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Volume 11, 2015

**Journal of Urban Learning, Teaching, and Research**

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## Journal of Urban Learning, Teaching, and Research

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The *Journal of Urban Learning, Teaching & Research* (JULTR) provides opportunities for ULTR members to publish scholarly articles in a peer-reviewed, ERIC indexed journal. Recently JULTR was recommended for inclusion in Cabell's Directory of Publishing Opportunities. This year, we also published book reviews of interest to our readership. We strongly encourage our members to take this professional opportunity and share your knowledge about issues in urban education with more than 400 US and international members.

Please carefully review the submission guidelines and selection criteria before you submit your article. All manuscripts are double blind-reviewed by at least 3 members of the JULTR Editorial Review Board. The *Journal of Urban Learning, Teaching, and Research* accepts quantitative, qualitative, and mixed method research that addresses issues of urban learning, teaching and research; manuscripts should be 1500-4000 words not including references and submitted in correct APA style to be considered.

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## ***INTRODUCTION TO 2015 ISSUE OF JULTR***

**Hyunjin Kim**  
**Editor-in-Chief**  
*University of Rhode Island*

This volume includes 10 research studies and 3 book reviews pertaining to critical issues and latest policy related matters in urban learning and teaching across the various levels of teacher education and student learning in urban school contexts. Yet, discrete differences exist among articles in terms of discussions of the critical issues in theories, practices, challenges, and implications that address ways of improvement in *urban* education for the public good.

This volume starts with Mangiante's article that examines planning decisions made and challenges faced by an elementary teacher in a high-poverty urban district to promote students' adoption of social norms of interaction for scientific discourse. Friend and Loyce Caruthers advance a framework for educators to create pathways to elicit students' diverse perspectives as qualitative data sources in the process of urban school renewal. Chen, Hernandez, and Dong present an interdisciplinary research project that studies the impact of collaborative project-based learning (CPBL) on the development of self-efficacy of students from various ethnic groups in an undergraduate senior-level computer networking class. Cramer's study examines the efforts of one large urban school district to implement support to schools in increasing their rates of students being served in inclusive settings. The authors evaluate a process whereby the district used a self-created *LRE/Achievement at a Glance Tool* to measure programs, services, and learner outcomes for students with disabilities. McCarther and Davis discuss adolescent student perspectives on social justice to identify mechanisms that would allow young people in the urban core the opportunity to share their unique voices with the world and for us to better understand their views on social justice and social change.

In her qualitative and ethnographic study, Woodson's article examines the history textbooks used in urban schools to better understand Black students' understandings and applications of historical content and its educational implication. Adjapong and Edmin's article explores the benefits of using Hip-Hop pedagogical approaches in an urban science classroom. The article employs two different pedagogical approaches in Hip-Hop culture (i.e., call-and-response and co-teaching) to understand their benefits in an urban science classroom. Using a critical approach, Khalil and Brown's article conceptualizes a social justice leadership framework that identifies essential urban teacher qualities. Giraldo-Garcia and Galletta's article traces the nature of critical engagement among youth in a high poverty urban district in the Midwest as they participate in critical inquiry and social action concerning opportunities and constraints within the educational system. Finally, An and Wu's article examines the impact of the integration of global experiences on in-service teachers' international perspectives in mathematics classroom teaching through offering a graduate course "Global Perspectives in Mathematics Teaching" in the form of the East Meets West Program.

Taken together, all articles in this volume, as well as the book reviews, collectively yet discretely touch upon the approaches and issues in urban education, problematize the norm that is pervasive in our understanding of the educational practices, and sharpen our insights to better

serve the future through challenging the stereotypes, implementing well-situated-theories and applications in urban teacher education, and ultimately striving to improve urban teaching and learning qualities. We anticipate rigorous argumentation on our own speculations and approaches in urban learning, teaching, and research in future issues.

As the Editor-in-Chief, I am deeply grateful to associate editors, Kara Mitchell Viesca and Alyssa Hadley Dunn: Specifically, Dr. Viesca assisted me in adding a book review section to this volume and in the early steps for this volume and Dr. Dunn and her graduate student assisted me with the distribution of the initial review decisions and the following revision process. Special thanks definitely go to our professional editorial board of 2015 issue of the journal and our SIG chair, Dr. Lori Kim, for their sincere effort and her support, respectively, throughout the review process to make the editorial process easy and rapid to meet the planned publication date.

