personal best and with rigorous standards and excellence. Apart from collaboration, learning expeditions provide the basis for most learning activities in the school.

Learning Expeditions

Learning expeditions are the hallmark of EL schools. An expedition is an in-depth study of a topic through long-term investigations that combine rigorous academic content with active learning and community service that lead to authentic projects. EL schools' expeditions involve field trips, use of experts, guest speakers, and hands-on problem solving activities.

While studying plants as part of a science expedition on the interconnection of plants and animals, Watson's second grade students planted sunflower seeds and observed as they grew into flowering plants. They wrote weekly observations in their science notebooks and recorded all changes that they noticed. In addition, the children visited a local public market where they saw several species of plants displayed by vendors at the market. They also learned how to select and buy the best quality fruits and vegetables. After the market trip, a guest teacher presented a "food tasting" lesson to the students. She brought in a variety of fruits and vegetables to demonstrate parts of plants such as roots, stems, leaves, flowers, fruits and seeds. They also had a field trip to study the maple tree and the production of maple syrup. All these activities were done in connection with only one aspect of the bigger expedition. There were several other field trips made as a result of the expedition.

Eighth graders, on the other hand, embarked on a science-based expedition titled "What Makes Me, Me." This was an expedition that involved the study of human cells, DNA, genetics, and the role of race in the development of the US. As part of this expedition, students read an anchor text for language arts titled *The Immortal Life of Henrietta Lacks* by Rebecca Skloot. The field trips that students participated in as part of this expedition included a visit to a local theater to view *The Way of All Flesh*, which was a BBC documentary on Henrietta Lacks. In addition, the students had a field trip to a nearby university to view the electron and confocal microscopes which were mentioned in the book about Henrietta Lacks. The students also had a Skype interview with Dr. Lengauer, who has worked on cancer research and HeLa cells. Finally, the students produced a science-based magazine that communicated information similar to that of the *Rolling Stone* magazine.

In the spring of the same academic year, the eighth graders participated on a social studies expedition titled "What Makes Us Us?" (coded as WMUU), that examined how conflict affected and shaped communities, with a focus on WWII, the civil rights movement, the great migration, and the great depression. As part of

this expedition, six prominent and successful African Americans were invited as guest speakers. They shared with the students their life histories and how they "beat the odds" of discrimination and racism during some of the local conflicts. The students later watched a documentary titled *July '64*, which was about the city's race riots, and also *Coney 2012*, which is a documentary about a Ugandan warlord. These documentaries were dissected not only for their content but also for their production features. The students then produced their own documentary about the city's civil rights movement and race riots after interviewing many of the principal actors. In a survey at the end of the year, all students agreed that the expeditions were very engaging and fun. Interviews of some eighth graders reiterated the survey result. Tessy, a female eighth grader noted:

> I like this school because we do expeditionary learning and it's really fun. We do more hands-on activities most of the time, like field studies. I like the fact that we also get to work more with technology. For example during the WMUU expedition, we made a documentary about What Makes Us, Us... I was one of the four editors from each class. We learned how to use iMovie and put together a documentary that's about an hour long. It was really fun.

The vignette above demonstrates the power of expeditionary learning on student motivation and learning. Also note that the student was one of the editors who worked on the documentary.

Another eighth grader, Larry discussed the impact of one guest speaker on his learning during the WMUU expedition:

> I just liked the way he spoke and I liked what he was saying because it seemed very true. He went through a lot of things but he's still, I'm not going to say *very* famous, but he's very educated even though he went through a lot of things as an African American in the past…he still went and got his Ph.D. I mean it just motivates me to try to work hard…. If he can go through a lot of things and still was able to succeed and be famous, it just inspires me that I can still do it too. And it should be easier for me because I have more opportunities now than he did.

As we can see from this student, the expedition connected meaningfully to his life because the guest speakers were African Americans who experienced some of the conflicts that they read about. This is what Larson and Marsh (2005) describe as efficacious learning. Efficacious learning ensures that learning is connected meaningfully to learners' social and cultural background. Another way that learning is connected to students' lives is through service learning.

Service Learning

A very important aspect of expeditionary learning is the use of service

learning. Service learning is an educational experience in which students participate in an organized service activity that meets community needs. In addition, students reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the topic under study, and an enhanced sense of civic responsibility. In the EL model, service learning is an integral part of academic work, not an afterthought or add-on. It is an extension of the ethic of kindness and service that permeates the school. Students and teachers regularly discuss the ways they can contribute to a better world.

The eighth graders had a community service component to the expedition described earlier. The science expedition, "What Makes Me, Me" (WMMM) was basically a study of human cells including cancer cells. For service learning, the students made and donated blankets as well as money to "Teens with Cancer." This money was raised from the sale of the magazines that the students produced as the end product of the expedition. For the WMUU expedition, students created a documentary about the city's experience during the race riots of the '60s. They researched about the race riots and civil rights movement and interviewed several elderly people. The documentary was later distributed to several community leaders and also donated to the local library. The documentary was a service to the community because it was the first of its kind and it helped provide resources about the city's race riots and civil rights movement.

Teacher Learning and Community Engagement

EL schools focus on improving student achievement by developing quality teachers. Professional development, feedback, and coaching are carefully aligned to formal evaluation systems in order to promote the professional growth of teachers and ensure school-wide excellence. In York school, the leadership supports inquiry-based staff development approach that involves study groups and structured observations to help teachers focus on the relationship between student learning and instructional and assessment practices. Teachers learn from external agents such as the school designers and also from each other and share students' assessment data in ways that promote student learning.

The school has several teacher learning groups which include grade level teams, data-inquiry teams and cross disciplinary teams. These groups meet weekly or monthly and share data to improve their pedagogy. Teacher learning is not restricted to curriculum or assessment. As part of community outreach, teachers also worked to understand the neighborhood where the school is located and learn about the cultures of the people and about parents of their students.

Parent and Community Outreach

Researchers of minority education have stressed the need to make use of students' funds of knowledge (Gonzales, Moll, & Amanti, 2005). Funds of knowledge are culturally developed bodies of knowledge and skills essential to household and individual functioning. Funds of knowledge are similar to an

instructional practice known as cultural modeling (Lee, 2007) in which students' out of school practices and routines are linked to school practices to support academic learning. Teachers cannot make use of either student's funds of knowledge or cultural modeling if they do not understand their students, their families, and community. In an exceptional effort to connect to parents and the school community, York school teachers and administrators embarked on an *Urban Expedition.* Funded by a grant from a local university, this expedition was designed to help teachers better connect to the parents of their students and understand the community where the school is located. York school leadership and staff are cognizant of certain assumptions, albeit wrongly, often made about urban teachers and families. Two of the assumptions are that White teachers cannot effectively teach students of color and that urban families do not participate in or care about their children's education. They hoped the urban expedition would help to curb any deficit thinking

The urban expedition was designed to achieve certain objectives: to increase teachers' awareness of the cultures of the students and their families; to help teachers reflect upon and critique the meaning of "high expectations" for all students; and to expand their understanding and commitment to equity and culturally responsive teaching at the school. By walking in the shoes of their students and parents, they believe that teachers would be more sensitive to issues involving students and their families. During the expedition, teachers were led by parent facilitators. They stopped at some of the parents' homes to break bread and socialize with them. They explored local libraries and grocery stores and learned about neighborhood associations. They also had conversations with community leaders and parents. A survey and interview of teachers who participated in the expedition indicated that the expedition deepened the empathic relationship between staff and families. More staff members were willing to engage in conversations with their students' families and became more knowledgeable about community resources and comfortable with visiting students' neighborhoods. York school also partners with some community organizations to attract grant money or use the expertise available in the community.

Community Partners

One of the core practices of this school is their community engagement. A strong parent/teacher association helps to ensure that parents' voices are heard and well represented in all the activities of the school. In addition, the school partners with local businesses and organizations, as well as area colleges and experts. There are also several community partners and professionals who volunteer their time to come in and talk to the students or teach their skills. York school has a partnership with a nearby appellate court. Lawyers in the court volunteer in the school and work with students on the topic of law and order. In addition, the students usually visit the court where they watch live Supreme Court cases and also prepare mock cases related to the topics they are learning. A local community bank partnered with the school to design a financial literacy course. They also support the school with grants and manpower. A host of other community

agencies and institutions also support the school through grants and other forms of collaboration.

Discussion and Implications

Urban schooling has traditionally been associated with low achievement, high dropout rates, and low college attainment. However, there are also success stories. Successful urban schools are those that have teachers who are committed to a collective responsibility for improved students' learning, strong leadership, strong staff collaboration, professional development, shared assessment data leading to instructional decisions, and outreach to parents and communities (Bryk et al., 2010; Cunningham, 2007). In addition, such schools emphasize high expectations for student learning, as well as higher level thinking and self-regulation (Beecher & Sweeny, 2008). These qualities are the hallmark of York School and they represent what colleges and employers want more of and align with the vision of the new Common Core Curriculum's emphasis on career and job readiness.

This study implies that given committed teachers and leadership, as well as the right school reform model, the problems usually associated with urban schools such as high dropout rates, low achievement, and less student and family engagement with school could be drastically reduced or eliminated. Urban students need schools with highly committed teachers, engaging content and a school community where students feel loved and accepted for who they are. In the current era of high stakes testing where innovative teaching and meaningful curriculum are often compromised, it is critical to highlight successful schools in which innovative teaching and high test scores are simultaneously achieved—where the focus on achieving curriculum standards does not mean teaching to the test but giving students the opportunity for meaningful and engaging learning.

The question of what is it that makes good schools good and why it is urgent that we figure out how to make them available to all children is a critical one and should be the concern of all educators especially those committed to urban teaching and learning.

References

Beecher, M. & Sweeny, S. M. (2008). Closing the achievement gap with curriculum enrichment and differentiation: One school's story. *Journal of Advanced Academics, 19*, 502-530.

Bodgan, R. C., & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn & Bacon.

Bryk, A.S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J. Q. (2010). *Organizing school for improvement: Lessons from Chicago.* Chicago: The University of Chicago Press.

Cousins, E. (Ed.) (2000). *Roots: From outward bound to expeditionary learning*. Dubuque, IA: Union-Hoermann Press.

Cross, 2004. (Ed.), *Putting the pieces together: Lessons from comprehensive*

school reform research. Washington, DC: The National Clearing House for Comprehensive School Reform.

Cunningham, P. M. (2007). *Six successful high Poverty Schools: How they beat the odds*. In D.Wells-Rowe., R.T.Jimenez., D. L. Compton., D. K. Dickinson., Y. Kim., K.M. Leander & V. J. Risko (Eds.), 56th Yearbook of the National Reading Conference (pp.191-203). Oak Creek, Wisconsin: National Reading Conference, Inc.

Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to* equity will determine our future. New York: Teachers' College Press.

Delpit, L. (2006). *Other people's children: Cultural conflict in the classroom*. New York: The New Press.

Elly, M., Anzul, T., Friedman, T., Garner, D., & Steinmetz, A. (1991). *Doing qualitative research: Circle within circles.* Philadelphia, PA: Routledge Falmer.

Gonzales, N., Moll, L., & Amanti, C. (Eds.) (2005). *Funds of knowledge: Theorizing practices in households and classrooms.* Mahwah, NJ: Lawrence Erlbaum.

Larson, J., & Marsh, J. (2005). *Making literacy real: Theories and practices for learning and teaching.* London: Sage.

Lee, C. (2007). *Culture, literacy and learning. Taking bloom in the midst of the w*hirlwind. New York: Teachers College Press.

Peck, S. M. (2010). Not on the same page but working together: Lessons from an award winning urban elementary school. *The Reading Teacher, 63* (5), 394-403.

Rogoff, B. (1994). Developing an understanding of the idea of community of learners. *Mind, Culture and Activity,* 1 (4), 209-229.

Rogoff, B. (2003). The cultural nature of human development. New York: Oxford University Press.

Schoen, L.T. (2011). Conceptual and methodological issues in sociocultural research and theory development in education. In D. M. McInerney, R. A. Walker, & A.D. Liem (Eds.), *Sociocultural theories of learning and motivation* (pp. 3-40), Charlotte, NC: Information Age Publishing.

Vygotsky, L. (1978). *Mind in society.* Cambridge, MA: Harvard University Press.

Woodfin, L. (2009). Finding true north: A portrait of two schools in Rochester, NY. *Schools*: *Studies in Education*, *6*(2), 187-206.

Wertsch, J. (1995). The need for action in sociocultural research. In J. Wertsch, P. Del Rio, & A. Alvarez (Eds.), *Sociocultural studies of mind* (pp. 56-74). Cambridge, MA: Cambridge University Press.

EDUCATORS CHALLENGING POVERTY AND LATINO LOW ACHIEVEMENT: EXTENDING AND ENRICHING THE SCHOOL DAY

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ABSTRACT

Latino students, as children of historically underachieving populations, often have their academic success in jeopardy. For many schools, after-school programs complement the regular school day, with more than half of the 49,700 U.S. elementary schools having one or more on-site programs. Such programs vary in intent, purposes, and resources and typically emphasize remediation rather than developing interests or competencies in curricular areas beyond language arts and math. This qualitative case study explores the practices of one dual language elementary school in a high poverty Latino community and its academic/enrichment extended day program. Wenger's (1998) community of practice framework captures the mutual engagement, joint enterprise, and shared repertoire of practices tightly woven between the regular school day's classroom teachers and the after-school instructional assistants. This investigation provides insight into collaborative efforts that can counter the isolation, segregation, and mediocrity of school experiences that children in poverty often experience and provide points for offering dual language and cultural experiences through an extension of the school day.

Keywords: After school elementary program, Dual immersion,
Latino/bilingual education, Community of practice, Academic achievement

Poverty plagues Latino communities more than ever in recent history (U.S. Census Bureau, 2011) with Latino children weighted by the greatest share of poverty (37%), compared to their White (30.5%), and African-American (26.6%) counterparts (Jordan, 2011). Further, "[o]f the 6.1 million Latino children living in poverty, more than two-thirds are the children of immigrant parents" (Lopez & Velasco, 2011, p. 5). The strong correlation between poverty and low academic achievement (Hout, 2011) perpetuates a cycle of poverty that Ladson-Billings (2006) attributes to this group's persistent academic achievement gap.

Latino children comprise nearly one-half of the overall student population

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in California where this study takes place. As children of historically underachieving populations, Latino students often find their academic success in jeopardy (Orfield, 2002; Rist, 2000). Children growing up in poverty often attend schools that have lost funding. For example, in California 11.1% in funding to schools was dropped between 2007 and 2011 (California Budget Project, 2012). This daunting financial reality has limited the level of support and enrichment that public schools provide children, especially beyond traditional schooling hours.

One approach that schools have used is augmenting the school day with after-school programs. In the U.S., more than half of the 49,700 elementary schools have one or more on-site after-school programs (Parsad & Lewis, 2009) that vary in intent, purposes, resources, and institutional affiliation. While some out-of-school learning environments are dynamic spaces for dual language development, problem-solving skills, and peer group interdependence (see Vasquez, 1994; Gutiérrez, Banquedano-Lopez, & Alvarez, 2001), many after-school programs are limited by their requirements to meet funding conditions and focus on "particular conceptions of achievement and reading" (Kirkland & Hull, 2011, p. 720).

One school's after-school program is recently credited for impressive academic gains for students. Located in a high-poverty neighborhood with a high concentration of immigrant families, primarily from Mexico, this dual-immersion school's extended day program has evolved to seamlessly link the learning from the regular school day with creative enrichment experiences after school. While research into after-school programs is typically evaluative (Kirkland & Hull, 2011), this qualitative case study explores the nature of one elementary school's practices, processes, and routines that involve engagement between classroom teachers and after-school program instructional assistants to enhance student learning. Insight into promising educational practices can provide learning contexts—such as robust after-school programs— to counter the isolation, segregation, and mediocrity of school experiences that children in poverty often experience (Orfield, Siegel-Hawley, & Kucsera, 2011).

Literature Review of After-School Programs

With No Child Left Behind (NCLB), school districts have used special funding to supplement the hours of daily instruction by creating after-school programs. These programs range from stand-alone day care, academic instruction/tutoring, 21st Century Community Learning Centers, and other broad-based programs (e.g., content specific) (Parsad & Lewis, 2009). Typically programs emphasize remediation and rarely develop interests or competencies in curricular areas besides language arts and math.

In an analysis of best practices, Huang, Cho, Mostafavi, and Nam (2010) in their nationwide study of 53 promising after-school programs identified key characteristics including the following elements: establishing academic goals linked to standards; strong leadership; staff development and retention; availability of academic and enrichment programs; and research-based instructional strategies. Relevant to this current study, there were structural,

program, and instructional concerns including the following challenges: (1) little coordination between regular school and after-school program; (2) sparse professional development and/or uneven participation; (3) staff's lack of clarity between standards and instruction; and (4) students' limited opportunity for practicing skills during the after-school program that had been learned in the regular school day.

These findings echo California Tomorrow's national survey which found that most after-school programs serving students from diverse linguistic and cultural backgrounds have neither skilled staffing nor training to support students in their home language and English development (Bhattacharya, et al., 2002). These points were corroborated by McNair and Wambalaba (2006) who suggested, "programs must go beyond what they provide for mainstream students and pay particular attention to the social, cultural, linguistic, and literacy needs of diverse students and families" (p. 3). With the federal government's recent investment of $3.6 billion in after-school programs (Durlak & Weissberg, 2007), naturalistic studies, such as this one, can provide insight into practices of learning environments for supporting today's students.

A Community of Practice Perspective

Wenger's (1998) social theory of learning explores how learning occurs in arenas through individuals' participation in a community of meaningful practices. It is applicable to understanding the ongoing interaction by classroom teachers and instructional aides at Sunshine Elementary Charter School (pseudonym) in unifying the school's regular day instruction with its academic and enrichment-based after-school program. According to Wenger, a community of practice is characterized by three dimensions. First is *mutual engagement*, which includes the ability of individuals to engage and respond to one another's actions. Second is *joint enterprise*, which is the mutual accountability of a group's members to contribute in the pursuit of the community's goals. Lastly is the *shared repertoire* of resources between participants that are understood and taken up by the group. The use of the repertoire, which includes tools, artifacts, gestures, stories, and resources, is in constant negotiation among participants (cf. Gutiérrez & Rogoff, 2003). Other aspects include apprenticing newcomers to the learning community through differing levels of engagement and acknowledging *legitimate peripheral participation*.

To establish community membership, individuals must demonstrate competency in the community's valued behaviors, dispositions, and actions. A community of practice is not necessarily utopian and in fact can be sites for tension as humans negotiate, exercise agency, and interpret particular practices. This social learning theory is instrumental because, "[a]s a locus of engagement in action, interpersonal relations, shared knowledge, and negotiation of enterprises, such communities hold the key to real transformation—the kind that has real effects on people's lives" (Wenger, 1998, p. 85). We found a community of practice explanatory framework useful in understanding the nature of shared practice between educators as they sought to provide intervention and enrichment

instruction for children.

Background and Context

School Context

Sunshine Elementary School is an independent charter school selected as an exceptional case. Located in Southern California, this community K-8 school serves approximately 700 mostly Latino children of whom 80% qualify for the federal free- or reduced-lunch program and 70% are English language learners. While a spate of state legislation in the late 80s and 90s has all but eliminated bilingual education (Halcón, 2001; Moll & Ruiz, 2002), this school operates as a dual-immersion English-Spanish bilingual educational site that leads to fluency in both languages. Science content instruction, as well as the arts, is emphasized in and across both the regular school day and the after-school program. Families are required to contribute twenty service hours a year. The school has received numerous awards including state recognition for academic excellence. According to school administrators, its Academic Performance Index (API), which measures a school's academic performance and improvement (California Department of Education), has increased substantially, from the mid-500s in 2005 to surpassing the state's target of 800 in 2011.

After-School Program

The connection between the regular school day and the after-school intervention program is strategically structured. According to a school administrator, the after-school program has been purposely transformed from "45 kids doing homework at a lunch table" when started in 2005 to one that today is focused on the holistic needs of 350 students. The administrators attribute the regular school's academic growth to the after-school program's complex collaborative model, which includes the following elements: (a) academic and enrichment focus; (b) classroom teachers leading instructional focus; and (c) expansion from a voluntary few days to required five days a week. The program's students have been identified as underperforming in their regular classroom and attend with parental agreement. There are eighteen instructional assistants who work both during the regular school day and after school to provide the small group instruction rotating in language arts, math, and other content areas. Other instructors provide enrichment in visual and performing arts, physical education, and chess. The students are divided into three intervention groups based on levels and needs, which are dynamically formed with students' progress monitored weekly. High levels of accountability measures have been built in so no student is locked into one group but rather grows with the program.

Methods and Data Sources

In this qualitative case study (Stake, 2000; Yin, 2004), we used

ethnographic methods over two years to gather data. As an intrinsic and instrumental study (Stake, 2000), it provides ways to address a particular aspect of a situation (i.e., one after-school program) and adds further understanding to an issue (i.e., educational supports for bilingual children in a low-income context). As university researchers, we conducted five observations of after-school classrooms and one to two observations of each K-5 grade level's collaborative planning meetings. We attended various school events throughout the year. Formal and informal interviews (Fontana & Frey, 2001) were conducted with two school administrators, six classroom teachers, and seven after-school instructional assistants. Typically, the instructional assistants are simultaneously attending community or four-year colleges, and may or may not have chosen education as a career. Participation was voluntary. The audiotaped interviews ranged from 30 to 60 minutes and were professionally transcribed. School document artifacts were also collected. Field notes documented observations and early analytic steps.

Wenger's (1998) framework was used as a unit of analysis and theoretical backdrop (Stake, 2000) into the nature of participants' engagement in cultural practices, processes, and shared resources. Transcripts, field notes, and memos were analyzed initially using open coding and then selective coding (Strauss & Corbin, 1998) in conversation with the three dimensions of a community of practice. A constant comparative method was used to categorize themes and patterns in the data (Glaser & Strauss, 1967). Data sources were triangulated to check the integrity of researcher inferences. Member checking and peer debriefing provided ongoing feedback to confirm and disconfirm evolving research themes and strengthen the soundness of categories.

Findings

The practices, processes, and routines between Sunshine School's elementary classroom teachers and the after-school program's instructional assistants were tightly woven between the regular school day and the on-site after-school program. The following sections elaborate on each dimension aligned with the community of practice's framework. Participants' comments are enclosed in quotation marks.

Engaging as an Instructional Team

Wenger contends that within a community of practice, participants must demonstrate the ability to "engage with other members and respond in kind to their actions…[which becomes] the basis for an identity of participation" (1998, p. 137). There are several ways that the classroom teachers and instructional assistants meaningfully engaged.

One structural practice is the instructional assistants' dual role providing support in a classroom teacher's instruction during the day and in the after-school program assuming the primary teaching responsibility. This dual role provides the instructional assistants and classroom teachers with certain affordances. For example, instructional assistants are able to observe a classroom teacher not only

introducing a concept such as a language arts objective incorporating adjectives into elementary students' writing but also an appropriate pedagogical approach. According to one school administrator, this practice enables an instructional assistant to incorporate "the same strategies, the same techniques." This pedagogical overlap reinforces students' continuity of learning from the regular school day to the after-school program.

Informal conversations between the classroom teachers and instructional assistants during transitions or recess breaks are opportunities to clarify pedagogical techniques, review a lesson plan, or inquire about a particular student. This mutual teaching does not escape the students' notice either. Educators reported students are more likely to self-monitor their behavior throughout the day because of the ongoing communication of their "*maestras*" (teachers). So crucial is this continual dialogue that one new instructional assistant, whose first educational experience is being shaped at Sunshine Elementary, expressed surprise that other programs do not always build in similar communication and organizational structures.

A second practice is the "teamwork" built during the weekly one-half hour grade level planning meetings between classroom teachers and their after-school counterparts. These meetings target academic concepts for review, address individual children's progress or needs, and provide classroom management techniques. Instructional assistants who are newcomers to the profession seek guidance from the more experienced classroom teachers. During one meeting, an instructional assistant frustrated about a child's reluctance to participate in after-school instruction was quickly mentored by other classroom teachers:

Instructional Assistant:	[Student name] is not participating. [She] says, "No!"
Classroom Teacher-1	She's really shy and doesn't want to get things wrong.
Classroom Teacher-2	Maybe give her more time.
Instructional Assistant:	I just ask her to read…
Classroom Teacher-2	She whispers and [during my class], I keep her right in front of me.

In this vignette, two classroom teachers offer an alternative perspective of the child's seemingly reticent nature and concrete suggestions for supporting the child. Sharing instruction means shared attention to the child's academic, social, and behavioral needs. Solutions are strength-based, child-centered, and respectful of the child's potential as a learner. As developing educators, instructional assistants value the expertise and support of the classroom teachers noting, "[The classroom teacher is] always good at backing me up." The feeling is mutual: a classroom teacher reflected on the partnership with her instructional assistant, noting, "She's [the] eyes on the back of my head."

Lesson plan development is a third collaborative practice. Although instructional assistants have access to all school materials and resources, there is not a pre-packaged after-school curriculum. The instructional assistants are expected to write, "…five pages [lesson] or more for each week" to be reviewed and refined by classroom teachers. At each grade level meeting, the classroom

teachers provide a list of literacy and math topics to be covered during the upcoming after-school sessions. This information was often conveyed with specific plans for how the material was to be taught. Consistent with a community of practice perspective, the responsibility of writing lesson plans reify the instructional assistants' contribution as educators in the students' learning (Wenger, 1998).

In these practices, the participants are engaged in meaningful and mutually supportive ways (Wenger, 1998). One classroom teacher noted, "We are one group united to help the kids. It's not an after-school program, it's an extended day program." Classroom teachers are quick to express appreciation to the instructional assistants and vice versa. Interviews with instructional assistants noted their ease in asking the classroom teacher not only about pedagogical techniques but also to genuinely inquire into their personal lives, noting the interdependency in their efforts. More than one educator remarked, "It's like we are family."

Contributing to the School Community's Goals

In a community of practice, individuals participate in joint enterprise and "take some responsibility and contribute to its pursuit and ongoing negotiation by the community" (Wenger, 1998, p. 137). One of Sunshine School's goals is developing students' English and Spanish proficiency. All classroom teachers, instructional assistants, and school administrators are bilingual and value the respective languages that children and family choose to use. In some grade level meetings, the school's educators communicate primarily in Spanish and during other grade level meetings they agilely code-switch between languages. Great attention is paid to incorporating the academic language specific to each grade level. This is paramount. In the first-grade team planning meeting, the classroom teacher took the lead in identifying appropriate use of the language arts teacher's edition as a resource in including Spanish academic language in an upcoming letter writing lesson. The ensuing discussion revolved around writing conventions and academic language. She mentioned the following phrases and words: "palabras sobre ortografia;" "escribir lentamente"; "incluir un saludo como querido"; "ser positivo"; "finalmente, corregir " (words about spelling; writing slowly; including a salutation, such as "dear"; being positive; finally, correcting). The instructional assistants recorded notes in their weekly lesson plan books. Since third grade is a pivotal time of transition to English language, with nearly 90 percent of the third grade enrolled in the after-school program, English language development is emphasized.

Similarly other academic goals are aligned with state content area standards and closely monitored. The instructional assistants administered the weekly quizzes prepared by the classroom teacher to assess students' progress. In a first-grade level planning meeting, one instructional assistant and a classroom teacher discussed the literacy needs of a particular child:

Classroom teacher:	I know he struggles more [in writing than reading].
Instructional assistant:	He's great. He's verbal.
Classroom teacher:	In whole group he gets distracted. If it is a topic of interest, he will talk
Instructional assistant	I noticed last week during free write [inaudible]. Yesterday, we were lining up for recess. He was reading a book.

In the above interaction, the classroom teacher shares her knowledge of the child's academic strengths and needs. For her part as a legitimate peripheral participant (Wenger, 1998), the instructional assistant provides valuable anecdotal information about the child's literate behavior that might otherwise be invisible to the classroom teacher. Her competency as a knowledgeable educator attuned to the child's success is recognized as an integral contribution.

Professional development of all educators is paramount to keep teachers current with quality teaching (Desimone, Porter, Garet, Yoon, & Birman, 2002). Therefore, Sunshine Elementary has developed structures to develop pedagogy skills and monitor growth of after-school instructional assistants through participation, observation, and feedback mechanisms. Instructional assistants participate in professional development alongside classroom teachers in topics such as Guided Language and Academic Development (GLAD) and Thinking Maps®, encouraging a common understanding of pedagogical practices.

Classroom teachers conduct weekly formal observations of instructional assistants with debriefing conferences afterwards. One classroom teacher emphasized the value of these conferences to the instructional assistants' collective understanding and growth explaining, "When we do observations of you that you do not agree with [let us know]. If we don't address [something], please, we need your feedback. If it [the observation] just becomes another piece of paper, it is useless." All lesson plans and observations are submitted to the after-school coordinator who meets with the instructional assistants weekly to resolve any outstanding issues. This ongoing coaching strengthens the potential of each member to contribute to the school's goals.

Sharing Knowledge as a Resource

Participants within a community of practice use "routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions or concepts that the community has produced or adopted in the course of its existence" (Wenger, 1998, p. 83). The instructional assistants in collaboration with the classroom teachers develop lessons and have latitude to use creative learning activities. When one instructional assistant explained she incorporated an interactive math board game because "I was noticing that [the word problems] just became mundane," a classroom teacher was enthused over the prospect of adopting the activity. Thus, the quest of identifying effective instruction is a two-way negotiated process (Wenger, 1998). Often, classroom teachers take the lead in suggesting a pedagogical approach but it is typical for an instructional assistant to

chime in with complementary pedagogy. Other times, instructional assistants make connections in their own learning, evidenced in the following exchange on a proposed writing lesson:

Classroom teacher:	Outlining is a good way to get the central idea.
Instructional assistant:	Kinda like a think aloud.

In this interaction, the instructional assistant acknowledges the point and connects to her own developing understanding of pedagogical strategies that will be used later in the after-school program to strengthen students' learning.

Frequent ongoing informal communication routines capitalize on various technologies to stay abreast of events. Often classroom teachers and instructional assistants use *"daily interaction via email,"* phone calls, texting, and informal conversations to convey information about a child's progress. One instructional assistant noted the concern for timely connections with the classroom teacher, "If something happens on Friday, then I'll email her." Using available communicative tools and practices creates a climate of immediate responsiveness and differentiation to meet student needs.

Discussion

Understanding the relationship, routines, and practices of one school's educational team to support and enhance student learning throughout the school day provides insight into the structure and focus of after-school programs. These insights include the following key ideas: strategically bridging the after-school program with the regular school day; developing teachers through formal and informal processes; and broadening the program focus beyond remediation.

Bridging the After-School Program with the Regular School Day

While an established relationship between after-school programs and the conventional school is valued, it is not always in place (Huang, et al., 2010). Sunshine School's administrators' vision and strategic planning promoted a strong collaboration between the regular school and after-school staff in unique ways. This included overlap of staff teaching schedules, required weekly grade-level planning meetings, and shared lessons and assessment outcomes. So inculcated in this vision, the after-school program's staff and regular school staff formed a singular community of practice (Wenger, 1998)—an *extended* school day instead of two separate stand-alone programs. Indicative of their mutual engagement was staff's perspectives of themselves as "family" and accountability in having one another's "back" (Wenger, 1998). Such dynamic interplay between educators supports students' academic and socio-emotional strengths and needs.

Capitalizing on Formal and Informal Processes of Teacher Development

Educators generally agree that students' achievement is linked to quality teaching (cf., Darling-Hammond, 2000) and ongoing professional development underlies teachers' growth (Desimone, et al., 2002). Besides the common practice of participating in Sunshine School's formal professional development, the after-school staff experienced informal development opportunities. Through the practice of overlapping schedules in regular school day, the after-school staff readily gained firsthand understanding of a classroom teacher's pedagogy. Developing a shared repertoire (Wenger, 1998) of research-based instructional practices promotes the carry-over of pedagogy and materials from the regular school into the after-school program. This instructional continuity is considered a beneficial practice in an after-school program (Huang, et al. 2010). Weekly feedback from classroom teachers as experts (Wenger, 1998) broadened focus beyond students' cognitive growth to other aspects of a child's learning including emotional and social needs (Monzó & Rueda, 2003). Ongoing collaboration encourages development of innovative lessons linked to state standards, another quality necessary in after-school programs (Huang, et al., 2010). The negotiated practice (Wenger, 1998) between the after-school staff and classroom teaching staff nurtures their legitimate inclusion into the profession and respects the knowledge and unique perspectives of after-school staff. Often this reciprocal nature of learning between school paraprofessionals and teachers is overlooked in educational settings, yet has potential to be a key resource in students' learning (Monzó & Rueda, 2003).

Broadening the After-School Program Focus

Some after-school programs focus on homework completion and remediation (Kirkland & Hull, 2011) with students in low-income neighborhoods more likely to encounter these types than other programs with enrichment opportunities (Apple, 2001). After-school programs that are expansive in addressing students' linguistic needs (Bhattacharya, et al., 2002) are also important particularly given this country's increasingly culturally and linguistically diverse student population (Howard, 2012). Accordingly, successful after-school programs require recruitment and retention of staff with requisite skills to meet context-specific goals; Sunshine School hired and developed bilingual staff to support their goal of students' dual language competency. Providing enrichment experiences to all students is one way schools and after-school programs recognize that such experiences have implications to a child's overall education. Such cultural and enrichment experiences provide students from low-income communities with cultural capital (Bourdieu, 1986) and allow students to engage in experiences that their peers in wealthier contexts enjoy (Apple, 2001) as well as build upon students' multiple intelligences.

Conclusion

Moll and Ruiz (2002) have argued for "mediating institutional arrangements" (p. 368) to ameliorate the historic subtractive and dysfunctional schooling experiences that children from minority groups and low-income parents—particularly Latino children—experience. The practices, processes, and routines within this school community contributed to development of skilled educators in creating engaging and meaningful instruction to meet the individual needs of students. Evidence of this school's promising practices is apparent in recent various recent state and institutional academic recognitions as well as the ongoing support of the schools' parents and community partners. This study points to the ways after-school programs might create communities of practice as "transformative" sites (Wenger, 1998) by strategically articulating with the regular school day programs to provide intellectually robust and enriched learning opportunities in pursuit of educational equity

References

Apple, M. (2001). *Educating the "right" way: Markets, standards, God, and inequality*. New York: Routledge Falmer.

Bhattacharya, J., Jaramillo, A., Lopez, L., Olsen, L., Scharf, A., & Shah, M. (2002). *Our roots, our future: Affirming culture and language in after school and youth programs*. Oakland, CA: California Tomorrow.

Bourdieu, P. (1986). Forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for sociology of education* (pp. 241-258*).* New York: Greenwood.

California Budget Project. (2012). *California's public schools have experienced deep cuts in funding since 2007-08.* Retrieved from: http://www.cbp.org/pdfs/2012/120410_K-12_by_District_Budget_Cuts.pdf

California Department of Education. Executive Summary Explaining the Academic Performance Index (API). Retrieved from: http://www.cde.ca.gov/ta/ac/ap/documents/apiexecsummary.pdf

Darling-Hammond, L. (2000). Teacher quality and student achievement. *Educational Policy Analysis Archives, 8*(1), 1-44.

Desimone, L.M., Porter, A.C., Garet, M.S., Yoon, K.S., & Birman, B.F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis, 24*(2)*,* 81-112.

Durlak, J., & Weisberg, R. (2007). *The impact of after-school programs that promote personal and social skills*. Chicago, IL: Collaborative for Academic, Social, and Emotional Learning. Retrieved from: www.casel.org

Fontana, A., & Frey, J. (2001). The interview: From structured questions to negotiated text. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 645-672). Thousand Oaks, CA: Sage Publications.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* New York: Adline De Gruyter.

Gutiérrez, K., Banquedano-Lopez, P., & Alvarez, H. (2001). Literacy as hybridity:

Moving beyond bilingualism in urban classrooms. In M. de la Luz Reyes & J. Halcón (Eds.), *The best for our children: Critical perspectives on literacy for Latino students* (pp. 122-139). New York: Teachers College Press.

Gutiérrez, K., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational Researcher*, *32*(5), 19-25.

Halcón, J. (2001). Mainstream ideology and literacy instruction for Spanish-speaking children. In M. de la Luz Reyes & J. Halcón (Eds.), *The best for our children: Critical perspectives on literacy for Latino students* (pp. 65-77). New York: Teachers College Press.

Hout, M. (2011) Social and economic returns to college education in the United States. *Annual Review of Sociology*, *37,* 2-45.

Howard, T. (2010). *Why race and culture matter in schools: Closing the achievement gap in America's classrooms.* New York: Teachers College Press.

Huang, D., Cho, J., Mostafavi, S., & Nam, H., (2010). *What works? Common practices in high functioning afterschool program across the nation in math, reading, science, arts, technology and homework: A study by the National Partnership*. The after school program assessment guide. National Center for Research on Evaluation, Standards, and Student Testing (CRESST) (Report768). Graduate School of Education & Information Studies. University of California, Los Angeles.

Jordan, M. (2011, September 29). For the first time, largest group of poor children in U.S. are Latino. *Wall Street Journal*. Retrieved from http://online.wsj.com/article/SB10001424052970203405504576599254129051180.html# .

Kirkland, D., & Hull, G. (2011). Literacy out of school: A review of research on programs and practices. In M. Kamil, P.D. Pearson, E. Moje, & P. Afflerbach (Eds.) *Handbook of Reading Research* (pp. 711-725). New York: Routledge.

Ladson-Billings, G. J. (2006). From the Achievement Gap to the Education Debt: Understanding Achievement in U.S. Schools. Presidential address at the American Educational Research Association Annual Meeting, San Francisco, CA.

Lopez, M., & Velasco, G. (2011). The toll of the Great Recession: Childhood poverty among Hispanics sets record, leads nation. Pew Research Hispanic Center. Retrieved from: *http://www.pewhispanic.org/2011/09/28/childhood-poverty-among-hispanics-sets-record-leads-nation/*.

McNair, G., & Wambalaba, M. (2006). *Literacy in after school programs focus on English language learners: Literature Review.* Northwest Regional Educational Laboratory for the National Partnership for Quality Afterschool Learning: Oregon Retrieved from http://www.sedl.org/afterschool/toolkits/literacy/pdf/AST_lit_literature_review_ell.pdf .

Moll, L., & Ruiz, R. (2002). The schooling of Latino children. In M. Suárez-Orozco & M. Páez (Eds.), *Latinos: Remaking America* (pp. 362-374). Berkeley, CA: University of California Press.

Monzó, L. D., & Rueda, R.S. (2003). Professional roles, caring, and scaffolds: Latino teachers' and para-educators' interactions with Latino students. *American Journal of Education*, *109*(4), 438-471.

Orfield, G. (2002). Commentary. In M. Suárez-Orozco & M. Páez (Eds.), *Latinos: Remaking America* (pp. 389-397). Berkeley, CA: University of California Press.

Orfield, G., Siegel-Hawley, G., & John Kucsera, J. (2011). Divided we fail: Segregated and Unequal Schools in the Southland. UCLA Civil Rights Project. Retrieved from: http://civilrightsproject.ucla.edu/research/metro-and-regional-inequalities/lasanti-project-los-angeles-san-diego-tijuana/divided-we-fail-segregated-and-unequal-schools-in-the-southfield/Divided-We-Fail-final-rept-v3-03-18-11.pdf.

Rist, R. C. (2000). HER Classic: Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Education Review, 70*(3), 257-265.

Parsad, B., & Lewis, L. (2009). After-School Programs in Public Elementary Schools. (NCES 2009–043). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from: http://www.naaweb.org/downloads/Publications/After-SchoolPrograms in Public Elementary Schools.pdf.

Stake, R. (2000). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 435-454). Thousand Oaks, CA: Sage Publications.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research, 2nd ed*. Thousand Oaks, CA: Sage.

U.S. Census Bureau. (2011). *Income, poverty, and health insurance coverage in the United States: 2010.* (Current Population Reports P60-239). Washington, DC: U.S. Government Printing Office.

Vasquez, O. (1994). The magic of La Clase Mágica: Enhancing the learning potential of bilingual children. *Australian Journal of Language and Literacy*, *17*(2), 120-128.

Wenger, E. (1998). *Communities of practice*. Cambridge: Cambridge University Press.

Yin, R. K. (2003). *Applications of case study research* (2nd ed.). Thousand Oaks, CA: Sage.

BEING CHALLENGED IN AN URBAN CLASSROOM: A CASE STUDY DOCUMENTING THE ENGAGEMENT OF A YOUNG MALE WHO WANTED TO 'LOOK SMART'

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ABSTRACT

This study builds on previous research that investigates the nature of engagement as it occurs 'in the moment' in urban classrooms (Goldin, Epstein, Schorr, & Warner, 2011). In this article, we report on a young male student, Eric, who called out an answer in front of all his peers in response to a question posed by the teacher. Almost immediately, his peers challenged his response. Upon hearing their comments, he retorted that he "didn't care anymore" and withdrew from the discussion. Nonetheless, moments later he reentered the discussion, reiterating his response. In a later interview, Eric noted that he called out the answer in order to impress others, but felt disrespected when they disagreed. In this examination, we attempt to characterize his reactions with specific reference to his momentary engagement in order to discuss the implications for learning.

Keywords: Middle school mathematics, Student engagement, African American male

Introduction

A report from the National Research Council (NRC, 2003) notes that the "evidence is clear that students in urban schools are not faring well in mathematics" (p. 76). They note that there are many factors that contribute to this. One leading factor involves the type of instruction that is available to the students. Another factor involves when and how the students engage in learning math. The

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fact that the type of engagement that students experience can be important for their mathematical learning (Marks, 2000) is no surprise. One strategy, noted in the NRC study for increasing engagement, involves the use of open-ended problems and classroom discussion of solution strategies. However, the NRC report also cites a study done by Murrell (1999), with middle school students, pointing out that "open-ended, discussion-oriented classes did not increase African American male students' understanding of mathematical concepts. These students participated in the conversation, but they shied away from substantial engagement with mathematics for fear of making mistakes" (p. 83). We address this point, documenting what happens when an African-American middle school male offers a solution that is immediately criticized by his peers. We discuss how he initially feels disrespected and withdraws from the discussion stating that he 'doesn't care anymore'. He then reenters the discussion and continues to advocate for his solution. Our results indicate that his engagement is highly dynamic and shifts rapidly. We analyze the reasons for the shifts and discuss their implications.

Theoretical Framework

Many studies of engagement in mathematics education emphasize students' longer-term attitudes, emotions, dispositions or orientations (Midgley et al., 2000; Patrick, Ryan, & Kaplan, 2007). In such cases, surveys, questionnaires or interviews may determine how a person typically feels in social situations, and how one person's feelings characteristically differ from another. While important, longer term traits may not necessarily capture the 'in-the-moment' nature of student engagement. 'In the moment,' as it is used here, refers to the varying patterns of engagement governed by emotions, goals, and social interactions that may occur for minutes, or even seconds at a time as the student works on a mathematical problem (Goldin et al., 2011).

Many factors, such as peer interactions, social contexts, instructional styles, problem types, and technological resources, have been found to impact the 'in the moment' engagement that students experience (Middleton & Jansen, 2011). In order to better characterize such engagement, a group of researchers (Goldin, Epstein & Schorr, 2007; Schorr, Epstein, Warner & Arias, 2010) conducted a series of classroom-based research studies in which they examined engagement as students solved math problems in a group setting. After careful analysis, several clear patterns emerged which led to the development of a theoretical construct that the authors refer to as *engagement structures*. *Engagement structures* are idealized, recurring, highly affective patterns inferred from observed behaviors and student interviews (Goldin et al., 2011). These structures consist of a behavioral/affective/social constellation, and include many interrelated components such as "(1) a characteristic goal or motivating desire, (2) characteristic patterns of behavior including social interactions oriented toward fulfilling the desire, (3) and a characteristic affective pathway experienced by the individual, as well as others" (Goldin et al., 2011, p. 549).

Fourteen engagement structures have been identified thus far. Structures are not considered to be either "good" or "bad." Rather, they are contextually dependent. For example, complete immersion in a task can be beneficial at times and exclusionary or inappropriate at others. Similarly, there are occasions when one might want to avoid work on a task when he is feeling sick or upset about something else. Further, engagement structures do not necessarily operate in isolation; they often operate simultaneously or in support of each other, and can shift instantly—as will be described below.

Two structures appear to occur often in our research. The first is referred to as "Look How Smart I Am." This engagement structure occurs when a student has a desire to appear smart, and acts on that desire by, for example, making sure that others in the class know that he/she knows the answer (for a full description see Goldin et al., 2011, p. 553). The second, referred to as "Don't Disrespect Me," occurs when a student feels exposed, humiliated, or otherwise disrespected by one or more people (or situations) and perhaps tries to defend his position in order to "save face" (for a full description see Goldin et al., 2011, p. 553).

This study will focus on providing evidence documenting the emergence of these two structures in a student as he is offering solutions to mathematical problems. We address the following research question: How does sharing an idea or solution publicly impact Eric's engagement-especially when his answer is perceived to be incorrect?

Methods

This research is one part of a larger study (Sanchez Leal, 2012), which focused on 55 7th grade students (71% African-American and 18% Hispanic) in a high poverty, urban school district in the northeastern part of the U.S. The students participated in an eight-day teaching implementation taught by a senior graduate student (Hispanic female: referred to as T/R) from Rutgers University. The students were divided into three classes based upon their standardized score relative reading levels—low, average, and high. Class selection was made by the school administration.

Videotaped observational data, pre/post test data, and survey data were collected from all classes. The survey (Rutgers University Inventory of Mathematical Engagement (RIME)[19] used in this study was developed by Epstein et al. (2010) in order to measure the presence and strength of the various engagement structures. The RIME survey was made up of 63 items measured by a 5-point Likert scale (ranging from Strongly Disagree to Strongly Agree). This survey was administered during the last 15 minutes of each of four of the eight 80 minute-classes.

Four "focus" students were selected for more in-depth analysis, and were videotaped during all eight days of the study. The focus students, all of whom were in the average class, were chosen according to the following criteria: consent to be interviewed/videotaped, gender, general engagement, social status within the

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[19] This survey has been modified since its use in this research. It is currently in the process of being validated.

classroom, and general math achievement (as provided by the regular classroom teacher and based upon standardized state tests). This information was obtained during an interview with the classroom teacher. While specific definitions were not provided for such terms as social status or engagement during the interview, the teacher, through his comments, indicated that he understood social status to refer to the student's general social standing within the classroom. As an example, a high social status student would be one who seemed to command the attention of his peers regularly while a low status student would be one who seemed to be ignored more often. A student with low engagement would be one that appeared to exhibit some degree of difficulty "staying on task."