May 31, 2015

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**SECTION I: RESEARCH STUDIES**

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## PROMOTING SOCIAL NORMS FOR SCIENTIFIC DISCOURSE: PLANNING DECISIONS OF AN URBAN ELEMENTARY TEACHER

**Elaine Silva Mangiante<sup>1</sup>**  
*Salve Regina University*

### Abstract

This case study examined planning decisions made and challenges faced by an elementary teacher in a high-poverty urban district to promote students' adoption of social norms of interaction for scientific discourse. Through interviews, document analyses, and observations during a science unit, the findings indicated that the teacher's planning first involved creating a classroom climate whereby students felt safe to share their thinking. Next, she provided students with structures for interaction and strategies for discourse based on knowledge she acquired from professional development in evidence-based discourse. She also incorporated these dialogic practices in all subjects to extend student practice. The challenges in promoting scientific discourse included accountability pressure, inadequate resources, limited time, paucity of collegial collaboration, and student variability in discourse.

**Keywords:** elementary science, teacher planning, urban education, scientific discourse, social norms

The vision underlying the Next Generation Science Standards (NGSS, 2013) is that *all students* acquire knowledge and scientific practices for informed decision-making on national/global issues (NRC, 2012). To achieve this goal, NGSS (2013) recommends that students make sense of science ideas through practices of investigating questions and formulating, evaluating, and communicating evidence-based explanations. Socio-cultural researchers posit that students can construct understanding of scientific concepts through inquiry and reasoning in dialogic interactions with peers (Mercer, Dawes, Wegerif, & Sams, 2003). Yet, teachers in urban schools with high-stakes pressure to improve students' standardized tests scores typically employ teacher-directed approaches of drill and memorization versus student-centered practices of critical thinking and explanation-construction (Darling-Hammond, 2007; Thadani, Cook, Griffis, Wise, & Blakey, 2010). Teachers' use of didactic, highly managed approaches, often found in schools serving low-income minority communities, can result in students' passivity in learning (Calabrese Barton, 2001).

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However, there is growing evidence of elementary teachers in urban schools promoting students' collaborative inquiry learning (Carlone, Haun-Frank, & Webb, 2011; Varelas, Pieper, Arsenault, Pappas, & Keblawe-Shamah, 2014). Case study narratives provide insight into how teachers in urban schools have reformed their science instructional practice (Johnson, 2011; Upadhyay, 2005). Yet, observational studies have shown that though teachers may engage students in hands-on investigations and data collection, there is significantly less emphasis placed on evaluating claims or negotiating explanations with peers (Forbes, Biggers, & Zangori, 2013). To compound this problem, young students' conversations for science meaning-making are not always productive (Galton & Williamson, 1992). Mercer et al. (2004) suggested that students may not be aware of criteria for collaborative, effective discussion. With the NGSS intent that all students engage in reasoned dialogue for scientific meaning-making, narratives of teachers' efforts in this area are needed, particularly in urban school contexts.

Preparing students for explanation construction requires *teachers' awareness* of norms for discourse focusing on scientific meaning-making (Herrenkohl & Guerra, 1998; Palinscar, Anderson, & David, 1993). Thus, the purpose of this study was to examine the *planning* of an elementary teacher in a high-poverty school who promoted social norms for students' scientific discourse and the factors that challenged the planning. Planning, a cognitive activity, involves a teacher's thinking, judgments, and decisions in preparing for instruction (Clark & Peterson, 1986). The warrant for examining teacher planning is based on findings that teachers' decisions can profoundly influence students' learning opportunities (Shavelson & Stern, 1981).

### Conceptual Framework

The development of NGSS was grounded in research suggesting that young children, regardless of background or socioeconomic level, have greater capacity to reason and engage in scientific discourse than previously assumed (NRC, 2007). Scientific discourse involves extended teacher-student and student-student dialogue of observations, reasoned arguments, and plural explanatory ideas to make sense of investigations (Mercer et al., 2004; Osborne, Erduran, & Simon, 2004). This discourse for science meaning-making is in contrast to closed questioning traditionally used in elementary classrooms to ascertain student's knowledge. Research suggests that teachers can foster students' scientific discourse by providing explicit guidance in how to express and evaluate ideas as well as revise claims (Driver, Newton, & Osborne, 2000; Herrenkohl, Palinscar, DeWater, & Kawasaki, 1999).