In this study, we focus on Eric, an African American male who had the following profile: high social status, low mathematics achievement (his score on state tests was lower than average both in terms of his school peers, and in the state in general) and typically low engagement.

Several senior researchers and graduate students observed the classes. They met with the T/R each day, in order to discuss what occurred, especially with regard to hypothesized engagement structures. Instances were identified for further analysis and for use in the semi-structured, retrospectively stimulated recall interviews. The interviews occurred eight weeks after implementation with each of the focus students. The interviews, observational notes, video analysis, and RIME results were analyzed for evidence of possible patterns of engagement, and form the data for this research. In this paper, we specifically focus on data that framed events on Day 3.

In each of the eight implementation sessions, the students worked with simulation software, SimCalc MathWorlds®. SimCalc was chosen because it is representative of innovative technology software that provides a variety of dynamic, linked representations to simulations (Hegedus & Penuel, 2008). It has also been shown to have the potential to engage students (Schorr & Goldin, 2008). In this particular episode, students watched a simulation involving two runners (Andy and Kim) and worked on finding the speed of the runners. They sketched a graph depicting the movement of the runners. They also calculated the speed using a formula often seen in math texts (speed= distance/time). The math solution is as follows: Kim (the first runner), traveled 50 ft. in 10 seconds. Therefore her average speed is 5 ft./s. Andy (the second runner) also traveled 50 ft. but did so in 12 seconds. His average speed was 4.2 ft./s.

Findings and Interpretations

To illustrate patterns of engagement as they occurred for Eric, we share an episode involving a full class discussion led by the T/R. In this episode, the students had moved their chairs to the center of the room where they could easily see the T/R and overhead projector. Just prior to this episode, the students had discussed the speed formula (speed= distance/time). Before sketching the graph, the students created a table of values that represented each runner's motion

according to the simulation. Once they created the table, they sketched a graph with both runners' time and distance information. They then used that information to find each runner's speed using the formula. In this particular segment, the students were discussing the lesson that occurred during the previous class. Eric, the focus of this segment, was seated in the front of the room (by his own choice), in close proximity to the T/R. All of the students involved in the dialogue below were African American males. Sam was seated just next to him. The T/R had just asked the students to recall how fast one of the simulated figures, (Andy), was running.

Table 1

Eric's Part 1, Episode 1

Speaker	Transcript	Description	Interpretive Comments
Eric	Five, oh four meters per second!	Eric uses his fingers in what appears to be an effort to calculate the answer. He then moves forward, as if to jump out of his seat and calls out the answer (without being asked to by the T/R), before anyone else has a chance to respond. All the while, he looks closely at the T/R. The T/R and the other students appear to be listening to his answer. Eric's answer is now the subject of the next series of comments.	As Eric yells out the answer, his tone of voice appears to be loud and confident. We infer that he wants the others to hear his answer. He also appears to be closely monitoring the T/R's gaze for signs of affirmation, as he often did when offering comments.

We suggest that Eric is attempting to show others that he not only knows the answer, but that he is able to respond before anyone else. Further, his tone of voice is loud; as if he is intent upon having others hear his answer. Yet it appeared that he was in apparent need of confirmation from the teacher indicating that his answer was correct. Such affirmation, which was very common amongst all students, appeared to be normative (based upon observations of the classroom as taught by the regular classroom teacher). Such behavior is often associated with the structure that we refer to above as *Look How Smart I Am* (LHSIA). In order to gain insight into Eric's perception of the situation, we share his responses to several relevant RIME questions (see Table 2) and a semi-structured interview.

Table 2

Eric's responses to items associated with the Look How Smart I Am structure

RIME Item:	Eric's Response
I wanted to look smart compared to others in today's math class.	*Agree*
I wanted other students in my class to think I was good at math today.	*Agree*
When I knew the answer today, I tried to say it ahead of the other students.	*Agree*
I tried to be one of the first ones to get an answer in doing the math today.	*Agree*

During the interview, Eric was shown a video excerpt of this interaction (and the one that follows in the next section) and was asked to: 1) describe what was going on, and 2) discuss some of the RIME survey responses above. He affirmed that indeed, he did want to appear smart to the other students (and T/R) stating the following: "I wanted to look smart compared to others in class. I said [I] agreed because when I look smart and act smart, I feel smart and everybody else would notice how smart I am." The interviewer (the T/R) then asked him the following: "And can you give me an example of when you feel like looking smart?" Eric answered: "Like when I am paying attention and complete my assignment and answer the question first and correctly." Eric's response indicates that he feels smart when he answers the questions first, which seems to confirm the presence of the LHSIA structure.

As the conversation continued, the T/R, in response to Eric's answer, asked the rest of the class (still seated as a whole group): "So Andy was going four meters per second?" In Table 3, the other students' responses are presented.

Table 3

Eric's Part 2 of Episode 1

Speaker	Transcript	Description	Interpretive Comments
Sam (still seated right next to Eric)	No!	Sam yells NO (in response to Eric's answer)! He calls out, looking directly at the teacher, with a disapproving tone. Then, several other students also express their disagreement with Eric's answer. Eric proceeds to turn and look down at Sam and points his finger at him.	It appears that Eric is unnerved by the disagreement. He diverts his eyes from the T/R, toward Sam and the other students. He also begins to move closer to Sam, touching Sam's backpack.

Speaker	Transcript	Description	Interpretive Comments
Eric	Yes it was!	Eric shouts out affirmation of his original answer while still keeping his arm on Sam's chair. He also continues to looks down at Sam as he points his finger at him while waving his hand from side to side. His tone appears to be defensive and louder than when he originally responded. Sam looks ahead, toward the T/R.	Eric diverts his eyes from the T/R toward Sam, His facial expressions and arm movements appear to visibly demonstrate his disapproval of Sam's response.
Amir (seated right behind Eric)	Yes it was!	Amir appears to be referring to Eric's original answer. He shouts out his answer in a loud tone of voice, while looking at Eric. Eric's chin is down as he continues to look and point his finger at Sam.	Eric now has an ally in Amir. However, Amir's effort to support Eric is unacknowledged by Eric, who continued to look at Sam, the initiator of the disagreement.
Eric	Sam wasn't even here, so how could he know?	Eric's tone is defensive. He is still staring at Sam and pointing his finger at him. Sam looks up at Eric and appears to catch his eye.	Eric appears to be annoyed by Sam's challenge to his response as he confronts Sam with the fact that Sam was not even present when the problem was originally discussed. We suggest that this challenge is intended to discredit Sam, and reestablish Eric as having the more reliable answer.
Sam	Oh, when was this?	Sam is still looking up at Eric. Eric continues to stare at Sam.	Sam appears to be responding to Eric's challenge in a more conciliatory manner. Eric continues to stare at Sam in what appears to be a defensive manner.
Eric	Yesterday!	Eric responds and continues to look down at Sam. Eric's tone is strained. Sam looks down at the floor as Eric speaks.	Eric appears to still be upset by Sam's challenge. His tone, eye contact, and general bodily gestures indicate that he appears to be agitated.

In this set of interactions, it appears that Eric reacted defensively when Sam disagreed with him. After publically stating his answer, we suggest that Eric was surprised, and even annoyed by Sam's (initially) emphatic rejection of his response. Eric stared at Sam in a way that went beyond just glancing at a peer who was also responding to the teacher's question. We suggest that he took Sam's response as a challenge—one that he needed to defend. As can be seen in Table 3 row 2, he emphatically stated: "Yes, it was!" in an angry tone of voice. Our analysis of the situation indicates that when Eric was challenged by Sam's comment, a change in Eric's engagement occurred. Initially, as we noted above, he appeared to be focused on showing others how smart he was. Once he was publically challenged, we suggest that he felt that he had to defend himself. His tone of voice shifted, and his bodily gestures and gaze indicated that he was agitated. Perhaps he was attempting to 'save face' or avoid the embarrassment of being shown to be wrong in front of the whole class. Eric's response, indicating Andy's speed was, in fact, wrong. As discussed in the Methods section, the correct answer to Andy's average speed is actually 4.2 ft./s (as such, Eric's answer is quite close to the correct solution). According to further class discussion, he rounded his answer to the nearest whole number.

More Challenges

As the episode continued, several other students challenged Eric's answer as well. Shaquan, another African American male student sitting in the back of the room behind Eric, raised his hand and waited for the T/R to acknowledge him. Shaquan stated in a low tone of voice: "the answer is 4.91". As soon as Shaquan answered, Eric repeated his answer from before, again counting using his fingers. Eric stated in a high-pitched tone of voice, "It's 4!" Then in a low tone of voice, while looking down and away from the T/R and the rest of the class: "Well I don't care no more [sic]." Eric's response, at least on the surface, indicated that he was no longer interested in the discussion. However, shortly after making this comment, he rejoined the conversation. Video data of Eric provided evidence to us that suggested that he wanted the *others* to believe that he no longer cared, even though his actions, shortly thereafter, indicated that he was still interested in participating.

We cannot be precisely sure why he appeared to get angry and defensive in one moment and gave the impression of withdrawing from the discussion in the next. It seemed as if he was invested in impressing others with his knowledge and therefore took Sam's disagreement personally, as a sign of embarrassment or "loss of face", especially since he had made his announcement of the answer so publically. When several of the other students also expressed disagreement with his response, it is possible that he either doubted the correctness of his answer, or, we believe more likely, wanted to avoid further embarrassment. Our evidence, which is presented below, indicates that he did have a need to maintain at least some level of respect. Eric's responses to several relevant RIME questions for DDM appear in Table 4. He was also asked to address several of these responses as part of the interview conducted after the lesson.

85

Table 4:

Eric's responses to items associated with the Don't Disrespect Me (DDM) structure

RIME Item:	Student Response
One of my goals today was to make sure no one disrespected me.	*Agree*
I stood up for myself or my ideas today.	*Agree*
I told somebody off or put somebody down in class today.	*Agree*
I wanted to make sure others gave me the respect I deserve today.	*Agree*
I wanted to stand up to someone who disrespected me today.	*Agree*

When he was asked about his response to the item "I wanted to make sure that others give me the respect that I deserved," Eric noted: "Yes (Agree). I said I agree because I know I was doing the work correctly and I wanted other people to know how I was doing the work. I wanted to compete." It appears that Eric saw the situation as one in which he needed to 'compete' for possibly the attention of his peers or the T/R, respect, or being viewed as intelligent. Further in the interview, the T/R asked: "So can you give me an example [of] when someone would be very respectful?" Eric stated: "Well, like sometimes when I get 100 on my test people come up to me and say good job. People from other classes would say that it was a good grade and things like that." This response supports the idea that Eric is invested in what others think about him and/or the accuracy of his answers and perhaps even his overall credibility within the classroom. In his interview, he also states: "Everyone in the class was disagreeing and like we were having an argument." T/R followed up by asking how Eric felt about the argument. Eric responded: "I know I was right but other people were disagreeing with me so I just said, oh well I don't care [sic]."

Eric's desire to look smart seemed to be important to him. Sam's disagreement with him publicly made his "looking smart" less likely at best, and possibly humiliating, at worst. When Sam announced his disagreement, and when others joined in the chorus of disagreement, Eric began to argue to avoid looking as if he did not know the answer. Not only was his desire to impress others at stake, but he also ran the risk of being embarrassed and/or appearing intellectually inferior.

Discussion/Conclusion

When students share their ideas and solutions publicly in a classroom setting, or more privately when working in groups, they run the risk of being disrespected, humiliated or embarrassed, especially when their answers are perceived to be incorrect. Eric's reaction is not uncommon (as noted in Murrell,

1999). Based on Eric's responses above, it appears that he wanted others to view him as being, in his own words, "smart." It appears as if Eric's emotional safety or intellectual status was, at least potentially, at stake. As a result, Eric responds by first reaffirming his answer, and then by stating that he does not care anymore. We infer from this that Eric is now focused on "saving face," a behavior often associated with the *Don't Disrespect Me* structure. We note, in particular, the sequence of the two structures: an unsuccessful attempt at looking smart branched into actions designed to avoid embarrassment.

Our analysis reveals how quickly engagement in mathematics can change, especially when a student perceives the situation as having potentially negative consequences. When a student is invested in showing others how smart he is, and derives great satisfaction from having others view him as smart, he may be more vulnerable to feeling disrespected or otherwise threatened (intellectually) when the situation 'backfires' on him. This has relevant implications for all teachers, particularly those in urban schools whose students, as Dance (2002), Anderson (2000), and Devine, (1996) note, are often hypersensitive to situations in which their emotional safety, status, or wellbeing may be challenged (Schorr et al., 2010). In such cases, teachers need to be highly attuned to the shifting nature of engagement and the consequences of those shifts.

We close by suggesting that while further research is needed, our analysis of Eric indicates two main things: the clear need for an emotionally safe learning environment (see Schorr et al., 2010) in which all students can share ideas in public without fear of embarrassment or humiliation; and, the need to better understand the rapidly changing and highly dynamic nature of engagement.

References

Anderson, E. (2000). *Code of the street: Decency, violence, and the moral life of the inner city.* New York: W. W. Norton.

Dance, L. J. (2002). *Tough fronts: The impact of street culture on schooling.* New York: Routledge-Farmer.

Devine, J. (1996). *Maximum security: The culture of violence in inner-city schools.* Chicago: The University of Chicago Press.

Epstein, Y. M., Goldin, G. A., Schorr, R.Y., Capraro, R., Capraro, M. M., & Warner, L. B. (2010, April). Measuring engagement structures in middle-grades urban mathematics classrooms. Paper presented at the 2010 Annual Meeting of the American Educational Research Association (AERA), Denver, CO.

Goldin, G.A., Epstein, Y.M., Schorr, R.Y. & Warner, L.B. (2011). Beliefs and engagement structures: behind the affective dimension of mathematical learning. *ZDM: The International Journal on Mathematics Education*, 43(4), 547-560

Goldin, G. A., Epstein, Y. M. & Schorr, R.Y. (2007). Affective pathways and structures in urban students' mathematics learning. In D. K. Pugalee, A. Rogerson, A. Schinck, (Eds.), *Mathematics Education in a Global Community: Proceedings of the 9th International Conference of the Mathematics Education into the 21st Century Project* (pp. 260-265). Charlotte: University of North Carolina.

Hegedus, S. J. & Penuel, W.R. (2008). Studying new forms of participation and identity in mathematics classrooms with integrated communication and representational infrastructures *Educational Studies Mathematics*, 68(2), 171-183.

Marks, H. M. (2000). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years. *UK Educational Research Journal*, *37*(1), 153-184.

Middleton, J. & Jansen, A. (2011). *Motivation matters and interest counts: Fostering engagement in mathematics*. Reston, VA: NCTM.

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M. J., Nelson, J., Roeser, R., & Urdan, T. (2000). *Manual for the Patterns of Adaptive Learning Scales (PALS)*. Ann Arbor, MI: University of Michigan.

Murrell, P.C. (1999). Responsive teaching for African American male adolescents. In V.C. Polite and J.E. Davis (Eds.), *African American males in school and society: Practices and policies for effective education* (pp. 82-96), New York: Teachers College Press.

National Research Council *(NRC). (2003). Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press.

Patrick, H., Ryan, A.M., & Kaplan, A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. *Journal of Educational Psychology, 99*(1), 83-98. doi: 10.1037/0022-0663.99.1.83.

Sanchez Leal, L. (2012). *Characterizing middle schools students' engagement in a technology-rich mathematics class*. (Unpublished doctoral dissertation). Rutgers University, New Jersey.

Schorr, R.Y. & Goldin, G.A. (2008). Students' expression of affect in an inner-city SimCalc classroom. *Educational Studies in Mathematics*, *68,* 131-148.

Schorr, R.Y., Epstein, Y. M., Warner, L.B., & Arias, C. C. (2010). Mathematical truth and social consequences: The intersection of affect and cognition in a middle school classroom. *Mediterranean Journal for Research in Mathematics Education, 9(1)*, 107-134.

MATHEMATICS AND RACIAL IDENTITY CO-CONSTRUCTION IN MULTIPLE SOCIOPOLITICAL CONTEXTS: A CASE STUDY OF A LATINA UNDERGRADUATE STUDENT FROM AN URBAN COMMUNITY

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ABSTRACT

Although urban Latinas/os have participated in mathematics workshops in urban universities for over three decades as part of the Emerging Scholars Program (ESP), few studies have explored Latina/o students' perspectives of how and why these learning environments support them in attaining mathematical success. This article presents an in-depth case study of how Vanessa, a Latina undergraduate student from an urban community, simultaneously constructed her mathematics and racial identities as she engaged in a culturally diverse, collaborative ESP Calculus I workshop situated within broader sociopolitical contexts. Vanessa's story was selected because she offered a unique perspective of how encountering identity-affirming workshop spaces aided her in constructing a strengthened self-perception as a Latina mathematics learner. Her counter-story challenges dominant ideologies that disregard the importance of viewing Latina/o students' mathematics participation and learning as racialized forms of experience.

Keywords: Mathematics identity, Racial identity, Latina/o critical theory, Latina/o students

What does it mean to be a Latina/o in the context of mathematics participation and learning? Although mathematics education research has shed light on this question by exploring Latina/o students' perspectives of their mathematics experiences (e.g., Varley-Gutiérrez, Willey, & Khisty, 2011), too often Latina/o students' first-hand accounts of how they negotiate their mathematics experiences, including within broader sociopolitical contexts, are discounted and underexplored (e.g., Gutiérrez, 2008, 2013). A lack of research documenting Latina/o students' personal accounts of how and why they succeed in mathematics, including the roles of their histories, agency, and resilience, has contributed to the construction of dominant narratives that view Latinas/os'

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underachievement, limited persistence, and failure in mathematics as normative (Martin, 2009). According to Gutiérrez (2013), "Without the voices of marginalized people commenting on their interpretations of the mathematical practices in which they are engaged, we are unlikely to fully understand the possibilities of other arrangements in mathematics education" (p. 16).

This study adds to mathematics education scholarship that has investigated Latina/o students' perspectives of their mathematics experiences, while also responding to Gutiérrez's (2008) call for further research to be conducted on *effective* mathematics learning environments for Latina/o students. The effective mathematics learning context in which this study occurs is an Emerging Scholars Program (ESP) mathematics workshop. The ESP model, which is based on Uri Treisman's doctoral dissertation work at the University of California (UC), Berkley in the mid-1970s, has been nationally recognized for effectively supporting marginalized students in achieving, persisting, and succeeding in mathematics (Hsu, Murphy, & Treisman, 2008). However, despite this success, research on ESP mathematics workshops often fixates on participants' static achievement outcomes and neglects to investigate their perspectives of forces that influence such outcomes. Exploring such perspectives in relation to students' experiences in broader sociopolitical contextual layers can provide nuanced understandings of how and why such environments support students in attaining mathematical success.

This study addresses a gap in mathematics education literature by using an identity analytic lens to explore what it means to be a Latina undergraduate student from an urban community participating in an ESP mathematics workshop situated within broader sociopolitical contexts. In particular, I explore how a Latina's mathematics and racial identities intersect by examining: (1) What does it mean to be a Latina in the context of mathematics learning? and (2) What does it mean to be a learner of mathematics in a Latina social context? These questions are important because they can shed light on how Latina students "exhibit agency to resist their marginalization, assert their own identities, and experience mathematics learning and participation" (Martin, 2009, p. 46).

Theoretical Framework

Because this study aims to capture a Latina student's perception of the historical, sociopolitical, and situational nature of her mathematics and racial identity development, this study draws on Latina/o critical theory (LatCrit). LatCrit in education refers to "…a framework that can be used to theorize and examine the ways in which race and racism explicitly and implicitly impact on the educational structures, processes, and discourses that effect People of Color generally and Latinas/os specifically" (Solórzano & Yosso, 2002, p. 479). Key principles of this framework that this study draws on include the centrality of race and racism and their intersectionality with other forms of oppression, challenge to the dominant ideology, and the centrality of experiential knowledge (Solórzano & Delgado Bernal, 2001).

Methodologically, LatCrit encourages examining marginalized students'

experiences through counter-storytelling methods (Solórzano & Yosso, 2002). In this study, *counter-stories* refer to stories about Latina/o students' mathematical experiences, which might challenge dominant ideologies that disregard viewing Latina/o students' mathematics participation and learning as racialized forms of experience. *Racialized forms of experience* refer to viewing Latina/o students' mathematics participation and learning as "structured by the relations of race that exist in the larger society" (Martin, 2009, p. 5).

Identity

To understand Vanessa's *mathematics identity*, this study draws on Martin's (2007) definition: "Mathematics identity refers to the dispositions and deeply held beliefs that individuals develop about their ability to participate and perform effectively in mathematical contexts and to use mathematics to change the conditions of their lives" (p. 150). Vanessa's *racial identity* refers to how she negotiated privately and socially constructed meanings of Latina/o, race, racism, and racial inequality in relation to broader sociopolitical contexts. To understand Vanessa's mathematics and racial identity co-construction (or how she simultaneously constructed her mathematics and racial identities) this study draws on Martin's mathematics identity co-construction theory. This theory, which was used to analyze African American learners' mathematics and racial identity co-constructions, involved exploring how participants' experiences as African Americans influenced their mathematics learning, and how participants' mathematical experiences influenced their self-perceptions as African Americans.

Methods

This qualitative study employed exploratory case study methodology (Yin, 2009) to examine how a Latina undergraduate student co-constructed her mathematics and racial identities. Although research has shed light on how Latina/o students construct mathematics identities within communities of practice, this qualitative study is designed to explore how a Latina student's mathematics participation and learning in an effective mathematics learning context can be interpreted as racialized forms of experience. The purpose of this case study is not to generalize the findings to other Latina/o students, but to draw attention to the salience of race in a Latina student's mathematics experiences. This study used interview and reflection data, which aligns with LatCrit as both data sources capture the salience of race and racism, their intersection with other forms of oppression, and experiential knowledge.

Research Context

The workshop in which Vanessa participated was situated in Hall University—a predominately White, urban, Midwestern university in the US. According to an institutional report on Hall University's ESP mathematics workshops, the workshops were implemented because a significant number of

Latina/o and African American students were struggling to successfully complete their precalculus and calculus courses. During spring 2008, the author collected interview and reflection data on nine undergraduate Latina/o students (three females and six males) participating in an ESP Calculus I workshop, as part of a larger dissertation study (Oppland, 2010). Vanessa was one of the Latina students enrolled in this workshop, which ran parallel to her required Calculus I course. 27 students participated in this workshop, including roughly 41% Latina/o (four females and seven males), 30% Asian (five females and three males), 22% White (two females and four males), 7% African American (one female and one male), 44% female (twelve females), and 56% male (15 males). Within this workshop, culturally diverse peer groups collaboratively solved challenging mathematics problems while being led by a facilitator (the author).

Participant

Vanessa is a female, second-generation, Mexican American immigrant. At the time of this study, she was an eighteen-year-old, undergraduate freshman majoring in chemistry who described herself as middle class and bilingual (English and Spanish). Although aspects of Vanessa's story are representative of other Latina/o students' experiences in the larger study (Oppland, 2010), her story was selected because she offered a unique perspective on how encountering identity-affirming workshop spaces aided her in constructing a strengthened self-perception as a *Latina* mathematics learner. I highlight Vanessa's story to examine what it means to be a Latina in the context of mathematics participation, learning, and success.

Data Collection and Data Analysis

This study draws on data collected on Vanessa in the larger study (Oppland, 2010). This includes three semi-structured interviews, a follow-up interview, and four written reflections. Vanessa was interviewed a total of six hours and nineteen minutes. During interviews, she was asked to discuss mathematics experiences she negotiated in societal, community, family and school contexts throughout her life, including experiences involving race, gender, and class. These particular contexts were selected to respond to the call to understand "how school, peer, family, community, and societal forces" contribute to the development of mathematics and racial identities (Martin, 2007). Interviews were audio-recorded and promptly transcribed. Reflections, which were used to capture Vanessa's perceptions of her workshop experience, also served as a secondary data source.

To address the research questions, this study drew on Martin's (2007) mathematics and racial identity co-construction theory to develop initial codes and code definitions to guide data analysis. Initial codes and definitions were used to identify how Vanessa's negotiation of experiences as a Latina learner in broader contexts influenced her mathematics learning and how the mathematical experiences she negotiated in broader contexts influenced her perception of

herself as a Latina. While keeping the code definitions in mind, an iterative coding scheme was applied to carefully scrutinize interview data; interview data was then categorized using data tables; and text in the data tables were then reread and recoded to confirm the accuracy of the codes. Next, I meticulously analyzed and compared interview and reflection data multiple times. Through this comparison, themes emerged regarding what it meant for Vanessa to be a Latina in the context of mathematics learning and a mathematics learner in a Latina social context. Finally, narrative summaries were written, that were used to describe Vanessa's mathematics and racial identity co-construction.

Interpretations

In societal contexts, Vanessa had a keen awareness of negative ideologies the "rich," the politically powerful, and the "media" (who she often classified as White) transmitted about Latinas/os. Such messages imposed low educational expectations onto Latinas/os, lacked respect for their academic accomplishments, and created a greater disconnect between Latinas/os and those "in power." Society's unfavorable disposition towards Vanessa's collective Latina and class statuses (e.g., viewing Latinas/os on the "bottom level" in competition for jobs) and her joint Latina and gender statuses (e.g., perceiving Latinas as "just getting pregnant" instead of pursuing educational avenues) also aimed to create boundaries for her participation in academics, including mathematics:

> **Vanessa:** I just think that people don't really think about Hispanics that are in college. They don't think they can make it. I think that when they think of a Mexican - that's who I am, I'm Mexican American - people don't really look at you as Mexican American. They're like oh you're just Mexican. They're just here illegal. They're just gang banging and *just getting pregnant*. I don't think that the perspective of Hispanic is positive. I just don't think that people realize there's a lot of Hispanics struggling or trying to get a degree in college.

> **Author:** Who do you see as thinking that about Hispanics?

> **Vanessa:** I think it's more outside and it's especially people that are being influenced by politicians, the elite, and the community that's *rich* and the *media*. How many times don't you hear stuff that's not true?! I think it's basically people that are rich and *in power* that start the idea and it just goes down in scale. The other minorities that are along the same level, like Blacks, you can say Blacks are on the same level, in competition with the Hispanics. The *bottom level* I guess we could call it. They [Hispanics and Blacks] also look at it that way cause that's what they hear.

(Interview 3)[21]

Although Vanessa negotiated some positive academic and mathematical experiences in her predominately Latina/o community, she also managed several negative experiences. For example, she encountered community members struggling to overcome negative societal academic stereotypes, a lack of academic resources, messages about a weak link between mathematics and her culture, and community members who projected higher mathematical expectations onto males than females (regardless of their cultural statuses):

> Even though there's a lot of female teachers in high schools that are math teachers, it's like oh whatever, but if you're really, really, really good at it and you have a higher degree, or something like that, the community is shocked. Like what?! It should be a male. (Interview 3)

Within her community lived her close-knit family, including her hard-working, Mexican-born parents and her eleven-year-old, US-born brother. Vanessa's parents, who had an acute awareness of their occupational struggles and lower educational levels, dreamed of a better life for their daughter. They channeled this desire into encouraging Vanessa to achieve high academic goals, to graduate from college in four years, and to secure a strong occupational position after graduation. Vanessa's immediate family supported her academic endeavors by encouraging her to persist through academic challenges, motivating her to perform at a high academic level, and influencing her to frame her academic success as important. Her mother's support and encouragement played a critical role; the mother, for instance, ensured Vanessa attended a better quality high school than the one located in their neighborhood and supported her when she faced academic obstacles, including in mathematics.

> My mom was always the one that was there. If I had to cry, I'd cry with her and she'd be like, 'Oh, you can do it', and I'm like, 'Yeah, I can do it' or she would look at it in a positive way. That's what kept me going. (Interview 1)

As a K-12 student, Vanessa attended predominately Latina/o and/or African American public schools near Hall University. Although Vanessa encountered supportive teachers, she described her interactions with Ms. Johnson (her sophomore and senior high school mathematics teacher) as a major struggle in her life. Vanessa revealed that Ms. Johnson criticized students as they solved problems, failed to value students' various ways of thinking about problem-solving processes, and projected different mathematical expectations onto students based, in part, on their ethnicities, races, and genders. Vanessa believed her Latina and gender statuses played a role in the harmful treatment she received

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[21] Italics were added by the author for emphasis.

94

from Ms. Johnson, who would "encourage the students that were light skinned" and favor males over females among the Latina/o students in her class. When describing this teacher, Vanessa stated: "She would somehow integrate race. I guess she went through a lot of racism…but she's doing the same thing" (Interview 3).

What Does It Mean For Vanessa to Be a Latina in the Context of Mathematics Learning?

Vanessa's story indicates that her Latina status and identity contributed to her being overtly and covertly assaulted in societal, community, and institutional contexts, which contributed to harming her mathematics identity development. For example, Vanessa's beliefs sometimes reflected the harmful cultural and gender mathematical stereotypes she negotiated in broader contexts. Assaults on her Latina identity appeared to contribute to her relating strong mathematics abilities "to males or certain ethnicities like Asians," positioning her mathematics ability below these gender and cultural groups, and weakening her identification with mathematics:

> If you are good at math it just means you're really smart and it's usually related *to males or certain ethnicities like Asians*. It doesn't necessarily mean you are White or Asian but it refers to how awkward it is to be good at math if you're Hispanic or a Hispanic female. (Reflection 4)

Vanessa's management of racialized school experiences also threatened her mathematics identity development. For example, her interactions with Ms. Johnson severely limited her participation in mathematics and negatively impacted her at the undergraduate level: "I feel like, if I would have had a different math teacher, things would have been a little different. She stopped me a little" (Interview 1). In conclusion, experiences Vanessa negotiated as a Latina mathematics learner in multiple contexts contributed to her positioning herself away from the top of a perceived gender and racial hierarchy of mathematical ability and forming the belief that an individual's cultural background can contribute to them encountering obstacles that slow their efforts to obtain mathematical literacy.

However, despite Vanessa's awareness of the devaluation of Latinas/os in societal, educational, and mathematical contexts, she refused to allow such racialized experiences to thwart her from participating and succeeding academically. With the aid of positive family and community influences, various encouraging experiences in school contexts, and her determination to succeed in academics and life, she adamantly resisted and refused to concede to stereotypes that framed her success in academics and mathematics as less probable. In fact, challenges tied to her Latina, female, and class statuses, separately and collectively, that aimed to limit her participation in academics often drove her to set "higher" academic goals for herself, including in mathematics:

…females are usually not good at math and being Hispanic you should get married instead. Like what's the whole deal with math? Yeah, definitely the bar is set high. I think it's individual though. I don't think society sets the bar high. It's just like okay well why? There's a certain point where you should stop I guess in your education and then you're like wait, why? And then you just go up *higher*. (Interview 3)

What Does It Mean To Be a Learner of Mathematics in a Latina Social Context?

Although Vanessa resisted negative mathematical discourses about Latinas/os and females, her negotiations of these discourses in societal, community, and school contexts appeared to influence her to position Latinas/os (including herself) below other cultural groups in relation to academics and other aspects of life:

> I think that people from Asia like have a great advantage because you see a lot more people that are engineers and scientists and anything that has to do with math…It's different for my race, though. I think that being Hispanic…math is not important…if a female Hispanic girl was an engineer, like I know someone who's trying to be an engineer, like that's a big thing. That's a step above anything. I think they really have the advantage. I wish everyone had an advantage though. (Interview 1)

However, negotiating positive mathematics experiences and experiences that threatened her identity as a mathematics learner (including those involving race, gender, and class) also motivated Vanessa to develop a strong academic identity, including in mathematics.

Vanessa perceived her strengthened academic identity as a means to further strengthen her Latina identity. She described how developing a strong academic identity, including in mathematics, would aid her in resisting the devaluation of her Latina (and female) identities in broader contexts, positively transform the negative framing of Latinas (and females) in relation to academics in societal and community contexts, and improve her, her family, and her community members' life conditions. For example, Vanessa described how earning a college diploma would strengthen her ability to serve as a positive "role model" for Latinas within her community:

> I think in general people would obviously be proud, especially people that you can relate to, other females for instance. They'd probably look up at you and be like oh if she can do that, I can do it. Sort of like a *role model* thing. (Interview 3)

96

Vanessa also expressed great confidence in her Latina identity despite the challenges she had faced as a mathematics learner related to her Latina status.

The Role of the ESP Workshop

Vanessa revealed that her engagement in the ESP workshop played a critical role in strengthening her collective mathematics and racial identities:

> [*Strengthened collective mathematics and racial identities*] I was like, wow! I guess it's good to see how other Hispanic people are so good at doing math…I think it makes me proud that there's a chunk of us, I'll put myself in that group, that are willing to do whatever to be good at math… (Interview 3)

> [*Strengthened collective mathematics, racial, and gender identities*] I think women are better…It's surprising because you don't really expect that. Society doesn't really expect that, but I saw a lot of very smart girls that were really good at it. You don't expect to see that because in society the norm is guys will always be or men will always be better in math than anyone else, but it's not true. It's something you can't really measure like whose better than who. It's not like a quantity thing…I think everyone has the ability. It's just how you were able to develop the skill. (Interview 3)

Challenging racialized mathematics experiences linked to broader contexts as she engaged in identity-affirming workshop spaces strongly aided in this transformation. For example, Vanessa witnessed culturally diverse workshop students displaying their mathematical strengths and encountering similar mathematical challenges, which helped her challenge cultural and gender mathematical stereotypes. She also recognized that workshop peers and the instructor valued her mathematical problem-solving strategies, which helped her resist prior racialized experiences involving Ms. Johnson.

Discussion, Conclusion, and Implications

Vanessa's counter-story reveals how she complexly co-constructed her mathematics and racial identities in the broader contexts examined, how the workshop supported her in constructing strengthen identities as a Latina and a mathematics learner, and how her mathematics participation and learning can be viewed as racialized forms of experience. Her voice reveals that she was forced to manage numerous assaults on her Latina (and gender and class) identities within *societal*, *community*, and *school* contexts throughout her mathematics development. Her experiences counter deficit theories that hold Latina students, their families, and cultures responsible for their lower achievement levels and may shed light on why some Latinas/os struggle to persist, succeed, and identify

with mathematics. However, her voice also reveals how she displayed great resilience when she encountered mathematical obstacles linked to her Latina status, including with the aid of positive *family* influences.

Although ESP mathematics workshops have supported Latina/o students in succeeding in mathematics for over three decades, few studies have investigated Latina/o students' perspectives of how and why they experience mathematical success within these environments. I define *success* as students expressing strengthened access, achievement, identity, and power in mathematics (Gutiérrez, 2008). Although this article centers on understanding Vanessa's mathematical success through the identity dimension, in the larger study, she revealed that she experienced success through all four dimensions.

Vanessa's story sheds light on the impact ESP-type mathematics learning environments can potentially have on Latina/o students' identity development. The ways in which Vanessa (re)negotiated her interconnected identities in the workshop may potentially be a mechanism underlying the achievement outcomes often documented in research on ESP settings. Encountering opportunities to engage in spaces where she could resist racialized mathematics experiences tied to broader contexts helped her to merge strengthened mathematics and racial identities.

A LatCrit lens allowed for uncovering the intersectional nature of Vanessa's mathematics and racial identity co-construction. Vanessa's narrative expands knowledge about the complexity that can potentially underlie Latina students' mathematics and racial identity co-constructions, including the powerful role of gender identity. Her story also aligns with research indicating that Latina/o students' mathematics identities can intersect in complex ways with their other salient identities (e.g., racial, gender) in mathematics classrooms (e.g., Esmonde, Brodie, Dookie, Takeuchi, 2009).

Vanessa's counter-story indicates the importance of viewing mathematics participation and learning as racialized forms of experience when attempting to understand what it means to be a Latina mathematics learner. Her story sheds light on how she experienced "Herencia de Coatlicue (the ongoing state/process of breaking free from the old boundaries of oneself to develop new ones)" (Gutiérrez, 2013, p. 10) in relation to her mathematics development as she engaged in the workshop, and the important role her racial identity (and its intersection with other salient identities) played in this process. I argue that additional studies should use an identity lens to examine Latina students' participation and learning in effective mathematics learning contexts that are situated within larger sociopolitical contexts in order to better understand the complexity underlying their mathematical success.

References

Esmonde, I., Brodie, K., Dookie, L, & Takeuchi, M. (2009). Social identities and opportunities to learn: Student perspectives on group work in an urban mathematics classroom. *Journal of Urban Mathematics Education*, *2*(2), 18−45.

Gutiérrez, R. (2008). A "gap gazing" fetish in mathematics education? Problematizing research on the achievement gap. *Journal for Research in Mathematics Education, 39*(4), 357–364.

Gutiérrez, R. (2013). The sociopolitical turn in mathematics education. *Journal for Research in Mathematics Education*, *44*(1), 37-68.

Hsu, E., Murphy, T. J., & Treisman, U. (2008). Supporting high achievement in introductory mathematics courses: What we have learned from 30 years of the Emerging Scholars Program. In M. Carlson & C. Rasmussen (Eds.), *Making the connection*: *Research and practice in undergraduate mathematics*, (pp. 205−220). Washington, DC: Mathematical Association of America.

Martin, D. (2007). Mathematics learning and participation in African American context: The co-construction of identity in two intersecting realms of experience. In N. Nasir, & P. Cobb (Eds.), *Diversity, equity, and access to mathematical ideas* (pp. 146–158). New York: Teachers College Press.

Martin, D. (2009). Researching race in mathematics education. *Teachers College Record*, *111*(2), 295−338.

Oppland, S. (2010). *The inextricability of identity, participation, and math learning among Latino/a undergraduate students.* Unpublished doctoral dissertation, University of Illinois at Chicago.

Solórzano, D., & Delgado Bernal, D. (2001). Examining transformational resistance through a critical race and Latcrit theory framework: Chicana and Chicano Students in an urban context. *Urban Education*, *36*(3), 308−342.

Solórzano, D., & Yosso, T. (2002). Critical race methodology: Counter-storytelling as an analytical framework for education research. *Qualitative Inquiry*, *8*(1), 23−44.

Varley-Gutiérrez, M. V., Willey, C., & Khisty, L. L. (2011). (In) equitable schooling and mathematics of marginalized students: Through the voices of urban Latinas/os. *Journal of Urban Mathematics Education*, *4*(2), 26-43.

Yin, R. K. (2009). *Case study research: Design and methods*. Thousand Oakes, CA: Sage.

MOVING TOWARD POSITIVE MATHEMATICS BELIEFS AND DEVELOPING SOCIO-MATHEMATICAL AUTHORITY: URBAN PRESERVICE TEACHERS IN MATHEMATICS METHODS COURSES

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ABSTRACT

This article explores how preservice elementary teachers change their negative beliefs toward mathematics into positive ones after taking a mathematics methods course that follows the Concrete-Pictorial-Abstract (CPA) instructional method. Also explored is the relationship between those beliefs and sociomathematical authority. By administering surveys, using reflective narratives, and informally interviewing 145 preservice teachers who are preparing to work in urban classrooms during two academic years, the study investigated changes in sociomathematical beliefs and mathematical identities. Findings reveal that most of these preservice teachers changed their mathematical identities and beliefs about teaching mathematics in positive ways to be more in accordance with reform oriented practices. Implications for preservice teacher education programs are discussed.

Keywords: Mathematics beliefs; sociomathematical authority; teacher identity; preservice teachers; elementary mathematics education

Introduction

Focusing on preservice teachers' beliefs in mathematics methods courses is a critical issue because teachers' personal beliefs about a subject matter affect the entire classroom climate and the numerous decisions they routinely make (Spillane, 2000). This study focused on the social context of mathematics beliefs which has not been given as much attention as more cognitive aspects (Gates, 2006). In mathematics education, changing teachers' traditional beliefs and practices is thought to be crucial to the success of the reform effort (Battista, 1994). Leder, Pehkonen, and Törner (2002) claim that no consistent pattern has been found within the area of mathematics teachers' belief change. This lack of

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consistency raises questions about underlying causes of teacher change and what teacher educators can do about it (Gates, 2006). In order to support reform-based mathematics, teacher education programs must have a profound understanding of how teachers' beliefs, knowledge, and teaching practices are related (Ball, Lubinski, & Mewborn, 2001; Bray, 2011).

This article documents how preservice elementary school teachers can change their negative beliefs toward mathematics into positive ones after taking a mathematics methods course that utilizes the constructivist Concrete-Pictorial-Abstract (CPA) Method that follows Bruner's (1966) cognitive growth theory of enaction, imagery, and symbolic representation. Our goal is to explore how preservice teachers' beliefs shift through the period of a mathematics methods course, and how this shift in beliefs affects their classroom practices, and their mathematical identities. The shift in beliefs is meaningful to preservice teachers' motivation, sociomathematical authority, and mathematics teaching practices.

Theoretical Framework

This study is grounded in teachers' identity (Gee, 2001; Gresalfi & Cobb, 2011), sociomathematical authority (Cobb, Gresalfi, & Hodge, 2009; Yackel & Cobb, 1996), beliefs and experiences (Fennema et al., 1996; Thompson, 1992), and Concrete-Pictorial-Abstract methodology (Bruner, 1966). Sociomathematical authority is defined as mathematical dispositions and a sense of intellectual autonomy in mathematics (Yackel & Cobb, 1996). According to Thompson (1992), teachers' beliefs about mathematics teaching are comprised of "Personal Philosophies" about mathematics teaching and related mathematics approaches. Teachers' beliefs involve not only their ideas about their mathematical competencies and their ideas about mathematics teaching, but also their motivation to teach in effective/non-effective ways. A teacher's mathematical belief is very important because it influences teachers' perceptions of mathematics and serves as a guiding force in mathematics teaching and mathematics learning (Bray, 2011; Calderhead, 1996; Franke, Fennema, & Carpenter, 1997). Effective mathematics teaching requires teachers' positive beliefs about mathematics, content knowledge, and knowledge of how to teach mathematics, and sociomathematical authority.

In this article, the concept of identity has been developed within an amalgam of the frameworks of Gee (2001) and Gresalfi and Cobb (2011). Accordingly, we conceptualize mathematics identity as encompassing (a) an individual teacher's self-perception with regard to their knowledge of mathematics; (b) their confidence level to teach mathematics; and (c) a set of practices and expectations that shape individual teacher's beliefs about their mathematics teaching competencies. In this article, we view mathematics identity in the context of mathematics teaching and learning, and competence to teach mathematics in school settings (Calderhead, 1996; Franke et al., 1997; Leatham, 2006). Preservice teachers' instructional strategies and their motivation to provide

meaningful mathematics instruction are driven by their mathematics identity, sociomathematical authority, and their confidence to teach mathematics. We stress that the process of preservice teachers' mathematical identity formation is profoundly influenced by the norms, values, and practices of the specific context of the mathematics method course(s), their prior mathematics experiences, and their early field experiences.

Our stance is that teachers' beliefs can be modified through positive experiences in undergraduate and graduate mathematics methods courses so that preservice teachers learn to grapple with mathematics concepts and can teach reform-based mathematics (CCSSO, 2010; National Council of Teachers of Mathematics, 2007). The reform-based mathematics standards suggest that teachers develop constructivist learning and teaching environments in which children learn by "doing mathematics." Given the demands of reform-based high quality mathematics education, teachers must teach and "engage in forms of mathematical activity that differ from those they experienced as students and also requires that they reconceptualize what it means to do mathematics" (Gresalfi & Cobb, 2011, p. 272). In this context, teacher education programs have the responsibility to prepare teachers to teach reform-based mathematics, adapt a constructivist approach of teaching, and teach mathematics effectively. However, teacher education programs are often faced with challenges of teaching individuals who learned mathematics during their formative years in a traditional environment and developed negative attitudes and beliefs of mathematics and view mathematics teaching as an arduous and unpleasant task. In order to prepare effective mathematics teachers, it is important to understand how teachers' beliefs and attitudes influence their reform-based teaching practices and what intervention(s) are needed to bring positive shifts in their beliefs and identities.

Concrete-Pictorial-Abstract (CPA) Methodology

The mathematics methods course at the center of this study follows the Concrete-Pictorial-Abstract (CPA) methodology. Cognitive growth and educational learning theorist Bruner (1966) believes that children pass through concrete-pictorial-abstract stages of cognitive development, and children learn best by constructing their own knowledge through concrete-pictorial-abstract activities. CPA methodology is based on Bruner's three stages of learning: *enactive*, *iconic*, and *symbolic*. The *enactive* representation denotes that children learn by actively engaging in experiences and associating the concrete experiences with past experiences and information stored in memory. The *iconic* representation is of mental/visual images of an activity. These visual/pictorial images of concrete experiences help children make meaning of complex mathematics concepts. According to Bruner, the *symbolic* representation is the final stage of mathematics learning. At this stage, individuals connect the mathematical concepts with symbols or language.

Methodology and Research Design

This ethnographic study was conducted over two academic years and was contextualized in a constructivist paradigm. It was designed to examine shifts in preservice elementary school teachers' beliefs toward mathematics. The study followed designed-based research (DBR) methodology for education research that is situated in a genuine educational context. According to Anderson and Shattuck (2012), DBR is designed for educators to translate education research into improved practices. They define DBR as being "situated in a real educational context provides a sense of validity to the research and ensures that the results can be effectively used to assess, inform, and improve practices" (Andersib & Shattuck, 2012, p. 16).

The DBR methodology is designed specifically to bring improvement in local practices and create changes (Brown, 1992; Cobb, 2002; Cobb, Stephan, McClain, & Gravemeijer, 2001). We used DBR to design and organize our instructional strategies and learning activities. The practical aspect of DBR focuses on selecting and applying an intervention in the form of pedagogical design or technology (Anderson & Shattuck, 2012). In this study, we have used CPA instructional methods, teaching models, and teaching strategies as interventions to support preservice teachers' understanding of mathematics and bring changes in negative beliefs and perceptions of mathematics.

Context of the Study

The sites purposefully selected for this study were two colleges, Old College and Songsville College (pseudonyms), located in the northeast United States. Old College is situated in an urban lower-income and predominantly African American neighborhood while Songsville College is located in a predominantly White middle class community. The study was contextualized in undergraduate and graduate elementary mathematics methods courses with 145 participants during the 2010-2011 and 2011-2012 academic years. These participants ranged in age from 20 to 60 with 124 of them being female and 21 being male. The racial/ethnic composition of the participant population was as follows: 50 participants were White, 22 were Hispanic, 66 were Afro/Caribbean, and seven were of another ethnicity. The majority of the participants intend to work in urban elementary schools when they complete their degrees.