In urban classrooms, factors can impact enactment of scientific discourse including the students' perceived role, students' exposure to scientific content/language, and teacher knowledge of discourse norms (Brown, 2006; O'Neill, 2010; Osborne, et al., 2004). Students are unlikely to participate actively in science discussions without perceiving teacher-student relationships as safe for sharing (Matsumura, Slater, & Crosson, 2008; O'Neill, 2010), especially if student voice is viewed as disruptive (Diamond, Randolph, & Spillane, 2004). In addition, students from different cultures come to school with varying levels of ease in appropriating discursive science practices (Brown, 2006). Brown reported that ethnic minority students in high-poverty schools experienced a cultural disconnect with the language of science that they viewed as "only applicable to the classroom culture" (p. 121). To address African American and Latina girls' disaffiliation with science, Carlone, Haun-Frank, and Webb (2011) identified teachers' normative scientific practices of equitable participation structures, ways of thinking scientifically, and approaches to idea exchange that allowed students to view themselves as

“science people” and position them as collaborative producers and users of scientific knowledge (p. 480).

The conceptual framework used for this study was Palincsar, Anderson, and David’s (1993) social norms for science discourse as participatory behaviors appropriate for collaborative discussion. The norm, *contribute to the group’s efforts and help others contribute*, involves students’ sharing resources, discussing ideas, and assuming job responsibilities. Next, *support one’s ideas by giving reasons*, constitutes students’ giving evidence and examples of their ideas. The norm, *work to understand others’ ideas*, suggests students give peers time to think, ask clarifying questions, and restate others’ ideas to confirm understanding. Finally, *build on one another’s ideas*, involves students comparing ideas, acknowledging others’ ideas, and explaining reasons for disagreement.

The field of teacher planning has identified factors contributing to teachers’ pedagogical judgments including teachers’ beliefs, subject matter conceptions, instructional activities, grouping strategies, resources, and perceptions of students’ intellectual, participatory, and behavioral capacities (Shavelson & Stern, 1981). Inquiry into teacher planning for science instruction can illuminate a teacher’s awareness and promotion of social norms for scientific discourse.

## Methods

Case study methodology was used to examine one urban teacher’s planning for scientific discourse (Merriam, 1998). Case study design, employed for in-depth understanding of meaning made by individuals in a given context, is particularly suitable for examining decision-making in education (Yin, 1989). Two questions guided this case study: How did an elementary teacher in a high-poverty school plan to promote social norms for students’ scientific discourse? What factors challenged the teacher’s planning for scientific discourse?

## Participant and Context

Ann (pseudonym), a fourth grade White middle-class teacher, was selected purposefully from a larger study examining urban teachers’ beliefs, knowledge, and resources in planning for reform-based science. The teachers were chosen from eight urban elementary teachers identified by nomination/observation for implementing reform-based science (Patton, 2002). The researcher had no prior relationship with the teachers, schools, or districts. The decision to focus a case study on Ann’s planning for social norms of scientific discourse was based on observations that her students gave reasons for explanations and collaborated in evaluating each others’ ideas from science investigations. In contrast, students in the other classrooms reported findings without evaluation of claims.

Ann taught for 14 years in a Northeast urban district where 40.9% of the children lived in poverty. Her class of 23 students, 100% receiving free/reduced lunch, included 19 from the Dominican Republic, Puerto Rico, or Colombia; two White; one African American; and one Cape Verdean. Six students received learning support and two students were English language learners.

Ann’s district was on probation as “low performing” for not meeting state assessment goals in reading and math. Though state science test results were not considered for district proficiency, Ann’s district adopted an inquiry-based science curriculum and provided science

kits, consultant support, and professional development (PD). Five years earlier, Ann taught science from a textbook and lacked confidence in science content. To advance her science pedagogy, she participated in inquiry science workshops and Accountable Talk<sup>®</sup> PD, an evidence-based discourse approach (Michaels, O'Connor, Hall, & Resnick, 2010). She also sought mentoring in Responsive Classroom<sup>®</sup> practices for students' pro-social interactions (Charney, 1991).

### **Data Collection and Analysis**

The data sources included a one-hour initial interview; seven 45-minute interviews during her ten-week magnetism/electricity unit; two planning meetings with her White, middle-class colleague, Marie (pseudonym); planning documents including the science kit teacher guide, teacher plan book, and student worksheets; and interviews before and after two observed science lessons.

Data collection and analysis were an on-going process to follow leads and seek clarification of developing patterns (Merriam, 1998). Initially, data were coded based on Palincsar, Anderson, and David's (1993) social norms for scientific discourse to identify how Ann planned for their implementation. From a repeated review of the data using an open coding system, insights emerged about factors that promoted and challenged Ann's planning for scientific discourse (Erickson, 1986; Patton, 2002). To increase trustworthiness of the findings, two researchers unrelated to the project gave perspectives on emerging patterns during weekly discussions and Ann ascertained accuracy of interpretations from member-checking (Merriam, 1998).