The specific focus of the mathematics methods course was to engage preservice teachers in reform-based quality mathematical activities and require them to design lesson plans and other instructional activities following CPA methodology. An Early Field Experience (EFE) was attached with this course. The EFE course required preservice teachers to spend 10-12 hours in an elementary classroom during mathematics periods as participant observers, to teach one mathematics lesson in the elementary classroom, and demonstrate one mathematics lesson in their methods classroom. Most of the participants conducted their EFE in urban elementary classrooms.

For consistency and to create similar communities of practice, both professors teaching the elementary mathematics methods courses and conducting this study—one at Old College and one at Songsville College—utilized the same textbook, *Elementary and middle school mathematics: Teaching developmentally* (Van de Walle, Karp, & Bay-Williams, 2010), and taught using the same CPA method.

Data Sources and Analysis

Since this study focused on how constructivist mathematics methods courses influence preservice teachers' beliefs and development of sociomathematical authority, the analysis centered on ten mathematics methods courses and observations of students teaching mathematics lessons in predominantly urban elementary school classrooms within the Fall 2010, Spring 2011, and Fall 2011 semesters.

Data for this study consisted of reflective narratives, surveys, transcripts of informal interviews, and field notes. To explore teachers' beliefs before and after taking the mathematics methods courses, Table 1 showcases the data sources we utilized, when the data sources were collected, and a description/sample prompts for each data source.

Data analysis was an ongoing process. Following qualitative research design (Guba & Lincoln, 1989), we began to analyze qualitative data as soon as we collected them. Data were analyzed utilizing Grounded Theory (Strauss, 1987) where theorizing grows from the data rather than from a pre-existing framework used to confirm or disconfirm a theory. Through document analysis of reflective narratives, surveys, transcripts of informal interviews, and field notes, codes were developed based on categories which emerged within mathematics identities, conceptions of the nature of mathematics, and best practices in mathematics teaching and learning.

In order to strengthen the trustworthiness of our findings, we followed a framework of prolonged engagement, member checking, and triangulation of data from multiple sources (Guba & Lincoln, 1989). The member-checking process provided us opportunities to verify data with participants who provided them (Guba & Lincoln, 1989). During the collection and analysis period, we constantly asked participants to verify their responses for accuracy and consistency between what was recorded and what was intended to communicate because "the most certain test is verifying those multiple constructions with those who provided them" (Guba & Lincoln, 1989, p. 239). The member checking provided us chances to correct errors, and it allowed participants to confirm data and judge the adequacy of their responses. The study took place over two years, but we were only with each of the ten groups of methods course participants for four months at a time; this time presented us with "fronts" to "establish the rapport and build the trust to uncover construction" (Guba & Lincoln, 1989, p. 237).

Table 1

Data sources and sample prompts

Data Source	Timeframe During Each Semester of the Study	Description/Sample Prompts
Reflective essays about mathematical experiences (e.g., mathematics autobiographies and walking down memory lane activities)	Month 1	Prompts for these essays included: *How would you define mathematics? *What is your relationship with mathematics? What experiences led you to this relationship? *Who or what do you believe have been your greatest influences on how you define mathematics and how you feel about the content area? *What do you believe are best practices for teaching mathematics? How did you arrive at those beliefs?
Open-ended surveys	Month 1	Participants had to briefly write about their beliefs about what mathematics is, what learning mathematics requires, what constitutes good mathematics teaching, and self-analysis of their mathematics knowledge.
Mathematics reflective journal writing	Months 1 through 4	Sample prompts included: *What are your strengths/weaknesses in learning mathematics concepts and procedures? *Does the CPA method make a difference in learning mathematics? *How, if at all, was the enactment of your lesson different than your expectations?
Informal interviews	Months 1 through 4	Informally interviewed methods course participants about their experiences of learning mathematics and teaching mathematics to children.
Class discussions	Months 1 through 4	Sample prompts included: *How did you incorporate the CPA method into your lesson planning and instruction? *What strategies and activities did you plan for each stage of the CPA method?
End of the semester participant survey questions and reflections	Month 4	Sample questions included: *How, if at all, have you changed your beliefs about yourself in relation to mathematics? *How, if at all, have you changed your beliefs about what mathematics is? *How, if at all, have you changed your beliefs about what constitutes best practices in mathematics teaching?

To document changes in mathematics beliefs, comparisons were noted between initial assessments of participants' beliefs through the beginning of the semester activities during month one and their final assessments through the end of semester survey questions and reflections during month four. Data from the beginning of the semester and the end-of-semester survey questions and reflections were used to analyze each participant's responses in relation to changes in mathematics identities, changes in the nature of mathematics, changes in best practices in mathematics teaching, and the development of sociomathematical authority.

Findings

Findings reveal that although the majority of the preservice teachers entered the mathematics methods courses with negative beliefs about their mathematics identities and very fixed conceptions about what mathematics actually is based on their past experiences and influences, by the end of the semester, they had positive shifts in their mathematics beliefs in three areas: mathematics identities, the nature of mathematics, and best practices in mathematics teaching.

Change in Mathematics Identities

Mathematics identity encompasses an individual's self-perception of their knowledge of mathematics, confidence level to teach mathematics, and beliefs about their mathematics teaching competencies. The top noted change in mathematics identities reported by the majority of the participants was their comfort level and confidence in mathematics by the end of the mathematics methods course. They believed that they were much more confident in doing and teaching mathematics because they not only refreshed their knowledge of elementary mathematics, but experienced how much it is relatable to and useful in their real lives. The higher level of confidence increased their sociomathematical authority and enabled them to construct positive mathematics identities. Many of the preservice teachers noted that the comfortable atmosphere within the methods courses also aided in this shift because they were free to really ask questions to deepen their mathematics knowledge. As one preservice teacher wrote in her end of semester survey in fall 2010, "I know now that math is not impossible for me; it just takes practice and thinking about numbers in a different way than how I was taught growing up." This belief change seemed to occur because the participant experienced CPA methodology of mathematics teaching and was "engaged in forms of mathematical activity that differed from those they experienced as students" (Cobb & Gresalfi, 2011, p. 272). Similar to this participant, many participants reconceptualized mathematics teaching and learning during the course.

The participants also felt more comfortable and confident because they now had a deeper understanding of the conceptual processes rather than mere

procedural knowledge. They understood the "why", the "bigger picture" behind the concepts; these were rarely explained to them in their past mathematics courses/experiences. As another preservice teacher mentioned,

> I've learned that conceptual knowledge is more important than procedural knowledge when it comes to math. If you can conceptualize ideas and see the interrelationship of numbers, and strategies that can be used, solving problems will be more enjoyable and less scary. (End of semester survey, Spring 2011)

This key shift in the importance of developing conceptual understanding was echoed by the majority of the participants. They articulated that understanding mathematical concepts was more powerful than fluency of mathematical procedures.

Change in the Nature of Mathematics

Many of the preservice teachers entered the mathematics methods course with an instrumentalist view (Ernest, 1988) of mathematics as being equivalent to an accumulation of facts, rules, and skills to be used for some external end. This traditional approach is what many of the teachers grew up with. At the end of the course, however, participants began to shift their initial traditional conceptions toward more reform-oriented views as mathematics is a process or inquiry, coming to know and adding to the sum of knowledge. Mathematics, for many of them, was now viewed as being more dynamic and less fixed, more creative and less rigid, more relative to life, and deeper than just numbers. This is echoed by preservice teacher candidates' comments:

> Prior to this course, I felt mathematics was fixed and lacked creativity. However, I learned that mathematics is dynamic and can be taught in an exciting and beneficial way. Mathematics is much more than memorization; it is a subject area that allows for active inquiry and engagement.(End of semester survey, Fall 2011)

> I think that I always felt like math was about rules and formulas. After this course, I realize that math is ever changing and for many problems there isn't only one way to come to the solution. Math is also so much more involved in our everyday lives than I ever realized. I now understand the look on my teachers' faces when students said 'why are we even learning this?' (End of semester survey, Spring 2011)

Overall, preservice teachers in the methods courses began to see mathematics as much more flexible since they experienced, first-hand, multiple ways to approach and solve problems.

Change in Best Practices in Mathematics Teaching

The sentiment echoed by the majority of the preservice teachers was that they learned how valuable using manipulatives are to teach mathematics. Many never realized what a difference they can make and noted that if they had used them in their formative years, their outlook on mathematics may have been more positive from the onset. As one preservice teacher asserted, "After having taken this course, I strongly believe in the use of manipulatives. I never realized what a difference they can really make in developing conceptual understanding" (End of semester survey, fall 2010). The "use of manipulatives" is also interpreted as active engagement.

These preservice teachers also learned how important it is for teachers to offer students several different techniques/strategies to approach/solve a problem; there is not just one avenue or approach and that teachers themselves, need to be equipped with many strategies/approaches to problems. As one preservice teacher wrote,

> I now truly appreciate the importance of exploration and student discovery. If you allow your students to come up with their own problem-solving methods, you give them a tool that helps them solve any problem. (End of semester survey, Spring 2011)

The importance of differentiated instruction was also reported. Furthermore, the idea that teachers must promote conceptual understanding via discovery activities was critical.

Discussion and Implications

Teachers are at the forefront of this study. Although current reform efforts can enumerate desired mathematics changes, no curriculum teaches itself. Therefore, it is important to look at the affective aspects of teaching and social influences on mathematics in order to help bring about the desired changes through additional support systems and/or look at challenges which can hinder change or high-quality mathematics teaching.

This study focused on the social context of mathematics beliefs which has not been given as much attention as more cognitive aspects have been explored (Gates, 2006). Findings from this study reveal that it is possible for teachers to change beliefs to be more aligned with reform oriented practices in the course of a semester. However, they need to be exposed to constructivist methods consistently, be given the chance to reflect on their beliefs and practices in a variety of ways, and come to these new beliefs on their own through experience.

Through the preservice teachers' changes in mathematics beliefs and

reflections on those changes during the semester, they reported feeling prepared to teach the content when they assume their own classrooms since they now had a much greater conceptual understanding of mathematics. They thought about mathematics differently, and their newfound confidence has made many preservice teachers actually exited to teach mathematics. Overall, most participants noted that mathematics was no longer a "scary subject" or an impossible task; they adopted a more positive outlook toward mathematics and deeper appreciation for it as a result of the CPA approach taken in the mathematics methods courses. This is echoed in comments by preservice teachers in the end of semester survey in Fall, 2011:

> After this course, I gained a more positive outlook on mathematics. I no longer see mathematics as boring and absolute. Instead, I feel mathematics is full of opportunities to be creative and have fun. I no longer feel intimidated about teaching mathematics due to the knowledge I gained about teaching mathematics and the opportunity to teach my own lesson.

> This course has exposed me to amazing ways of teaching math. I must admit that I wish I was introduced to math through these methods of teaching. My guess is that I would have learned to love math from the very beginning. Therefore, my belief about best practices in teaching math are the ones that teach you to understand, appreciate, and love math rather than just memorizing rules and facts.

Teachers in this study shifted their beliefs which can only set them on more positive teaching journeys when they enter their own classrooms. These positive shifts in beliefs can likely translate into more positive experiences for students as they will not perpetuate a negative cycle of mathematics affect. With this shift in beliefs, they are also more able to develop sociomathematical authority and can become autonomous mathematics teachers. Given the importance of the social context of mathematics beliefs, the significance of participants' change in their beliefs is important as they are the ones who will be teaching according to their beliefs.

This study can also be beneficial to teacher education programs because it highlights the importance of incorporating CPA methods into practice and providing avenues for continuous teacher reflection such as the use of mathematics autobiographies, mathematics journals, and essays. With these practices, preservice teachers are more likely to develop sociomathematical authority which can potentially translate into meeting the expectations in the reform movement and increased student achievement in urban settings.

References

Anderson, T., & Shattuck, J., (2012). Designed-based research: A decade of progress in education research? *Educational Researcher, 41*(1), 16-25.

Ball, D.L., Lubinski, S.T., & Mewborn, D.S. (2001). Research on teaching mathematics: The unsolved problem of teachers' mathematical knowledge. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed.) (pp. 433-456). Washington, DC: American Educational Research Association.

Battista, M. (1994). Teacher beliefs and the reform movement in mathematics education. *Phi Delta Kappan, 75*(6), 462-470.

Bray, W.S. (2011). A collective case study of the influence of teachers' beliefs and knowledge on error-handling practices during class discussion of mathematics. *Journal for Research in Mathematics Education, 42*(1), 2-38.

Brown, A. (1992). Design-experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of Learning Science*, *2*(2), 141-178.

Bruner, J.S. (1966). *Towards a theory of instruction.* Cambridge, MA: The Belknap Press of Harvard University Press.

Calderhead, J. (1996). Teachers: Belief and knowledge. In D.C. Berliner & R.C. Calfee (Eds.), *Handbook of educational psychology* (pp. 709-725). New York: Macmillan.

Cobb, P. (2002). Modeling, symbolizing, and tool use in statistical analysis. In K. Gravemeijer. R. Lehrer, B. van Oers, & L.Verschaffel (Eds). *Symbolizing, modeling, and tool use in mathematics education* (pp. 171-195). Dordrecht, The Netherlands: Kulwer Academic Publishers.

Cobb, P., Gresalfi, M. S., & Hodge, L.L. (2009). An interpretive scheme for analyzing the identities that students develop in mathematics classrooms. *Journal for Research in Mathematics Education, 40*(1), 40-68.

Cobb, P., Stephan, M., McClain, K., & Gravemeijer, K. (2001). Participating in classroom mathematical practices. *The Journal of Learning Sciences*, *10*(1), 113-164.

Council of Chief State School Officers [CCSSO]. (2010). Common Core State Standards for Mathematics. Washington, DC: CCSSO.

Ernest, P. (1988). *The impact of beliefs on the teaching of mathematics.* Paper presented at the Sixth International Congress of Mathematical Education, Budapest, Hungary.

Fennema, E., Carpenter, T. P., Franke, M. L., Levi, L., Jacobs, V.R., & Empson, S.B. (1996). A longitudinal study of learning to use children's thinking in mathematics instruction. *Journal for Research in Mathematics Education, 27*(4), 403-434.

Franke, M.L., Fennema, E., & Carpenter, T. P. (1997). Changing teachers: Interactions between beliefs and classroom practice. In E. Fennema & B.S. Nelson (Eds.), *Mathematics teachers in transition* (pp. 255-282). Mahwah, NJ: Erlbaum.

Gates, P. (2006). Going beyond belief systems: Exploring a model for the social

influence on mathematics teacher beliefs. *Educational Studies in Mathematics, 63*(3), 347-369.

Gee, J. P. (2001). Identity as analytic lens for research in education. *Review of Research in Education, 25*(1), 99-125.

Gresalfi, M. S., & Cobb, P. (2011). Negotiating identities for mathematics teaching in the context of professional development. *Journal for Research in Mathematics Education, 42*(3), 270-304.

Guba, E. G., & Lincoln Y.S. (1989). *Fourth Generation Evaluation*. California: Sage.

Leatham, K.R. (2006). Viewing mathematics teachers' beliefs as sensible systems. *Journal of Mathematics Teacher Education, 9*(1), 91-102.

Leder, G., Pehkonen, E., & Törner, G. (2002). Setting the scene. In G. Leder, E. Pehkonen & G. Törner (Eds.), *Beliefs: A hidden variable in mathematics education* (pp. 1-10). Dordrecht, The Netherlands: Kluwer Academic Publishers.

National Council of Teachers of Mathematics [NCTM]. (2007). *Mathematics teaching today.* Reston, VA: NCTM.

Spillane, J. C. (2000). A fifth-grade teacher's reconstruction of mathematics and literacy teaching: Exploring interactions among identity, learning, and subject matter. *Elementary School Journal, 100*(4), 307-330.

Strauss, A. L. (1987). *Qualitative analysis for social scientists*. Cambridge, MA: Cambridge University Press.

Thompson, A.G. (1992). Teachers' belief and conceptions: A synthesis of research. In D. A. Grouws (Ed.), *Handbook of research on mathematics teaching and learning* (pp. 127-146). New York, NY: Macmillan.

Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2010). *Elementary and middle school mathematics: Teaching developmentally* (7th ed.). Boston, MA: Allyn & Bacon.

Yackel, E. & Cobb, P. (1996). Sociomathematical norms, argumentation, and autonomy in mathematics. *Journal for Research in Mathematics Education, 27*(4), 458-477.

CLASS PLACEMENT AND ACADEMIC AND BEHAVIORAL VARIABLES AS PREDICTORS OF GRADUATION FOR STUDENTS WITH DISABILITIES

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ABSTRACT

This study investigated the impact of a range of variables as predictors of graduation potential for students with Specific Learning Disabilities (SLD) or Emotional Behavioral Disorders (EBD) within a large urban school district. These factors included the following characteristics and elements: (a) primary exceptionality, (b) gender, (c) race/ethnicity, (d) grade, (e) current enrollment, (f) academic history, (g) behavioral history, (h) Florida Comprehensive Assessment Test (FCAT) performance, and (i) educational setting. Results indicated that a successful academic history was the only significant predictor of graduation potential when statistically controlling for all other variables. While at marginal significance, results also yielded that students with SLD or EBD in inclusive settings experienced better academic results and behavioral outcomes than those in self-contained settings.

Keywords: Inclusion, Students with disabilities, Dropout, Urban settings

Introduction

The failure of students with specific learning disabilities (SLD) or emotional behavioral disturbances (EBD) to graduate prevails nationally (Chapman, Laird, Ifill, & KewalRamani, 2011). Among all disability categories, students with EBD or SLD represent the greatest number of students who drop out (National Center for Statistics, 2009) with 51.4% of all students with EBD and 34.1% of students with SLD dropping out (Bost, 2006). Although overall dropout rates have decreased across the nation since the 1990s, dropout rates have remained consistent for students from minority backgrounds and students with disabilities in urban settings. Thus, the need exists for further investigation of the dropout phenomenon amongst these student populations.

Studies reveal that regardless of disability, students who drop out disengage from the school's culture (e.g., Bost & Riccomini, 2006; Dunn, Chambers, & Rabren, 2004). This process typically involves extreme truancy, and

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consequently, poor academic success. In examining school disengagement from a special education angle, the ramifications are extremely detrimental. Students in special education must often deal with the implications of having a disability within the constructs of a system that has historically separated them from the general population in order to provide services (Hehir, 2005). Increasingly more troubling is the fact that to qualify for services, the students must have a pervasive history of academic failure (Harry & Klingner, 2006). These systemic practices can potentially lead to students feeling isolated and inadequate, which promotes disengagement from school and eventual dropout (Bost, 2006). Arguably, inclusive settings can improve students' opportunities to interact with their non-disabled peers, become members of the general school culture (Cramer, Liston, Nevin, & Thousand, 2010), and increase academic performance as well as pro-social behaviors (Rea, McLaughlin, & Walther-Thomas, 2002).

Conceptual Framework

The gradual disengagement of students with disabilities from school occurs due to a myriad of social, academic, and behavioral factors (Bear, Kortering & Braziel, 2006; Suh & Suh, 2007) that are exacerbated by narrow notions of what a disability status constitutes. These factors often result in the students' removal from the general culture of the school and the failure to view and treat them as contributing members of the school's milieu (Hehir, 2005). Recent studies on school attrition suggest that school-related factors significantly contribute to students' school completion or attrition, and that schools and teachers should be held accountable (Bost & Riccomini, 2006; Dunn et al., 2004). Based on the conceptual framework suggested by Bost (2006), the school as an institution is responsible for creating a climate that promotes pro-social behaviors and academic success while providing highly qualified teachers and effective transition service—all of which have proven to result in improved successful educational outcomes. To foster such a climate, teachers need to ensure that students have instructional and behavioral supports, as well as access to relevant content and quality instruction.

Studies of school attrition have identified school-related variables such as academic history, behavioral history, and availability of inclusive support systems as potential risk factors for dropout (Rea et al., 2002; Scanlon & Mellard, 2002; Suh & Suh, 2007). Kortering, Haring, and Klockars (1992) found that the school-related variables contributing to dropout consisted of school-initiated interruptions (suspensions) and school transfers, while Cobb, Sample, Alwell, and Johns (2006) found that aggressive and/or anti-social behavior in middle and high school is an indicator that a student is a potential dropout, and that students with EBD or SLD tended to feel out of place in school due to lack of social skills and the ability to socially navigate the educational system. Yet, to date no researchers have investigated the effects of inclusive settings on dropout trends for students with EBD or SLD. Given that students with disabilities in urban settings experience the highest dropout rates of all students, combined with the current trend toward

inclusion in public school settings, it is crucial to explore the dropout phenomenon in these settings. Accordingly, the purpose of this study was to investigate the school-related variables that predict the graduation potential of students with SLD or EBD in urban settings, as well as the impact of inclusive settings on their graduation potential grounded in the experiences of students in special education. To do so we considered the following research questions:

- Do the variables (a) primary exceptionality, (b) gender, (c) race/ethnicity, (d) grade, (e) current enrollment, (f) academic history, (g) behavioral history, (h) Florida Comprehensive Achievement Test (FCAT) performance, and (i) educational setting represent predictive factors with regard to the graduation potential of students with SLD or EBD?

- Do the variables (a) educational setting, (b) primary exceptionality, (c) academic history, and (d) behavioral history show first order interactions?

Method

This study utilized a logistic regression to analyze the impact of the aforementioned variables (a to i) as likely predictors of graduation potential impacting students with SLD or EBD. To support the reliability of the instrument employed, in this case logistic regression, the test-retest format was followed, where three trials of all the regressions and interactions were conducted in order to assess if the results were consistent. To facilitate internal consistency, linear regressions were implemented to answer the research questions.

Participants

This study took place in a large, diverse, urban school district that provides services for a total of 349,945 students in 45 high schools across four geographical regions. The participants were 573 Black and Hispanic 11th and 12th graders with SLD or EBD (as primary disability), ranging from 15 to 18 years of age who had met the graduation requirements (24 credits) and expected to graduate with a standard diploma, and who were receiving instruction in inclusive or self-contained settings. As per federal mandate (Individuals with Disabilities Act, 2008), student placement is determined by a myriad of factors including academic and behavioral history, specific educational needs and related services, with an emphasis on placing students in the least restrictive environment where they can be academically and behaviorally successful. However, research shows that students with EBD are overwhelmingly placed in more restrictive settings than their peers with other disabilities (Hehir, 2005).

While restricting variability, these delimitations were set to ensure that the students being studied were examples of those who were likely to graduate despite risk factors, potentially providing insight into what "keeps" students of

color with disabilities in school. Although this study did not intend to exclusively include Black and Hispanic students, the entire sample consisted of these students due to the demographics of the schools investigated. One high school from each region was selected for participation with the following conditions: (a) state school grade of C or lower (based on performance on high-stakes tests), (b) students with SLD or EBD represent 20% or more of the dropout population, and (c) students with SLD or EBD make up more than 50% of the students with disabilities at that school. That is, if 15% of the total school population was students with disabilities, of those students, >50% would have either SLD or EBD, which is common in this district. Schools with a grade of C or lower were chosen since these generally report the highest numbers of dropouts (U.S. Department of Education, 2002), ensuring that a substantial population of students who were at risk for dropping out would be included in the sample, though potentially limiting heterogeneity of the sample.

Procedures

The data categories were extracted from district archival school graduation reports, published yearly, depicting graduation rates for all schools using the event method which records the number of dropouts that occur in a particular year and provides related percentages. The independent variables were regressed onto the dependent variables using the $Y= b+ b^1 x$ equation. The standardized regression weight implemented to interpret results in linear regression or Beta weight was interpreted as a log odd estimate and compared to the odds ratio estimate, which is generally thought to be a more efficient way to show the relationship between the independent and dependent variables (Meyers, Gamst, & Guarino, 2005). To interpret the overall validity of the model proposed, the Cox and Snell R and the Nagelkerke R^2 were considered. For the purposes of this study the Nagelkerke R^2 was used due to the fact it can achieve a maximum value of 1 which is generally preferred (Meyers et al., 2005).

Definitions and Interactions of Variables

The dependent variable consisted of enrollment (in-school or dropped out). For this study, the variable primary exceptionality was defined as the student's disability category (SLD or EBD). Gender was coded as male or female, and race/ethnicity included Black or Hispanic. Grade level was 11 or 12. Current enrollment was defined as currently enrolled or dropped-out. Academic history was defined as a dichotomous variable and measured by the above or below 60% average (the cutoff for school failure in the district studied, based upon school grades). Behavioral history was coded implementing levels of disciplinary infractions measured on a 0-3 point scale, where 0 represented no suspensions, 1 represented in-school suspensions, 2 represented out-of-school- suspensions, and 3 represented expulsion from school, thus creating four dichotomous variables (i.e., 0, 1, 2, and 3). If students had multiple levels of offenses, the number associated with the highest level of offense was input. Performance on the FCAT,

the statewide, standardized test, was coded as pass or fail. Academic placement was defined as inclusion or self-contained. See Table 1 for the independent variables with corresponding codes.

Table 1

Independent Variables

Primary Exc	Gender	Race/ Ethnicity	Grade	Educational Setting	Academic History	FCAT	Behavioral History (Suspension Levels)
LD (0)	Female (0)	Hispanic (0)	11 (0)	Self-Contained (0)	Fail (0)	Fail (0)	None (0)
EBD (1)	Male (1)	Black (1)	12 (1)	Inclusion (1)	Pass (1)	Pass (1)	Indoor (1)
							Outdoor (2)
							Expulsion (3)

Note. Exc=Exceptionality

This study investigated the potential existence of first-order interactions between (a) educational setting and academic history, (b) educational setting and behavioral history, (c) primary exceptionality and academic history, and (d) primary exceptionality and behavioral history in the regression. First order interactions are the combined effects of variables on the dependent measure. If an interaction effect is found, the impact of one variable depends on the level of the other variable. Problematic academic and behavioral histories have been found to be precursors to dropout (Bost, 2006). In-door suspensions (when a student is temporarily removed from class but remains on school property) and out-door suspensions (when a student is temporarily removed from school, and may not be on school grounds until the suspension is released) as well as aggressive and anti-social behaviors are established dropout markers (Cobb et al., 2006; Suh & Suh, 2007). Within the context of special education, it is important to determine their interaction with academic setting and exceptionality. Both variables were multiplied together to create the interaction variable. To provide a clearer picture of the relationship between these variables, correlations were also conducted. The variables were coded as follows:

1. Educational Setting*Academic History
2. Educational Setting*Behavioral History
3. Primary exceptionality*Academic History
4. Primary exceptionality*Behavioral History

116

Results

Results indicated that academic history is the only significant predictor of graduation among students with SLD or EBD when all the other school-related variables are controlled statistically (see Table 2). The student's academic history (passing or failing grades) was found to be the strongest predictor of graduation when including all the other variables. Only the variable race/ethnicity approached significance indicating that Blacks were more likely to graduate than Hispanics when holding all other variables constant.

Table 2

Statistical Significance of Independent Variables on Graduation Rates

Variables	Standard Error	Standardized Beta	t	Significance
Exceptionality	.013	-.024	-1.183	.237
*Race/Ethnicity	.015	.036	1.925	.055
Gender	.01	.003	.185	.853
Grade	.013	-.014	-.734	.463
*Academic History	.019	.912	48.786	<.009
FCAT Reading	.012	-.003	-.177	.859
FCAT Math	.013	.003	.138	.891
Educational Setting	.015	.003	.169	.866
Suspension	.008	-.021	-1.097	.237

Results also yielded that all the statistically controlled variables account for a significant amount of variance in predicting graduation (see Table 3). The R^2 was .836, and the adjusted R was .833. In addition, p was less than or equal to .0009. The only significant predictor of graduation when statistically controlling all the other variables was having a satisfactory academic history (see Table 4).

Table 3

Model Summary of Significance of Variables

R	R Square	Adjusted R Square	F	Significance
.914	.836	.833	318.498	.000

Note. The model summary shows the significance of all the statistically controlled variables.

Table 4

Log Regression Model Variables in Equation Predicting Graduation Potential

Variable(s)	B	S.E	Wald	Df	Significance	Exp (B)
Academic History	7.096	.647	120.267	1	.000	1207.200

A significant association was found between: (a) educational setting and academic history, (b) educational setting and behavioral history, (c) primary exceptionality and academic history, and (d) primary exceptionality and behavioral history (see Table 5). All of the independent variables except primary exceptionality are associated with the dependent variable (enrollment).

Table 5

Correlation of Variables

Enrollment		Exceptionality	Suspension	Academic History	Educ. Setting	Enrollment
Exceptionality	Correlation Coefficient	1.00	.025	.064	.248**	.041
	Sig. (2-tailed)		.554	.128	.000	.324
Suspension	Correlation Coefficient	.025	1.000	-.307**	-.289**	-2.88**
	Sig. (2-tailed)	.554		.000	.000	.000
Academic History	Correlation Coefficient	.064	-.307**	1.000	-2.67**	.913**
	Sig. (2-tailed)	.128	.000		.000	.000
Educational Setting	Correlation Coefficient	.248**	-.289**	.267**	1.000	.240**
	Sig. (2-tailed)	.000	.000	.000		.000
Enrollment	Correlation Coefficient	.041	-.288**	.913**	.240**	.1000
	Sig. (2-tailed)	.324	.000	.000	.000	

Note. Correlation is significant at the 0.01 level, N=573
[a]Enrollment is the dependent variable.

The results yielded a significant association between being in inclusion classes and having a successful academic history, $r = .267$, $p < .001$. Specifically, 93% of the students in the sample educated in inclusive settings obtained passing grades, while in comparison 72% of students in the sample from self-contained settings obtained passing grades. The results also yielded a significant association between being in inclusion classes and having a successful behavioral history, $r = -.289$, p<001. Specifically, 79% of the students from self-contained settings were suspended, in comparison to 22% of the students from inclusive settings.

An ordinal logistic regression was conducted to determine the effect of the dependent variable (i.e., enrollment) on the independent variables: (a) academic history, (b) behavioral history (i.e., suspensions), and (c) educational setting. This was done in two steps (i.e., model 1 and model 2). As shown in Table 6, the overall model without the interactions, model 1, was significant. While model 2 (see Table 7) was also significant, there was not a significant change between model 1 and model 2, χ^2 (3) = 3.66, *n.s.* The Nagelkerke R^2 was used to interpret the overall variance of the model; accordingly, the R^2 was .84. This indicates that 84% of the variance of the dependent variable is explained by the independent variables.

Table 6

Model Summary of Change in Statistics for Correlation Variables

Models	X^2	Df	Significance	Nagelkerke R^2
Model 1	314.28	3	<.009	.83
Model 2	317.94	6	<.009	.84

Table 7

Variables in Model 2

Variables	B	S.E	Wald	*df*	Significance	Exp(B)
Academic History	5.694	1.040	29.959	1	.000	297.097
Suspensions	-.197	.407	.234	1	.629	.821
Educational Setting	-1.624	1.231	1.739	1	.187	.197
Educational Setting X	2.670	1.524	3.070	1	.080	14.446
Academic History X Suspensions	-.146	.648	.051	1	.822	.864
Educational Setting X Suspensions	.123	.769	.025	1	.873	1.131
Constant	-1.774	.654	7.361	1	.007	.170

Note. The (X) indicates the variables were multiplied.

In model 2, despite the fact that there were associations between the independent variables illustrated and the dependent variable, when the other variables were controlled, the only significant variable was academic history. This indicates that the variance between academic history and enrollment overlaps with

the variance between behavioral history and enrollment (i.e., it explains overlapping variance). Similarly, the relationship between educational setting and academic history overlaps with the relationship between educational setting and enrollment. While this was not significant, the interaction between educational setting and academic history did approach significance. Therefore, the effect of academic history on enrollment might depend on the educational setting. Specifically, students in inclusive settings are more likely to have a successful academic history when compared to students in self-contained settings, which was the only significant predictor of graduation potential when statistically controlling the other specified variables.

Discussion

Dropout affects students with disabilities at alarming rates (NCES, 2009), and intensifies in EBD populations (Cobb et al., 2006). The results yielded by this study not only support the latter finding, but suggest that even within the current inclusive climate, students with EBD are still not making adequate progress towards graduation potential. Based on the sample investigated and the parameters embedded by the researchers, the only significant predictor of graduation across both exceptionalities was a successful academic history or achieving passing grades. Approaching significance was race/ethnicity. Based on the sample investigated, Black students with SLD or EBD were significantly more likely to graduate than Hispanic students under the same disability categories. This particular finding coincides with current national dropout trends that indicate Hispanics are at greatest risk for dropout (NCES, 2012).

This study also sought to investigate the existence of first order interactions between the students' educational setting and their academic and behavioral success, as well as between the students' exceptionality and their academic and behavioral success. In addressing the first set of interactions, this study found that there is a significant interaction between educational setting and academic achievement. Specifically, students in inclusive settings were more likely to pass their classes or achieve academically than students in self-contained settings. As evidence, only 6% of the students in the sample educated in self-contained settings had a successful academic history. These findings support Rea et al.'s (2002) conclusions, which indicated that students with disabilities in inclusive settings performed better academically, as well as this study's contention that inclusion can be implemented as a potential dropout prevention variable for students with disabilities. Moreover, given previously stated findings which indicated that low academic achievement increases dropout rates (e.g., Bear et al., 2006; Suh & Suh, 2007), extensive consideration must be given to the idea that students in inclusion classes experience significantly better academic results than their self-contained counterparts.

Educational Settings and Referrals

In line with studies cited throughout (e.g., Rea et al., 2002; Cobb et al., 2006), which indicated that inclusive settings promoted pro-social behaviors, this

study found that inclusive settings have a significant interaction with behavioral history, or a student's behavioral record. It is important to note that students with EBD are often placed in self-contained settings due to negative connotations of the EBD label that result in teachers students holding lower expectations of these students (Hehir, 2005). Specifically, educational setting plays a significant role in increasing or decreasing suspensions or related disciplinary actions regardless of exceptionality. In analyzing the second set of interactions, exceptionality and academic and behavioral success, there was a first order interaction between exceptionality and academic success. Specifically, based on the sample analyzed, students with EBD were more likely to drop out than all other students.

Since one of the main goals of this study was to investigate the effect of inclusive settings on graduation potential, it is important to clarify that it was not found to be significant. Possible explanations for lack of significance revolve around the way student placement is determined. Although the Individuals with Disabilities Education Act (2008) requires that students with disabilities be placed in the least restrictive environment (LRE) and that placements be revisited each year, students are often unnecessarily segregated or left in general education placements without supports (Soukup, Wehmeyer, Bashinski, & Bovaird, 2007). When educational policy is being correctly implemented, if students are not progressing in their current placements, then placements change accordingly. It is important to note that this may have affected related outcomes.

Implications/Conclusions

This study was found to have several potential limitations. Like most other districts in the nation, the district studied uses the event cohort method to measure dropout rates, which is the least accurate of all and tends to provide lower dropout figures (Kemp, 2006). Consequently, the data analyzed potentially underestimated the number of students with SLD or EBD that dropped out. The fact that longitudinal data regarding the psychological, academic, and behavioral history of the sample were not investigated can potentially underscore significant existing differences between the students. It is recommended that a study that examines these longitudinal properties be conducted to measure the overall impact of inclusive settings. To further explore how the general culture of the school affects dropout trends, and given the fact the sample selected in this study was from schools graded "C" or lower, a similar study can be conducted in higher or lower performing schools. Specifically, the significance of the school's grade (or ranking in meeting Adequate Yearly Progress) as it relates to dropout trends in special education should be investigated. Not including higher performing schools or other disability groups does limit the heterogeneity of this sample, leading to possible need for further study of other schools and students.

In considering the educational ramifications of the findings of this study, being able to achieve passing grades was the only significant predictor of graduation potential, therefore significant measures must be taken when addressing the academic needs of students with disabilities in urban settings. To

achieve this, general education teachers in inclusive urban settings must become familiar with accommodations and adaptations and must also be given adequate support from administrators and special education experts (Hehir, 2005). The way in which EBD students are being educated within the context of current inclusive mandates and related practices must be urgently addressed. The results yielded that students with both SLD and EBD received better academic grades in inclusive settings. Based on this, it is suggested that students be exposed to inclusive settings more frequently or for longer periods of time. This is particularly important in urban schools where students with disabilities tend to be placed in more restrictive settings (Skiba, Poloni-Staudinger, Gallini, Simmons & Feggins-Azziz, 2006). Structured behavioral programs, including a generalization phase where students are taught how to apply their learned behavioral skills across all settings, should be followed in inclusive settings, with the support of the special education teacher (Cobb et al., 2006). Dropout trends have been moderately reduced in general education since the early 1990s (NCES, 2012); it is both a moral and a professional obligation to ensure that the same occurs in special education.

References

Bear, G., Kortering, L., & Braziel P. (2006). School completers and non-completers with learning disabilities: Similarities in academic achievement and perceptions of self and teachers. *Remedial and Special Education, 27*(5), 293–300.

Bost, L. W. (2006, July). *Effective interventions in dropout prevention for students with disabilities: Putting the evidence into practice*. Paper presented at the Critical Issues in Urban Education Harvard Summer Institute, Boston, MA.

Bost, L. W., & Riccomini, P. J. (2006). Effective instruction. *Remedial and Special Education, 27*(5), 301–311.

Cobb, B., Sample, P. L., Alwell, M., & Johns, N. R. (2006). Cognitive-behavioral interventions, dropout, and youth with disabilities. *Remedial and Special Education, 27*(5), 259–275.

Chapman, C., Laird, J., Ifill, N., & KewalRamani, A. (2011). Trends in High School Dropout and Completion Rates in the United States: 1972-2009. Compendium Report. NCES 2012-006. *National Center for Education Statistics*.

Cramer, E.D., Liston, A., Nevin, A. I., & Thousand, J. (2010). Co-Teaching in urban secondary U.S. school districts to meet the needs of all teachers and learners: Implications for teacher education reform. *International Journal of Whole Schooling*, 6(2), 59-76.

Dunn, C., Chambers, D., & Rabren, K. (2004). Variables affecting students' decisions to drop out of school. *Remedial and Special Education*, *25*(5)*, 314–323.

Harry, B. & Klingner, J. (2006). *Why are so many minority students in special education? Understanding race & disability in schools.* NY: Teachers College Press.

Hehir, T. (2005). *New directions in special education: Eliminating ableism in policy and practice*. Cambridge, MA: Harvard Education Press.

Individuals with Disabilities Education Act, (2008) 20 U.S.C. §§ 1400 et seq.; 34 C.F.R. §§ 300 et seq.

Kemp, S. E. (2006). Dropout policies and trends for students with and without disabilities. *Adolescence*, *41*(162), 235–250.

Kortering, L., Haring, N., & Klockars, A. (1992). The identification of high-school dropouts identified as learning disabled: Evaluating the utility of a discriminant analysis function. *Exceptional Children 58*, 422–436.

Meyers, L. S., Gamst, G, & Guarino, A. J. (2005). *Applied Multivariate Research: Design and Interpretation* (2nd ed.). Thousand Oaks: CA: Sage.

National Center for Statistics. (2009). *Statistical analysis report: Dropout rates in the United States: 2005.* Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Rea, P. J., McLaughlin, V., & Walther-Thomas, C. (2002). Outcomes for students with learning disabilities in inclusive and pullout programs. *Council for Exceptional Children*, *68*(2), 203–222.

Scanlon, D., & Mellard, D. F. (2002). Academic and participation profiles of school-age dropouts with and without disabilities. *Council for Exceptional Children*, *68*(2), 239–258.

Skiba, R. J., Poloni-Staudinger, L., Gallini, S., Simmons, A. B., & Feggins-Azziz, R. (2006). Disparate access: The disproportionality of African American students with disabilities across educational environments. *Exceptional Children, 72*(4), 411–424.

Soukup, J. H., Wehmeyer, M. L., Bashinski, S. M., & Bovaird, J. A. (2007). Classroom variables and access to the general curriculum for students with disabilities. *Exceptional Children*, *74*(1), 101–120.

Suh, S. & Suh, J. (2007). Risk factors and levels of risk for high school dropouts. *Professional School Counseling*, *10*(3), 297–306.

U.S. Department of Education. (2002). Executive summary. Washington, DC: Author.

Making Connections: Preparing College Tutors to Support the Literacy of Urban Children

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ABSTRACT

This study examined the effects of professional development on strengthening the efficacy and civic engagement of college students tutoring diverse K-5th grade English Language Learners in an urban community. A mixed methods approach including pre- and post-surveys, focus groups, weekly reflections, and supervisor observations revealed tutors' changing perceptions of their efficacy and civic identity after implementing newly learned reading strategies with elementary children. Findings indicate the importance of strategic training for college students (a) to increase their skills and confidence in providing literacy support for children and (b) to understand and connect with the local community. The results of this study will assist educators, university personnel, and community agencies as they train and supervise college-age tutors to work with urban students and engage with local communities.

Keywords: College tutors, Professional development, Urban communities, Literacy, Efficacy, Civic engagement

Numerous studies over the past several decades have reported the increasing achievement gap between students who are from White, middle class and/or affluent backgrounds and their counterparts who are often students of color and/or socio-economically disadvantaged. This gap is widening despite concentrated efforts towards helping minority children of poverty (The Education Trust, 2009). One such identified cause is the decline in literacy skills evident among young minority students, predominantly English Language Learners (Ornstein, Pajak, & Ornstein, 2011). Responding to this need, Federal Work Study programs such as Clinton's 1996 *America Reads* were created to help young children, particularly in urban communities, become successful readers (Morrow & Woo, 2001). Although these types of one-on-one tutoring programs are widely accepted as an effective means to help struggling readers, the degree to which college-aged tutors are trained can affect the value of the tutoring for the student. Moreover, how tutors perceive civic engagement and whether it is a critical part of their role in helping young children can also affect their approach

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to tutoring (Allor & McCathren, 2004).

Preparing college graduates to be active participants in their communities has historically been a core value of higher education across the United States (Knefelkamp, 2008). Education leaders endorse the value of civic engagement but report a lack of strategies to effectively build civic identity in undergraduate students (Hatcher, 2011). The current study addresses this need and involves training for undergraduate college students who are tutoring economically disadvantaged elementary school children in reading within an urban, community-based program. The following research question guided this action-research study: How does professional development, in the area of best reading practices, for minimally trained college tutors affect their efficacy and perceptions of civic engagement?

Literature Review

Best Reading Practices and Literacy Training

When President Clinton first established the *America Reads* challenge, educators were asking whether or not college students with minimal training could actually make a difference in helping children improve their reading abilities (Wasik, 1998). That question was the catalyst for numerous studies that emerged from the *America Reads* challenge (Fitzgerald, 2001). One study examined the Book Buddies program, using individuals typically employed in *America Reads*, to determine whether or not tutors could clearly help improve young children's literacy skills in a high-poverty urban setting. The experimental versus control group study found that children who received the Book Buddies lessons significantly surpassed the control group on measures of accurate word reading in context, letter identification, and word reading in isolation. The study also noted that tutors were more effective due to using well-structured lesson plans and receiving ongoing training and supervision (Meier & Invernizzi, 2001).

These studies contributed to establishing two approaches that have been found effective in preparing minimally trained college students to tutor young children in reading: (a) long-term training in early reading development and tutor effectiveness and (b) intense and directed supervision by supervisors who have received some form of training in reading education (Invernizzi, Rosemary, Juel, & Richard, 1997; Juel, 1996). Studies in which college tutors only received a few hours of training in the use of specific strategies such as shared reading, questioning strategies, and repeated reading resulted in the children making larger gains on word identification, reading fluency, and word comprehension than those in comparison groups (Allor & McCathren, 2004; Baker, Gersten, & Keating, 2000). Knowing how to utilize effective reading strategies is essential but not sufficient. Those working to support the achievement of children, particularly in urban communities, also need to believe that they can make a difference.

Teacher or Tutor Efficacy

Successful urban teachers or tutors have a high sense of efficacy, believing in their own ability to help students improve academically. Tschannen-Moran and Hoy (2001) explain that a "teacher's efficacy belief is a judgment of his or her capabilities to bring about desired outcomes of student engagement and learning" (p. 783). Efficacy can be increased through mastery experiences (Bandura, 1997) in the regular teaching context with additional follow-up coaching (Tschannen-Moran & McMaster, 2009). Providing teachers (or tutors) with ongoing professional development in literacy instruction, opportunities for successful experiences in authentic settings, and opportunities for collaboration contributes to their confidence and belief that they can help even the most academically struggling students (Tschannen-Moran & Johnson, 2011). Can these educators be successful, however, if they do not understand or connect with the community in which the children live?

Civic Engagement

A Federal Work Study program (FWS) can be a "powerful educational, career-preparation, and community service internship program" that benefits all partners: the college student, the university, and the community members (Davidson, n.d., para.1). A community-based FWS program emphasizes civic engagement and social responsibility to develop the college students' civic identity and foster a stronger commitment to the public good. Interaction with others is an important component in the development of personal civic identity (Strayhorn, 2008). Additionally, a stronger sense of civic identity, combined with a cultivation of purpose and the ability to put knowledge into responsible action, results in increased civic engagement (Colby & Sullivan, 2009). The goal of most universities is to prepare civic-minded individuals with a disposition toward being involved with their communities and being socially responsible citizens (Hatcher, 2011).

Method and Data Sources

Participants

The *ABC Reads/Writes/Counts* program (pseudonym) employs approximately 30 college student workers each semester in order to serve as many as 350 K-5th grade students from the local Southern California school district whose students are 90% Latino/Hispanic, 33% English Language Learners, and 76% socio-economically disadvantaged (eligible for free or reduced lunch). The *ABC Reads* portion of the program was chosen as the focus of this study because research has shown the importance of building literacy skills at an early age (Allor & McCathren, 2004; Fitzgerald, 2001; Morrow & Woo, 2001; Wasik, 1998). Among the 30 undergraduate college tutors in the reading, writing, and math program, there were 13 reading tutors, and nine of the 13 reading tutors

volunteered for the study. Five of the tutors self-identified as being Latino/Hispanic and four of the tutors self-identified as being White. Among the nine tutors, three were sophomores, three were juniors, and three were seniors. All nine participants were females which was representative of the program in which 28 of the 30 tutors were females. Additionally, females represented 67% of the overall undergraduate student population.

It should also be noted that three of the nine tutors were born and raised in the city, three came from similar communities, and three were from communities that varied greatly from this particular city. Each college student tutored approximately 20-30 children over the course of the study.

Procedure

The college tutors were provided with several professional development activities over an eight week period to enhance their ability to provide literacy instruction and increase their sense of efficacy and civic engagement.

First activity: Professional development mini-sessions on reading practices. The researcher conducted four mini training sessions for the tutors on best practices for reading instruction including phonemic awareness and phonics, reading comprehension strategies, high frequency words, and vocabulary building models. These trainings were each 35-45 minutes in length; conducted during the second, third, and fifth weeks of the study; and presented to small groups of three to four tutors to allow for discussion. Additionally, the mini-sessions were scheduled in between blocks of tutoring session times so that tutors could immediately implement the new strategies.