### **Findings and Discussion**

To depict Ann's experience planning for students' incorporation of social norms in scientific discourse, results were reported using a narrative of Ann's planning for an electricity/magnetism unit (Connelly & Clandinin, 1988). Five themes emerged reflecting Ann's planning decisions and the challenges she faced: classroom climate of caring and respect, structure for social interaction, discourse strategies in the science classroom, time for discourse, and expectation of collaborative discourse.

#### **Classroom Climate of Caring and Respect**

Ann laid the groundwork for discourse during the first month. She noticed students "asking questions in their heads that they don't ask each other. I don't think they feel comfortable enough to say it to their classmates." Thus, from experience with Responsive Classroom<sup>®</sup>, Ann's initial plans involved establishing a safe classroom climate and sense of community (CRS, 2015).

"Beginning the year, we talk what it would be like in a group that's working cooperatively, what it would sound like, how we expect things to run in our classroom. We talk about family and how we would treat our family members. It's through modeling and conversations and buying into the classroom rules and respect. I don't tell them class rules. They create them."

Ann also planned for promoting student caring:

“I read this book, *Chrysanthemum*, about a girl mouse. When other mice make fun of her name, she gets a little tear in herself. We have this paper that we tear. So they understand, once something bad is said, even if we apologize, the person is never the same. So, they always bring up, ‘We shouldn't do this because they're never going to be the same.’”

During lessons, Ann prompted students, “We are here to help each other”--evidence of this planning focus.

One challenge in planning for a respectful classroom was the class composition each year. Ann explained,

“Last year, I had two strong personalities that led the group astray. This year, I have two children who struggle. If the two students are off, the other kids work hard to keep them going. They connect to each other.”

Ann's experience with Responsive Classroom<sup>®</sup> informed her planning for a collaborative, respectful climate as an essential first step before students could adopt social norms of *contributing to group efforts* or *helping others contribute* (Palincsar, Anderson, & David, 1993). Since many students were recent immigrants, Ann wanted them to feel safe in sharing ideas publicly. Her planning aligned with findings indicating that students engage more in discourse with explicit classroom expectations for pro-social interactions (Matsumura et al., 2008).

### **Structure for Social Interaction**

After establishing a foundation of trust, Ann planned structures for students' collaboration during investigations. She assigned students purposefully to “heterogeneous groups so they can carry each other” and each group could be “cohesive and a strong group together.” For example, she placed “struggling readers in strong science groups.” Yet, Ann also reassigned students if needs were not being met, particularly for English language learners.

“I have four kids in a group and one had all the knowledge about magnets. He's a limited English speaker. He's had a lot of exposure and great knowledge, but he's having a hard time following the language and completing inquiry tasks. It could be he doesn't feel confident because he's an English language learner. I don't know if the girls are bullying him. I need to realign that group.”

Ann's plans included replacing one student with “a quiet laid-back strong academic child. She knows a lot, but she's not pushy about it. He feels more confident asking questions. So it's a good fit for everyone.”

For constructivist learning in science, Ann recognized students needed to adopt the norm of listening to other's ideas; thus, she planned for students to practice active listening.

“Students have to be sitting in a way to listen to each other, not just listen to be respectful, but they have to listen so they are taking it in so they can either add on to what they are saying or disagree or agree with it.”

Yet, one student did not allow others to contribute: “The group is getting frustrated with her. She has a hard time slowing herself down and she wants to be the one doing all the inquiry.” Ann regrouped the student with peers who expected equal participation. In addition, she assigned student numbers “so people who get materials are not the first person who jumps out of their seat. I’m making decisions so the group works more cohesively.”

Ann’s planning was consistent with Osborne, Enduran, and Simon’s (2004) recommendation that a collaborative social context and explicit participation structures are needed to foster student discourse for scientific meaning-making. By grouping to maximize collaboration and providing practice in listening, Ann prepared students for the norm of *working to understand others’ ideas* (Palincsar, Anderson, & David, 1993). Also, through participation structures and neutralizing dominating speakers, Ann created a more equitable environment for student expression (Mercer et al., 2004).

### **Discourse Strategies in the Science Classroom**

Students conducted science investigations such as determining how to design single or multiple pathway circuits as well as how to create an electromagnet to pick up metal pieces. Ann’s view of students’ background knowledge influenced her planning for science discourse during these investigations: “It’s a poor Spanish speaking community. Many parents cannot read the materials we send in English...the kids don’t have exposure to this type of [science] vocabulary, so we have to focus on it.” Ann was cognizant that families faced financial struggles and; consequently, believed that parents had limited opportunities or resources to expose their children to science terminology used in school. Thus, Ann’s planning involved introducing vocabulary for use in their discussions: “In the beginning of the unit, you need to frontload a lot of knowledge. As they gain knowledge themselves, you can do less.” While Ann was reshaping her science teaching to include discourse for student’s collaborative meaning construction, she still made some decisions based on her perceptions of student deficits.

Limited human and material resources also challenged Ann’s planning. Since the district had “difficulty recruiting teachers” for Accountable Talk<sup>®</sup> PD, Ann did not have a collaborator in planning for scientific discourse. She only planned with her colleague, Marie, “about what we’re going to teach,” not “how we’re going to teach it.” Though the science kit teacher’s guide suggested how students could design science investigations and report results, there were no tips for student comparison and evaluation of findings (FOSS, 2005).

Yet, from Accountable Talk<sup>®</sup> PD, Ann learned “talk moves” such as explaining reasoning, restating another’s reasoning, and critiquing someone’s reasoning (Michaels et al., 2010). Since her students struggled with “making claims and getting evidence,” Ann modeled and established routines for providing evidence-based claims and discussing others’ ideas. For example, each student would draw his/her idea of a particular circuit, “set up the circuit in the group, and walk through it.” Next, group members used discourse norms “to ask questions and talk it through.” She explained, “My goal is they figure out why it does or doesn’t work and work off that.” She planned questions such as “How do you think that happens?” “What do you

think about his idea?” to prompt students to deepen their thinking, evaluate claims, and build upon others’ ideas.

Ann’s understanding of norms—*support ideas with reasons and evidence and understand, evaluate, or build upon others’ ideas* (Palincsar, Anderson, & David, 1993)—grew from Accountable Talk® PD. Her knowledge of active listening and “talk moves” informed her to adjust science kit directions for more scientific discourse. Given that elementary teachers typically rely on science teachers’ guides (Mulholland & Wallace, 2005), this finding suggests a need not only for teachers’ guides to scaffold for scientific discourse, but also for teachers to broaden their planning to include norms for students’ collaborative construction of scientific understanding.

### **Time for Discourse**

Though the district limited science lessons to 30 minutes, Ann made time for discourse. After investigations, Ann gave students “lag time to have real conversations and provide evidence and not rush through it.” She wanted students to practice collaborative science talk,

“My goal every week or every lesson is to have discussion in Accountable Talk®. I want to give them time to use the strategies in their small groups. They need to feel confident and say, ‘I think we should go this way and this is why.’”

Likewise, Ann planned for students to give each other time. When a boy from Cape Verde hesitated to express his ideas in English, she prompted students, “You need to listen to him. He has something you really want to know.” She understood that “he just needed time to express himself” so his ideas were not overlooked.

Since Ann’s district made insufficient progress on state assessments, teachers focused instruction on reading and mathematics, thus limiting science class time and student opportunities for scientific discourse—a common obstacle to science reform in urban districts (Goldston, 2005). Ann met this challenge by integrating Accountable Talk® in other subjects.

“I focused my whole math lesson on Accountable Talk® and I could see them jumping off of each other. I’m hoping that with more of it, they’re going to be able to do it without me saying, ‘What do you think? Why do you think that?’”

Ann understood students needed practice in evidence-based discourse and planned for cooperative group “talk moves” in all subjects so students could converse more effectively during the available science time.

### **Expectation of Collaborative Discourse**

An essential element in Ann’s planning was her *expectation* that students engage in scientific discourse. Her plans included prompting students routinely, “What you claim, you need evidence,” “Why do you think that?” Students’ circuitry conversations provided evidence of their meaning-making discourse, “Listen to him. He said all the ways it didn’t work and we only gave the ways it did work. I think his is better because he gave all the reasons it didn’t work

too.” Ann *expected* students to evaluate each other’s claims, “build off each other’s ideas,” and consider follow-up investigations to generate more accurate explanations.

However, some students with learning or language needs struggled with this expectation. Ann explained, “My big thing right now is that some kids are struggling [with discourse]. They're not causing a ruckus, but they're not getting what's going on either.” She addressed this issue through “peer modeling” and encouraging groups to give each other time to express ideas. For example, an English language learner “gets confused with what he’s saying” and one group member “slows down the discussion to give him time to express himself.”

Urban education literature indicates that students’ academic performance is linked to teachers’ expectations (Duncan-Andrade, 2007; Ladson-Billings, 1994). In research with low-income minority students, Diamond, Randolph, and Spillane (2004) reported that teacher’s expectations of and sense of responsibility for student outcomes impacted instructional decisions. Ann’s story shows how one teacher set expectations and planned for students to acquire science discourse practices.