Second activity: Bi-weekly reflection journals. Tutors were given bi-weekly journal prompts, throughout the study, to complete by the end of the week. The prompts were created and distributed in order to help tutors think more deeply and reflect upon all three main focus areas of the study: reading practices, efficacy, and civic engagement.

Third activity: Reading relevant articles around reading practices, efficacy, and civic engagement. Three of the bi-weekly journal prompts were based on articles and excerpts about reading practices, civic engagement, and efficacy. The readings were provided in order to guide tutors' responses and encourage deeper reflection on the particular topic regardless of whether or not they had background knowledge in the subject.

Fourth activity: Peer observations and discussions. During the sixth week of the research study, tutors observed one another for one hour and recorded exactly what was said and done by the peer tutor during the tutoring session. Additionally, tutors provided written feedback as to what went well and also suggestions for improvement in the future. As the tutors discussed their observations and feedback with one another, they collaboratively developed

creative solutions for challenges.

Fifth activity: Bi-weekly coaching sessions with the researcher. During the second, third, fifth, and seventh weeks of the study, the researcher observed tutors as they implemented the newly learned reading strategies. Specific observations were made on how tutors implemented the strategies and how the children reacted to the new strategies. After the tutoring session, the researcher met with each tutor to provide specific feedback and praise on the implementation of the strategies.

Data Collection and Analysis

Qualitative methods were primarily utilized for this study; however, some quantitative methods were also included. Each set of data will be described and analyzed separately.

Qualitative

Qualitative data included the following: (a) pre- and post-surveys with the Indiana University-Purdue University Indianapolis (IUPUI) Civic-Minded Graduate (CMG) Narrative prompt (Hatcher, 2011) and six open-ended questions asking tutors how well they knew the city, how they perceived civic engagement, to what extent they felt they were effectively helping students, and what types of reading strategies were most needed to help students achieve; (b) four journal reflection entries from each tutor on the topics of reading practices, efficacy, and civic engagement; and (c) three focus group interviews (taped and transcribed), each with three tutors, with five questions asking tutors to expand upon their knowledge of the city and its citizens, their understanding of civic identity and engagement, the factors that influence their effectiveness as tutors, and the literacy needs of the students of the program.

All of the qualitative data gathered were analyzed using a constant comparison method to determine common patterns and themes (Corbin & Strauss, 2008). Triangulation of data occurred through the comparison of the various sources of qualitative data.

Quantitative

Quantitative data included the following: (a) eight Likert scale items on the pre- and post-surveys assessing tutors' knowledge of the residents and community; (b) fourteen Likert scale questions on the pre- and post-surveys based on Tschannen-Moran and Hoy's (2001) Teacher Sense of Efficacy Scale, used to gauge the tutors' sense of efficacy; and (c) eight Likert scale questions on the post-survey asking tutors to rate how beneficial each of the study activities were to their tutoring. At the conclusion of the study, descriptive statistical analysis was utilized to compare the pre- and post-survey question responses.

<center>**Results**</center>

Qualitative

The qualitative data reveal that overall, tutors' sense of efficacy and commitment to their civic identities were strengthened as they utilized the newly learned reading strategies with students.

Tutors' efficacy was enhanced through implementation of reading strategies. At the beginning of the study tutors were asked, "To what extent do you believe you are effectively helping your students and what factors affect your students' reading successes and/or failures?" A range of responses represented factors that were external or out of the control of the tutor, while others reflected internal factors or the tutors' direct influence on the children and their academic growth.

Several tutors commented on external factors such as parental involvement, language barriers, and schooling as major influences to student success:

> One big factor that affects a student's reading success is if English is the first or second language…and whether or not parents can speak the language at home. (Pre- survey)

> The students who are succeeding seem to go to a good school and their parents read with them at home. (Pre- focus group)

Other responses indicated that college tutors attributed the elementary students' academic progress to internal factors such as the tutors' ability to serve as role models and encourage the children:

> I feel as though I am an effective tutor because I do my best to encourage them, show the students that I care, and am patient with them during our tutoring time. (Pre- focus group)

By the end of the study, tutors' responses indicated an increased sense of efficacy as a result of utilizing the reading strategies that were presented throughout the research study. While tutors still recognized the impact of external factors on the success of the children, they acknowledged the power of their own influence on academic improvement.

Some tutors noted their ability to make a difference through the use of their newly learned reading strategies during tutoring sessions:

> Learning the different strategies and how they have been proven to be effective in classrooms helped me to provide something tangible for students so that they can improve during our sessions together. (Post- survey)

<center>129</center>

At times it can be discouraging because outside of our tutoring session, I know their lives are difficult. But when they're with me, I now have something more to offer them. I know how to better utilize the reading strategies we've learned and I can see students engaging in the text more and growing in their literacy skills. For that short amount of time, I'm making a difference and that difference counts. (Post- focus group discussion)

Tutors also commented on increased confidence as they saw progress in the children's reading abilities:

When I first filled this [pre-survey] out, I might have been a bit negative. I felt like I couldn't make a big difference with these kids in such a short amount of time. But after learning these strategies, I now know that they work and they're proven to be effective. I had more confidence working with my kids because I saw little and big changes in the students' reading abilities as I used the strategies. (Post- survey)

Tutors' perceptions of civic engagement were transformed as efficacy was strengthened. Prior to the study, tutors were asked to respond to and explain the following statement regarding how they perceived their civic responsibilities to the community: "I have a responsibility and a commitment to use the knowledge and skills I have gained as a college student and as an *ABC Reads* tutor to collaborate with others, who may be different from me, to help address issues in society." All of the tutors agreed with the statement; however, very few of them responded with an explanation that reflected a sense of personal civic engagement.

A few tutors' responses showed a commitment to service that was at times based on compliance to external expectations. These tutors identified with the desire to give back to the community, but did not note any connection between being engaged in the community and their work in tutoring the children:

I completely agree with this statement because I think it is very important for me to use what I have learned to help others. (Pre- survey)

I used to think my education was for my own but I've come to realize that I have to do something with my education. (Pre- focus group discussion)

At the end of the study, most of the tutors' responses illustrated a stronger awareness of civic identity and responsibility within the context of their work and deeper commitments to continued service in a more optimistic yet realistic manner.

Some tutors acknowledged feeling more equipped to make a difference as they saw students improve through using the strategies tutors learned throughout the study:

I agree with this statement even more than before. It is my commitment and responsibility, and now I feel better equipped to make a difference in these students' lives, especially after having seen the kids improve when I utilize the strategies we learned. (Post- survey)

Other tutors made the connection that through helping children learn and develop literacy skills they were making an active difference in addressing challenges in the world:

With the new skills and knowledge I have gained, I know that I'm actively taking part in addressing societal issues by helping the kids gain access to greater knowledge and literacy skills. (Post- focus group discussion)

As I'm looking at graduating, I've been more reflective. I realized that walking out, I have greater knowledge of this community and its issues, and I also have greater knowledge of what solutions could look like. Wow – that means I'm that much more equipped and that much more ready to do my part. (Post- focus group discussion)

Reflection led to greater implementation of reading strategies, enhanced levels of efficacy, and a stronger sense of civic identity for the tutors. At the end of the study, many tutors' responses demonstrated how their participation in the research study affected their effectiveness as a reading tutor. Some of the college participants were able to see the connection between their own development as tutors and the influence they had on building children's literacy skills:

Simply having the knowledge that I was a part of a research team helped me to become very aware of my teaching style…as we reflected on how we utilized the learning strategies, I was better able to understand how I was helping the kids. (Post- focus group discussion)

This process caused me to reflect on my own practices. I felt challenged to improve myself as a tutor. I felt a sense of purpose when I tried implementing new things I learned. I saw that I was doing something very important in the kids' education. (Post- survey)

Other tutors acknowledged the connection between how their work with the children contributed to the betterment of the community:

It's really valuable to reflect on what we're doing in this job…being involved in this research has really made me realize what I'm doing…it's not just work, I'm working with the community. (Post- focus group discussion)

Quantitative

Tutors' knowledge of the community and how to effectively engage in it increased. The first three questions of the civic engagement section of the surveys asked tutors to rate how well they understood the city, the most pertinent issues of the city, and how to be an effective citizen in the city. The data indicated changes among tutors from the pre- to post-surveys.

Figure 1 highlights how tutors who were from the community had the same level of knowledge regarding the issues of the city before and after the study; however, Figure 2 illustrates how those same tutors reported a greater awareness as to how they could be more effective citizens in their community from pre- to post- study.

Additionally, Figures 1 and 2 both demonstrate how tutors from outside the community reported the greatest amount of growth from pre- to post- results in their knowledge of the issues of the city and how to be an effective citizen in the city.

Figure 1

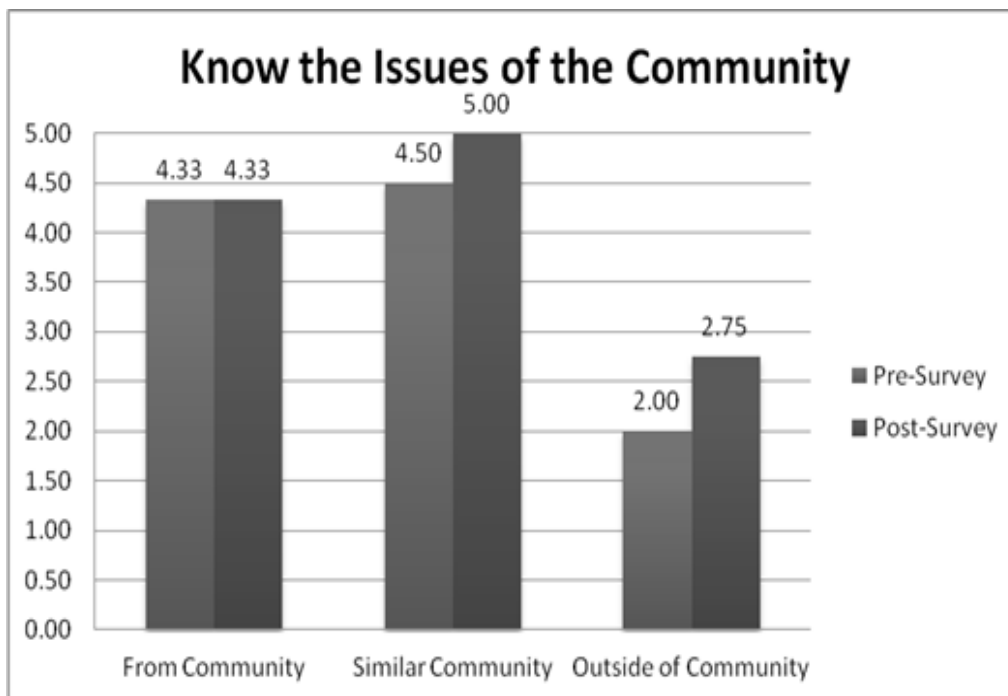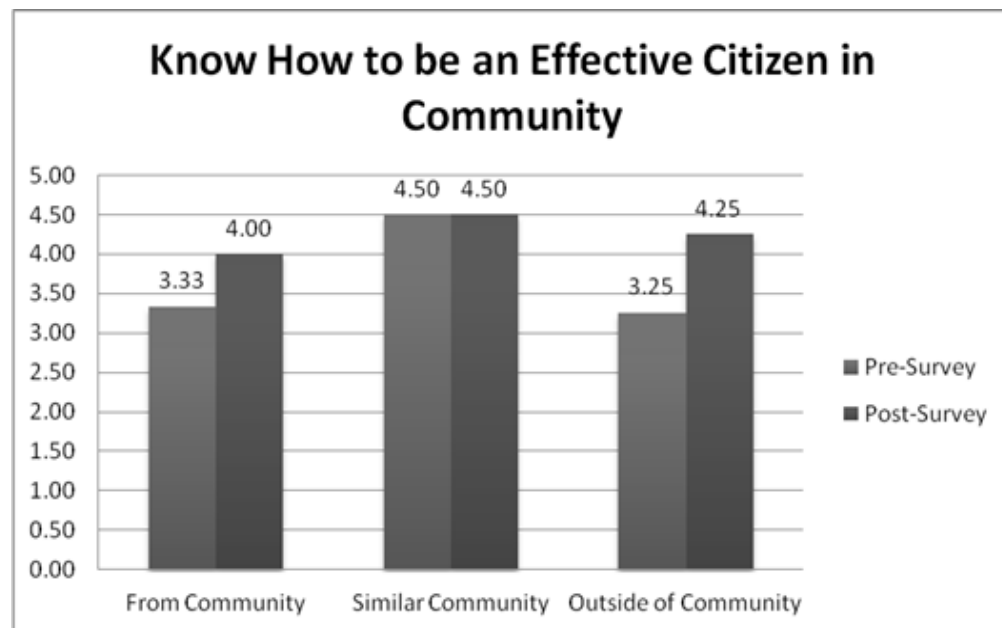*Pre- and Post- Survey Results Regarding Tutors' Knowledge about the City*

Figure 2

Pre- and post- survey results regarding tutors' knowledge of how to effectively engage in the city

Tutors' sense of efficacy was enhanced as they utilized the new reading strategies. The pre- to post-survey results revealed an average increase of 0.65 on the nine-point Likert scale rating across all 14 efficacy-related questions among the nine tutors. The question about efficacy with the highest increase (1.22) on the Likert scale ratings from pre- to post-survey asked, "How much can you do to modify your reading strategies to the proper level for individual students?" Figure 3 indicates how six of the nine tutors reported an increase of one to three points from the beginning to the end of the research study. The other three tutors remained at the same high level of ability throughout the study.

Learning and the implementation of reading strategies was rated as the most beneficial training for tutors. At the end of the eight week study, the tutors were also asked on the post-survey how beneficial each of the training strategies had been in helping them become more effective *ABC Reads* tutors. Figure 4 illustrates the average ratings of all nine tutors for the six training activities at the end of the study (on a scale of 0-5, with 5 being of the highest benefit). The data revealed that the *implementation* of learned reading strategies was perceived as most beneficial to tutors, while training on the reading strategies and supervisor observations were also seen as highly beneficial.

Figure 3

Pre- and Post- Survey Results Regarding Tutors' Perceived Efficacy Regarding their Abilities to Modify Reading Strategies for Students (pseudonyms used)
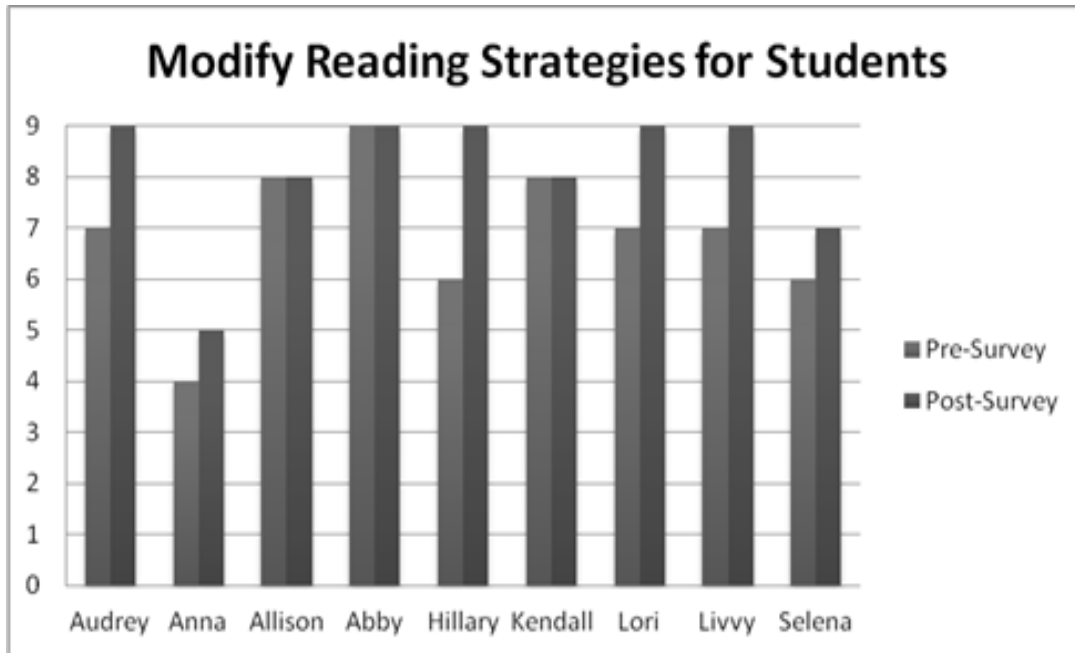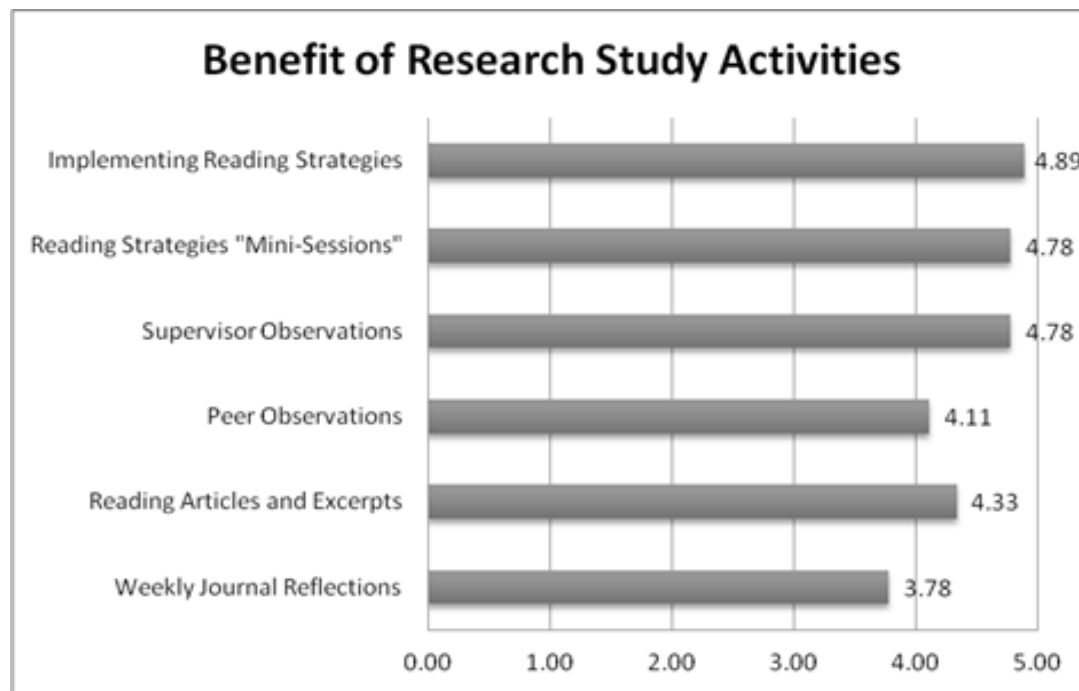

Figure 4

Post- Survey Results Regarding Level of Benefit of Research Study Activities for Tutors

Discussion

The data collected from the study provide strong evidence that there are connections among professional literacy development, sense of efficacy, and perceptions of civic engagement for minimally trained college tutors. Specifically, the data reveal that successful implementation of the reading strategies heightened tutors' self-efficacy. Tutors' responses indicated that utilizing the reading strategies and seeing students succeed helped them better understand their influence and effectiveness as tutors. This finding supports Bandura's (1997) research that among the four factors (mastery experiences, vicarious experiences, verbal persuasion, and physiological states) that influence efficacy, authentic mastery experiences are the most influential as they build a more robust sense of one's efficacy.

The data also indicated there is an evident, yet complex connection, between efficacy and perceptions of civic engagement. As tutors experienced a stronger sense of efficacy by helping children improve and succeed, their commitment to making a difference and engaging in their communities was strengthened. However, the quantitative data depict fluctuations in efficacy and perceptions of civic engagement that add another layer of interpretation to the qualitative data. This variance in self-efficacy aligns with Wheatley's (2002) findings that doubts or changes in self-efficacy can be beneficial for the kind of reflection that is necessary to gain new insight. Additionally, the tutors' growing commitment to civic engagement supports Strayhorn's (2008) findings that a strengthening of civic identity cyclically fosters a stronger commitment to the public good.

Conclusion and Educational Significance

Institutions of higher education have a responsibility to partner with their surrounding neighborhoods to cultivate stronger connections between the assets and resources within the community. This is particularly true in urban areas where human resources of the university can be used to impact the future of a community through powerful programs designed to close the achievement gap for the youth. Increasing children's literacy skills through college tutoring is one identified means (Fitzgerald, 2001). Enhancing the knowledge and skills of the tutors strengthens the success of the program as they gain the tools to develop the children's literacy, become more efficacious about their work, and increase their sense of civic commitment through their experiences (Meier & Invernizzi, 2001).

The overall results of this study illustrate that college students can be guided to better support urban students' academic success and engage in their local communities. Experiences in programs such as *ABC Reads* provide the learning opportunities, times of reflection, and spaces to put learning into action that are necessary to develop a strong civic identity and commitment to the public

good. The results of this study will assist educators, university personnel, and community agencies as they develop programs or utilize existing resources to train and supervise college-age tutors to work with diverse students in urban communities.

References

Allor, J., & McCathren, R. (2004). The efficacy of an early literacy tutoring program implemented by college students. *Learning Disabilities Research and Practice*, *19*(2), 116-129.

Baker, S., Gersten, R., & Keating, T. (2000). When less may be more: A 2-year longitudinal evaluation of a volunteer tutoring program requiring minimal training. *Reading Research Quarterly, 35*(4), 494-519.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

Colby, A., & Sullivan, W. (2009). Strengthening the foundations of student's excellence, integrity, and social contribution. *Liberal Education, 95*(1), 22-29.

Corbin, J. & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory.* 3rd ed. Newberry Park, CA: Sage Publications.

Davidson, R. (n.d.). Community service federal work-study: The best-kept secret in higher education?. Retrieved from http://www.compact.org/initiatives/federal-work-study .

The Education Trust. (2009). Closing the gaps. Retrieved from http://www.edtrust.org/issues/pre-k-12/closing-the-gaps .

Fitzgerald, J. (2001). Can minimally trained college student volunteers help young at-risk children read better?. *Reading Research Quarterly, 36*(1), 28-47.

Hatcher, J.A. (2011). Assessing civic knowledge and engagement. *New Directions for Institutional Research, 2011*(149), 81-92.

Invernizzi, M., Rosemary, C., Juel, C., & Richards, H. C. (1997). At-risk readers and community volunteers: A 3-year perspective. *Scientific Studies of Reading, 1*(3), 277-300.

Juel, C. (1996). What makes literacy tutoring effective? *Reading Research Quarterly, 31*(3), 268-289.

Knefelkamp, L. (2008). Civic identity: Locating self in community. *Diversity and Democracy: Civic Learning for Shared Futures, 11*(2), 1-3.

Meier, J.D., & Invernizzi, M. (2001). Book buddies in the Bronx: Testing a model for America reads. *Journal of Education for Students Placed At Risk, 6*(4), 319-333.

Morrow, L.M., & Woo, D.G. (2001). *Tutoring programs for struggling readers: The America reads challenge.* New York: The Guilford Press.

Ornstein, A.C., Pajak, E.F. & Ornstein, S.B. (Eds.). (2011). *Contemporary issues in curriculum* (5th ed.). Boston: Pearson.