### **Implications and Conclusion**

Developers of NGSS (2013) contend that equity in learning opportunities should be given priority in educational decision-making, particularly for students marginalized from limited economic, social, and educational resources. To prepare all students for informed citizenship, NGSS highlights the need for access to quality science education that includes participation in dialogic practices when constructing understanding in science. In support of extant research, this study’s findings showed how an urban teacher planned to build students’ capacity in reasoning and constructing evidence-based explanations in science by explicitly teaching discursive practices (Driver, Newton, & Osborne, 2000; Osborne, Enduran, & Simon, 2004).

The results provide insight into one teacher’s planning in a high-poverty urban school to develop students’ normative practices for scientific discourse. Though these findings are not generalizable to the wider urban education community, they may illuminate how a teacher planned for students’ dialogic sense-making of science despite pressure to focus on high-stakes subjects. Implications from this study for teachers, teacher educators, administrators, science kit developers, and PD providers include the need to consider the content and scaffolding for social norms and scientific discourse available from material and human resources to support teachers. Since Ann could not depend on curriculum materials or her teaching partner to grow her understanding of scientific discourse, she sought out resources for norms and discourse strategies. The study also suggests the need for research in approaches that support students who struggle with discourse. Given the NGSS vision that all students receive equitable opportunities to learn scientific practices for informed decision-making, it is vital to highlight efforts of teachers in urban schools who plan for building students’ capacity in evaluative, evidence-based discourse—skills needed for an educated citizenry.

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**TRANSFORMING THE SCHOOL REFORM AGENDA:  
A FRAMEWORK FOR INCLUDING STUDENT VOICE  
IN URBAN SCHOOL RENEWAL**

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**Abstract**

This article advances a framework for educators to create pathways to elicit students' diverse perspectives as qualitative data sources in the process of urban school renewal. Elements of the framework are discussed in conjunction with relevant research and findings from videotaped interviews with elementary (n = 144) and secondary (n = 28) students. Examples are shared through web links to two documentary short films co-produced by the authors that feature authentic student voices sharing their unique perspectives within urban public school contexts. Listening to students enables educators and other adults who work in urban schools to reflect on their beliefs and practices, and to engage students in organized public engagement and decision-making as members of school committees. If educators are to support the academic and affective development of all learners within a positive school culture, listening to students share their stories must be as important as analyzing quantitative measures such as standardized assessment results.

**Keywords:** student voice, qualitative methods, urban school renewal

*You know, students, teachers, and administrators, they are part of us as we work together in the school. So we all have to have the type of understanding of what we might say before we accomplish the work. –David, High School Senior*

David attended an urban public high school in the Midwestern United States when he shared his story as part of the documentary film project titled, *What Teens Love & Hate about School* that explored students' attitudes and learning experiences within urban high schools (Friend, Caruthers, & Riggs, 2011). The results of these interviews suggested that the students

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wanted “caring teachers who listen attentively, provide engaging learning opportunities, and who demonstrate high expectations for achievement” (Friend & Caruthers, 2012, p. 366). This use of film as a form of arts-based, qualitative inquiry (see Denzin & Lincoln, 2005; Friend & Militello, 2014) produced compelling insights into the students’ perceptions of teaching and learning practices, in addition to conveying their views about the culture and climate of their schools. Yet, the work of educational researchers and policymakers seeking to *reform* urban schools relies mainly on statistical data and hypotheses created by privileged outsiders (see Banks, 1998). Researchers use methods that “often fail to acknowledge the cultural assumptions that undergird the methodologies employed” (Blanchett & Zion, 2011, p. 24). Kytle and Bogotch (2014) identified five national reform models, including Accelerated Schools, Coalition of Essential Schools, Comer’s School Development Project, Effective Schools, and Success for All as widely used by educators. Yet, none of these address student voice as a significant element of school reform and as a qualitative data source, overlooking the affective link in school reform (Cook-Sather, 2006; Fletcher, 2005; Holfve-Sabel, 2006; Mitra & Gross, 2009; Rubin & Silva, 2003).

Hence, there is more to the story of urban schools, and the key to unlocking these stories is within the students who attend them. James (2007) argued that the illumination of the complexities of this process “enables illustration of the necessary and ongoing relationship between structure and agency, a core theoretical issue of sociological concern” (p. 267). In other words, “giving voice to children is not simply or only about letting children speak; it is about exploring the unique contribution to our understanding of and theorizing about the social world that children’s perspectives can provide” (p. 262) which points to a number of problems regarding practice. The first is authenticity raising such questions as: “What is the risk that children’s voices may be employed simply to confirm established prejudices rather than to present new insights based on children’s own perspectives as social actors” (p. 262)? The second highlights the danger of “glossing over the diversity of children’s own lives and experiences” (p. 262), failing to see their uniqueness as well as their collective experiences as children. Finally, “the whole question of ‘voice’ assumes, implicitly, children’s active collaboration in the research process; it positions them as participating subjects rather than as the objects of adult research” (p. 262); subjecting them to similar power dynamics reflected in contemporary research and the “researcher–researched relationship that has encouraged a greater politicization of the research process” (p. 262). Accompanying the complexities of student voice is the deficit approach that has characterized most urban schools.

Research and legislation focused on conventional school reform, turnaround schools, and at-risk students share a deficit approach that emphasizes what students cannot do and the background experiences they do not have. Urban school reform can be enacted as a “tool of oppression” that cites quantitative evidence, commonly referred to as achievement gaps, to “shape and control equity, voice and representation and to silence and marginalize some groups” (Cross, 2011, p. 44). In contrast, pedagogies such as culturally responsive teaching “improve the performance of underachieving students from various ethnic groups—one that teaches to and through personal and cultural strengths, their intellectual capabilities, and their prior accomplishments” (Gay, 2010, p. 26). Kohn (2004) supported a shift from a paradigm of school *reform* to one of school *renewal*, stating that “the status quo could use some serious reimagining” (p. xii). In this article we propose a framework for involving students’ voices in urban school renewal efforts, which requires valuing their cultural backgrounds and building upon the unique strengths they bring to school. This article will share voices of students like David to illustrate the

framework for adult-student interactions within the context of urban education renewal to listen to stories from the stakeholders with the most to gain or lose – the students.

## **Conceptual Framework**

### **Student Voice**

*You have to follow along with your teacher and you can't just do it on your own if you already know what you're doing. –Amy, Fifth-grade Student*

Listening to the students' experiences within classrooms and the broader school community provides insight into how instructional practices and the culture of the school are being received and interpreted. Amy's statement reflects her belief that she was not being taught at the appropriate level of difficulty; all students were expected to learn the same content at the same pace. Cook-Sather (2006) stated that, "student voice" as a term asks us to connect the sound of students speaking not only with those students experiencing meaningful, acknowledged presence but also with their having the power to influence analyses of, decisions about, and practices in schools" (p. 363). Faced with the technical tools of standards-based reform, educators find it difficult to "find the substantive theory, models, research, and resources needed to advocate for student voice" (Fletcher, 2005, p. 4); as a result, student empowerment and democratic practices within schools are greatly compromised. Oakes and Rogers (2007) further expand on the effects of technical and professional reforms in that "new rules, structures, and practices either 'fit' within the prevailing logics or they are not powerful enough to counter the multiple forces that maintain the unequal status quo" (p. 196). Such reforms result in problems that perpetuate "dominant cultural norms and politics of privilege that sustain structures of inequality both in and out of school" (p. 197).

Student voices are often cast within dominant power structures of schools that influence what students say and how it is heard. Blanchett and Zion (2011) stated that, "the ways that dominant narratives and the systems of power and privilege are instantiated, constrain the ability of marginalized groups to participate in the construction of knowledge" (p. 26). In overt and subtle ways, students' sense of agency is closely connected to their schools' institutional agendas, which supports the status quo of the existing norms of "institutional and cultural capital" (Robinson & Taylor, 2013, p. 43). In the above discussion, James's (2007) explanation of agency and structure highlights the influence of institutional structures that stifle student voice. Educators must be consciously aware of power dynamics between teachers and students and work to empower students in authentic ways. As Cook-Sather (2006) stated, "if students speak, adults must listen" (p. 367), which requires a cultural shift. Educators and policymakers who are used to being dominant must change their paradigms of power in order for students to exercise their own agency and experience liberation within school contexts. Pedagogical practices that engage students are essential to "re-imagining" (Kohen, 2004, p. xii) more democratic public schools through school renewal that prepares students for public engagement.