Strayhorn, T. (2008). How college students' engagement affects personal and social learning outcomes. *Journal of College and Character, 10*(2), 1-16.

Tschannen-Moran, M., & Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*(7), 783-805.

Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education: An International Journal of Research and Studies, 27*(4), 751-761.

Tschannen-Moran, M., & McMaster, P. (2009). Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new teaching strategy. *Elementary School Journal, 110*(2), 228-245.

Wasik, B. A. (1998). Volunteer tutoring programs in reading: A review. *Reading Research Quarterly, 33*(3), 266-91.

Wheatley, K.F. (2002). The potential benefits of teacher efficacy doubts for educational reform. *Teaching and Teacher Education, 18*(1), 5-22.

Through The Lens of the Students: Using Narrative Inquiry to Evaluate an Innovative Urban High School

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ABSTRACT

MC Squared STEM High School is part of the Cleveland Metropolitan School District. It has a project-based curriculum that focuses on the core stem skills: science, technology, engineering, and math. As the school celebrated its first graduating class in 2012, administrators felt it was the right time to look back and evaluate the school's progress. This urban school district is Ohio's second largest. This paper explores the process that took place during the evaluation process. It is as much a search for the right questions to ask as for the right answers. It is also an exploration of the working relationship between researcher and practitioner, which is an important part of narrative inquiry methodology.

Keywords: Project-based STEM curricula, Urban high school reform, Assessment

Background

MC^2 STEM has approximately 41,000 students are 70% Black, 15% Caucasian, 11% Hispanic, and 3% other. 83% of the student body is at poverty level and 100% are eligible for the federal universal meals program. The district serves 2,000 homeless students. A mobility rate of 38.2% of students transferring in or out of school in the course of a year creates instability and discontinuity. MC^2 STEM prepares high school students for 21st century workforce demands by exposing them to the design challenges and practices that are modeled after today's STEM industries. Students build the critical thinking and problem-solving skills necessary to effect change as they grapple with essential questions, address real problems, formulate ideas, and defend perspectives alongside their instructors, peers, and field experts.

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Students are embedded in three different regional STEM campuses. The ninth graders are hosted at the Great Lakes Science Center, where they work with both the Great Lakes Science Center and NASA Glenn Research Center. Here they experience job shadowing, internships, and hands-on work with NASA engineers. The tenth grade students attend school at GE Lighting's Nela Park Campus and work with GE Lighting employees of all professions. The focus in the first two years is a rigorous integrated curriculum in which students participate in multiple field experiences on the STEM industry campuses through hands-on learning and exploration. In 11th and 12th grade, students move to the next level of purposeful learning through internships, specially designed capstones and the Post-Secondary Educational Options Program (college classes).

MC Squared has been the subject of multiple local and national evaluations in its first four years. Three of these surveys are of critical importance: 1) the Youth Truth Survey completed in February 20ll, 2) the 2010 and 2011 Conditions for Learning Survey, and 3) The Center for Elementary Mathematics and Science Education at the University of Chicago evaluation done in conjunction with the Battelle Center for Elementary Mathematics and Science Education Ohio Stem Leaning Network (OSLN) Evaluation.

This paper uses narrative inquiry methodology to explore the evaluation process itself, examining how researcher and practitioner (here the principal of MC^2 STEM) must work together to provide a candid assessment of the school's progress.The sources for this paper are notes taken by both the researcher and the principal during the course of the evaluation. These notes reflect how watching the students from afar (case studies), and having the opportunity to "dance with them on the floor" (participatory research action) provided an opportunity to deeply understand the system and allow for organically driven answers to the research. This process allowed the researcher to go back and understand the data from the perspective of non-academic factors that motivate academic success within the context of the school, and to document the creative use of limited existing resources to build a new kind of education.

Urban education is complex. Research in the field is broad and explanations of the events that lead to each outcome are many. Understanding a successful urban school is akin to completing a jigsaw puzzle. At first glance, the puzzle pieces make little sense. However, by deconstructing that puzzle, we can understand how the pieces come together, and in so doing evaluate the experience with data-driven outcomes. Finding the correct research question is every bit as hard as doing the research. When we embarked on this evaluation, we had only a broad question with which to explore: What enabled MC Squared students to succeed when contextual peer school students did not? We wanted to answer this question from the perspective of the urban students whose lives had been transformed over their four years at the school.

Narrative Inquiry

Narrative inquiry is a form of research that serves to understand a phenomenon or an experience through the analysis of one's story (Clandinin & Connelly, 2000). Narrative inquiry is both the process and the product. Clandinen and Connelly (2000) define the field as, "… a way of understanding experience. It is collaboration between researcher and participants, over time, in a place or series of places, and in social interaction with milieus" (p. 20). This model is influenced and informed by the investigation and writing of scholars who have authenticated it through multiple disciplines and contexts (Bruner, 1996; Connelly & Clandinin, 1990; 1994; 2000; Grumet, 1991; Witherell & Noddings, 1991) In the methodology of narrative inquiry the stories, called field texts (Clandinin & Connelly, 2000), constitute the data. Researchers can analyze this data after they recast their stories based on narrative elements such as the problem, characters, setting, actions, and resolution (Ollerenshaw & Creswell, 2000).

The narrative inquirer emphasizes the importance of learning from participants in a setting. Clandinin and Connelly (2000) use these stories to report personal experiences (what the individual feels) as well as socially connected practices (the individual's recounting of interactions with others). "Narrative and life go together and so the principal attraction of narrative as method is its capacity to render life experiences, both personal and social, in relevant and meaningful ways" (Connelly & Clandinin, 1990, p. 10).

This paper will be shaped through interpretations of the narratives. The raw data used to formulate these narratives draw on transcribed interviews the researcher conducted with six recent MC^2 STEM graduates. In addition, the researcher spent a year getting to know the senior class by teaching a capstone (senior project) class at the school. The values, beliefs and experiences the students described will help the research team excavate complex patterns and understand how these patterns impact a person's experience from specific social and cultural standpoints. Data gained in this way will reflect the multiple voices, perspectives, and meanings experienced by the researcher and practitioner. Lastly, as Clandinin and Connelly (2000) suggest, the story may also reflect insights the researcher gained into him or herself in the process.

The reflections and thoughts of both the researcher and practitioner (principal of MC^2 STEM) are a critical component of this inquiry. The practitioner's voice in the research has traditionally been silenced (Connelly & Clandinin, 1990). Both the principal and the researcher noted their experiences as they undertook the evaluation together, documenting each milestone of learning and frustration with notes to themselves on the experience. After the evaluation was completed, they shared these reflections and explored together their professional and personal growth through the process.

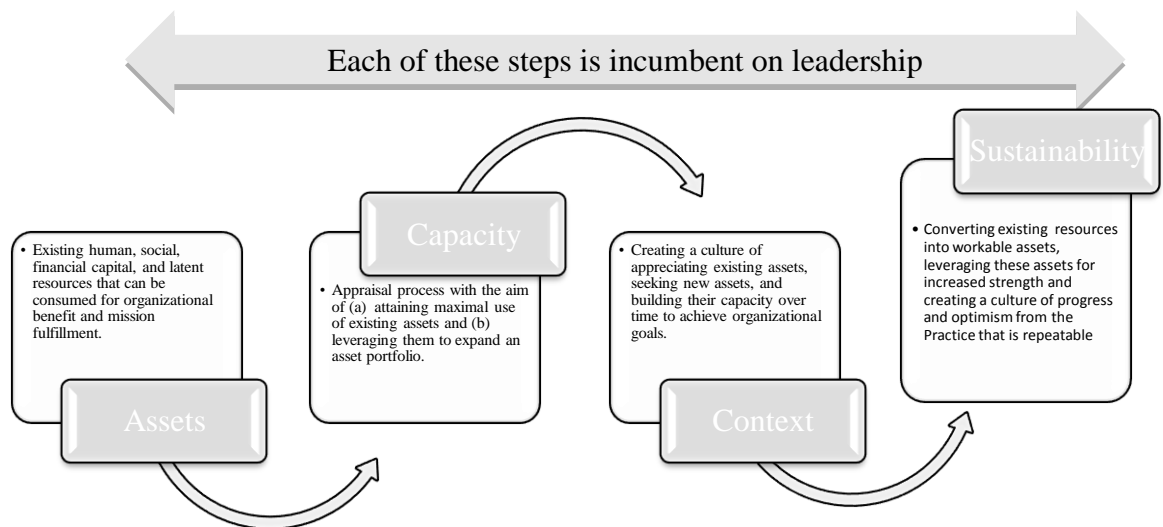For this evaluation, the question of success was examined through the lens

of the student. The study was designed to cultivate their point of view through a broad survey of the senior class (with some open ended questions), followed by group and individual interviews based on the findings of the initial survey. We used the established research as a basis for those group and individual questions and then analyzed this data in conjunction with existing artifact data (school reports, student work, completion rates, internship, etc.).

Asset-Based Paradigm

The conceptual basis for this analysis is the asset-based paradigm (Weisblat & Sell, 2012). Under this construct, assets in an organization are akin to the genetic traits of an individual. These genes, if properly activated, help individuals achieve their potential and maximize their efficiency. Often institutions and organizations have tremendous assets that are unrealized and underutilized (Weinberg, 1999; Zula & Chermack, 2007). While much time is spent on capacity building and creating opportunities for new development based upon this process, much less effort is expended on leveraging assets to achieve needed ends. The process of considering how existing non-economic assets can be combined within and across resource systems is thus frequently ignored. Figure 1 illustrates how the assets of an organization, its capacity for self-appraisal, and the context of creating the proper organizational culture, can lead to a sustainable organization, where existing resources are converted into workable assets.

Figure 1

Asset Development for Organizational Effectiveness[30]

Each of these steps is incumbent on leadership

Assets — Existing human, social, financial capital, and latent resources that can be consumed for organizational benefit and mission fulfillment.

Capacity — Appraisal process with the aim of (a) attaining maximal use of existing assets and (b) leveraging them to expand an asset portfolio.

Context — Creating a culture of appreciating existing assets, seeking new assets, and building their capacity over time to achieve organizational goals.

Sustainability — Converting existing resources into workable assets, leveraging these assets for increased strength and creating a culture of progress and optimism from the Practice that is repeatable

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[30] Weisblat et al, 2012

How People Learn

In the traditional model of education, "teaching is telling, knowledge is facts, and learning is recall" (Cohen, 1989). We know now that learning is about understanding information within a general framework and being able to relate and apply general concepts to specific experiences across contexts. *How people learn* (Bransford, Brown, & Cocking, 2000) places active learning in the service of metacognition rather than just the mastery of immediate skills. Any assessment or learning measurement must in some sense be behavioral as well. Bransford et al.'s (2000) award winning National Science Foundation definition of learning includes three main tenets: 1) understanding and accepting the learners' position and space within their community and how this relates to the generation of new knowledge, 2) incorporating existing knowledge and leveraging this information into new scholarship, and 3) embedding on-going metacognition into all facets of the learning cycle (Bransford et al., 2000). The *How People Learn* framework supports academic achievement for all types of learners, and utilizes the asset-based paradigm to further develop learning opportunities and advancement, recognizing the strengths and skills of the learner in the process (Bransford et al., 2000).

> **Researcher:** I am teaching high school kids about graduate level concepts,' I told a colleague yesterday. I got that all-knowing look in exchange, something along the lines of 'Sure you are'. I guess I would have the same response. I am learning that some experience in the context is necessary to truly understand the process. The students today described their social capital as those who had their back, their cultural capital as their ability to understand where it is safe to walk and knowing what dialect to use, their human capital as their ability to take nothing and make something. Helping them discover how to apply their existing knowledge to the theoretical constructs is truly exhilarating and in some ways just mind-boggling.

MC Squared embraces its foundational mission of high academic achievement, while pursuing the development of Wagner's 21st century skills; these skills are non-academic psycho-social factors for success, as identified in the leading-edge work of Robins et al. (2004) and Lee et al. (1995). From Robins and Lee's seminal work, McClellan (2012) proposed a multi-faceted conceptual model that provides a deeper, more complex understanding of how non-academic determinants help to support and sustain student academic success. This is accomplished by positively altering pre-existing peer, family and community relationships.

The research team proposed that the composite of psychosocial and academic-related skill predictors (including Wagner's (2008) work) were best understood by three higher order constructs: motivation, self-management, and social engagement. This model, coupled with a secondary model of the asset-

based paradigm (Weisblat, 2011), serves as the context in which the school and its processes were evaluated.

There has been much conversation about "twenty-first century" skills. Wagner (2008) suggests that students (even in "the best schools") are not being prepared for leadership in the future. Wagner defines seven survival skills that all students need:

1. Critical thinking and problem solving
2. Collaboration across networks and leading by influencing
3. Agility and adaptability
4. Initiative and entrepreneurialism
5. Effective oral and written communication
6. Accessing and analyzing information
7. Curiosity and imagination

Non-Academic Factors

One of the concerns was determining what factors contributed to the students' positive learning experiences. The literature sets forth critical components that help students reach their academic potential within their learning community. In a seminal study by Robbins, Lauver, Le, Davis, & Langley (2004), researchers examined 109 prospective studies in which various psychosocial and study skill factors were used to predict academic achievement (the processing schema necessary to accept new concepts and transfer those new concepts from one situation to another). Four main non-academic influences have been proposed as critical to academic achievement: motivation, social engagement, self-management (Robbins et al., 2004) and community engagement (Kretzmann & McKnight, 1993). In a healthy eco-system there are many points of connection that help to keep it dynamic. These points include a school's or an organization's internal and external operating systems, and the coordination between these two systems as critical to the overall ecosystem

This synergistic system derives from the roles of individuals (i.e. teachers, students, parents, business partners, etc.) and the ways they interact within the school (internally) and also with the community (externally). Individually and collectively this eco-system thrives by building on its existing assets to maximize its capacity. When the schools and organizations recognize their intrinsic value along with the value in their connections to others, their ability to develop a diverse set of strategies to achieve their goals is maximized. In other words, knowing what you have, how to work it, and when to blend it in context with the mission is the stimulus necessary for achieving success. The entropic nature of this eco-system and the connections between each of these points create a rich atmosphere fertile for student success.

> **Researcher:** Today, the students made me laugh so hard! I could barely settle them to begin work on budget analysis for implementing their projects. So I left off where we were, and I took them to their prom in

their imagination to learn how to operationalize a budget. As they described all the items that they would need to prepare, go to prom and celebrate after, I began to understand their thinking had become a natural continuum. Their education allowed them to apply their knowledge through the very practical vehicle of real life. The exercise also spoke to their need to build off each other and to use this energy and synergy to create new ideas. As they chided one another for silly comments, flow was in the room. Students moved with ease, self-corrected, immediately adapted to new ideas and offered new solutions. All the while, I thought: if someone from the outside world came into this room, what they may see was so very different from what I and the young people were learning and experiencing.

The current model of schooling does not match the context of the work world of the 21st century. Schools need to realign their set-up to motivate every student by presenting opportunities to grow within today's environment.

Student Success Triangle

Principal: We made a breakthrough today when we were talking about the way the school leverages its outside resources and we connected this (and the triangle) to [the researcher's] Asset based paradigm.

McClellan's white paper on the Theory of Student Success Triangle (2012) notes that in the world of science and engineering an equilateral triangle is the strongest two-dimensional geometric shape. The equilateral triangle has the ability to withstand immense load force without deformation. If a load is applied to any vertex or side, it is evenly distributed by all sides and, because the sides cannot change length, the shape remains stable. When the same is applied to another shape, the forces are applied to the connectors and can make the sides pivot, collapsing the shape. (http://www.reference.com/motif/Science/why-is-the-triangle-the-strongest-shape)

Similarly, maximizing and sustaining student achievement is dependent upon supporting student development within three critical components that are connected to one another. McClellan recalibrates these components of non-academic success (Self-Management, Motivation, and Social Engagement) to show that when present in full capacity and connected to each other systematically, they form the boundaries necessary for maximized sustained academic achievement. His work indicates that the values associated with academic potential need to be aligned and measured in a tri-faceted manner. His contribution is that students engaged within an ecosystem such as the one at MC Squared are able to withstand immense force (life and learning challenges) without reducing their potential for academic success.

Figure 2:

Student Success Triangle [31]
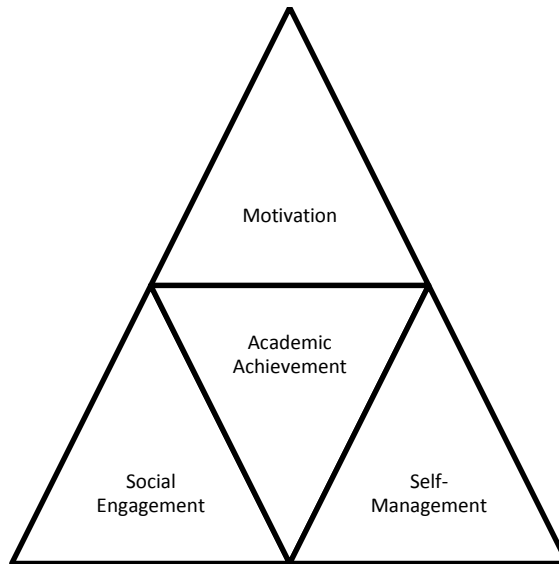
Principal: I really look forward to our conversations. We always begin with a specific list of deliverables to get done `during our conversations and we never seem to get our deliverables completed but the dialogue is very good. We talk about the school and spend time connecting what is happening at the school with the research that we have read. I will share how I perceive a situation and she [researcher] will connect it to some research or theory and then explain the theory to me. It is really incredible because there are things that I know and feel but haven't necessarily been able to articulate them. She usually knows some research or theory to connect with what I am describing. Our conversations are classic examples of Heifetz's ideas about the leader being able to be on the dance floor and on the balcony. After we talk, I find myself thinking about the researcher when I am dealing with real situations. It helps me to have frameworks from which to apply action. I have started to bring separate lists to these meetings just to get her opinion as a researcher on certain situations.

Document and artifact review

The students' narratives were not the only source of data for the assessment. The research team also examined documents and artifacts in the form of school records and experiences. As a supplement to surveys and individual and group interviews, this form of data collection provided a different perspective on the case being studied (Marshall & Rossman, 2006). Two types of artifacts were

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[31] McClellan (2012) Theory of Student Success Triangle

analyzed for this study: artifacts from the six identified students, and third party reports completed and presented to the school.

In order to gain a deeper understanding of each of the six students studied, a thorough review of available records was completed. The following documents (as available) were reviewed for each of the six participants:

- Application and information from initial interview for school entrance
- Report cards (any written communication)
- PSEOP credits
- Internship experiences
- Career aspirations
- Family size and history (if available)
- Background of school experience prior to entering MC Squared

> **Researcher:** However, while the data and method defined the structure of the evaluation process, it was the marriage of the data interpretation with the principal's framework and the researcher's parallel experience in the school that allowed for a new depth of data analysis.

Findings

The principal and researcher uncovered three main themes in the course of their evaluation: 1) context, play and space matter in creating, understanding and defining events; 2) allowing an entropic process of learning to occur without trying to define it or limit it at the time of the events provides opportunity to later deliver a rich linear explanation of context and experience; 3) grit, trust and uneasiness are critical elements allowing colleagues to work together and achieve a higher level of understanding.

> **Principal:** I am finding myself looking at what I see at the school and outside the school from a different point of view. I can't go back now. I have come to understand the work I do within the framework of myself, the school, my community and now in the way of an academic. The research project is complete, the report is done; but now I realize it will never be done.

> **Researcher:** Questions lead to more questions ~ staying focused and learning how to unravel this project from the inside out and from the outside in while being a part of the school has changed my life. Understanding context, and being able to explore it in an organized pathway, came from letting the process lead. I thought I got it before starting this research, but I did not really understand how little I knew until we finished the report.

Researcher and practitioner set out on this examination to understand the role of non-academic factors in a school and its students' success. What evolved through

the experience was a deeper understanding of the process of this evaluation. The researcher and practitioner gained a greater appreciation of each other's perspective, which in turn enhanced the process. The researcher garnered a new perspective on the students and the practitioner was tutored in the research method. These lessons enhanced the research in ways not otherwise attainable.

Conclusion

Principal: We meet today to talk about the findings of the surveys. The researcher spent a year teaching a course during the evaluation process to a different group of seniors, learning their stories, their strengths and weaknesses, and the manner in which their journeys evolved. Having this parallel experience provided an ongoing filter to take the outcomes learned from the data in the study and think about them in a very lively and interactive manner.

Researcher: As a researcher, the themes that emerged from teaching a capstone class, and interpretation of the data from the actual evaluation, allowed me to digest it all in a completely new manner: the marriage of participatory action research and case study. The principal's insights from his world were invaluable to truly understanding my data and my own experiences in the school. This space we created for open conversation helped advance my understanding and commitment to the process.

A traditional research method would likely yield a good understanding of non-academic factors and their role in the success of MC^2 STEM and its students. However, the opportunity for regular discourse between researcher and practitioner provided a much deeper interdisciplinary understanding of these factors. This understanding provides a new lens through which to view other social constructs.

It should be noted that the success of the school rests on the success of the students. It is they who reap the benefit of the asset-based paradigm. The evaluation process highlighted several components to the success of MC^2 STEM and its students. Follow up evaluation has begun with the same questions, now examining the first cohort's year one year post graduation and a new cohort. The adaptability and flexibility of the school's learning model allowed incorporation of existing knowledge, included experiences outside of the normal classroom, and encouraged thinking "outside of the box," all coming together to create something that was greater than the sum of its parts.

References

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How People Learn.* Washington, DC: National Academy Press.

Bruner, J. (1996). *The culture of education.* Cambridge, MA: Harvard University Press.

Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative

inquiry. Educational Researcher 19(4), 2-15.

Connelly, F. M., & Clandinin, D. J. (1994). Personal experience methods. In N. K. Denzin and Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 413-427). Newbury Park, CA: Sage Publications.

Clandinin, D.J. & Connelly, F.M, (2000) Narrative Inquiry. San Francisco: Jossey-Bass

Grumet, M. (1991). The politics of personal knowledge. In C. Witherell & N. Noddings (Eds.), *Stories lives tell: Narrative and dialogue in education* (pp.67-77). New York: Teachers College Press.

Kretzmann, J. P., & McKnight, J. L. (1993). *Building communities from the inside out: A path toward finding and mobilizing a community's assets.* Skokie, IL: ACTA Publications.

Marshall, C., & Rossman, G. (2006). *Doing qualitative research (4th ed.).* London: Sage.

Robbins, S.B., Lauver, K., Le, H., Davis, D. & Langley. R. (2004). Do psycho-social and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, *130*(2), 261-288.

Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need--and what we can do about it.* New York, NY: Basic Books

Weinberg, A. S. (1999). The university and the hamlets: Revitalizing low-income communities through university outreach and community visioning exercises. *American Behavioral Scientist*, *42*(5), 800-813.

Weisblat, G. (September, 2011). *Asset-Based Paradigm for Organizational Innovation and Effectiveness in the Non-Profit Community*. Unpublished paper presented at the Kresge Scholars Conference, November, 2011

Weisblat, G., & Sell, C. (2012), Starting Early: Teaching graduate students transferable skills beyond the discipline. *Journal of Research Administration*, 43(1), pp. 60-84.

Witherell, C., & Noddings, N. (Eds.). (1991). *Stories lives tell: Narrative and dialogue in education*. New York: Teachers College Press.

Zula, K. J., & Chermack. T. J. (2007). Human capital planning: A review of literature and implications for human resource development. *Human Resource Development Review, 6*(3), 245-262.