### **Engaging Student Voice for Public Interest**

Whether in terms of curriculum, pedagogy, or student behavior management, adults are accustomed to maintaining authority in schools. Many of the students interviewed by the authors

referred to their urban schools feeling like prisons with metal detectors, security guards, and restrictive policies for student activities during the school day. Mitra and Gross (2009) discussed issues of dominance among teachers and students:

Learning how to enable youth to share their opinion and participate in decision making is particularly challenging in school settings because teachers are used to being in control. Even in healthy school climates, the sharing of power with students can be perceived as threatening to teachers. (p. 537)

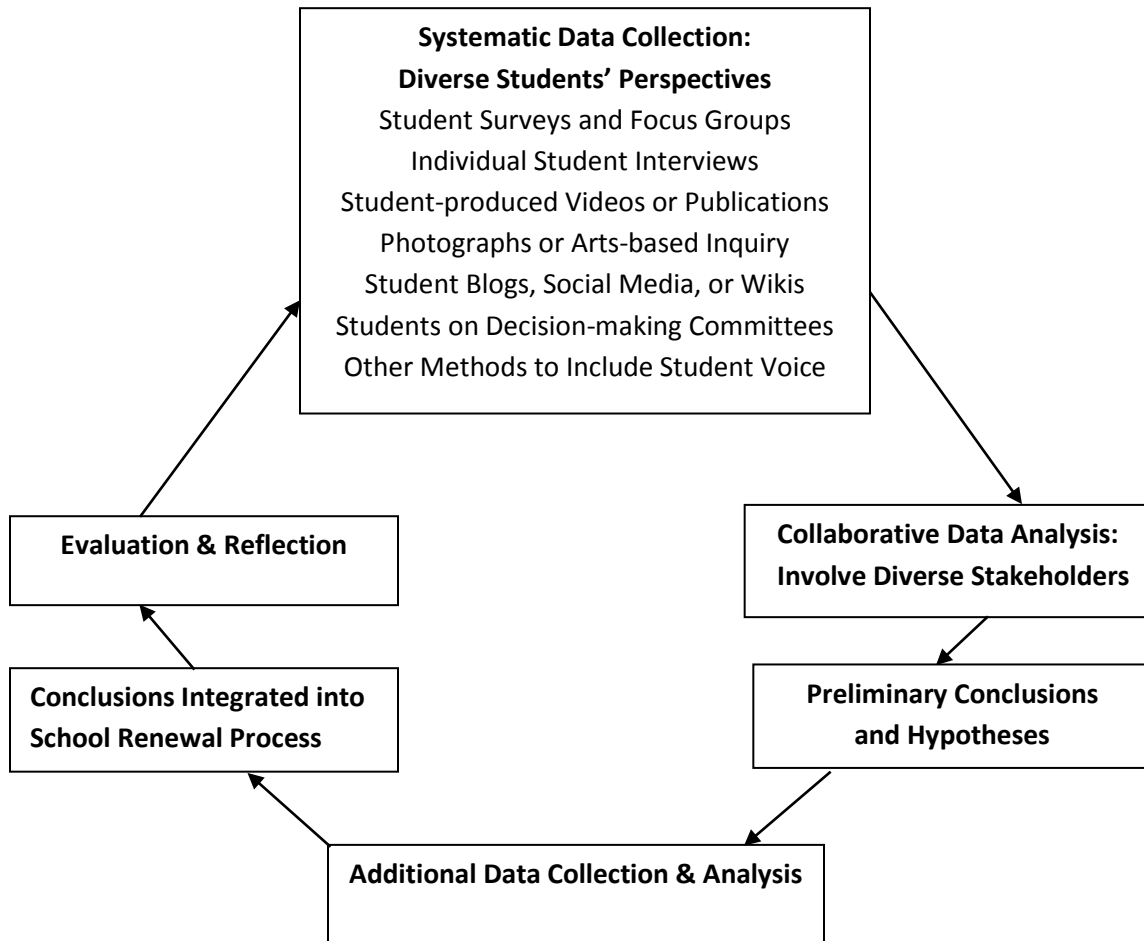
Sleeter (2014) raises the challenge of how to help teachers prepare students for citizenship and public engagement that lead to a multicultural democracy in a society that is becoming increasingly diverse. This mirrors Banks' (2006) views of the goals of multicultural education, "to teach students to know, to care, and to act to promote democracy in the public interest" (p. 145).

Drawing on the work of Dewey, Oakes and Rogers (2007) note the absence of a collective public sphere where people can come together to solve problems with the intent to confront deficit thinking and "politics of privilege" (p. 197) that continue to promote inequality. Oakes and Rogers suggest that organized activists are best to take on these challenges, which they describe as, "learning about power, exploring the power of learning, and leaning to be powerful" (p. 201). Anyon (2014) insisted that educators, who are trusted by community members, are in unique positions for "movement building in poor neighborhoods... and social activism" (p. 11) because "they are in close proximity to, and able to have continual contact with, community adults and youth" (p. 11). Using students' voices for participatory decision making and action will require that administrators, teachers, and other school staff become willing to share power and address difficult issues and controversy (Sleeter, 2014). Students' voices, coupled with teachers who help students understand the hegemonic discourses connected to the intersection of race and poverty, as well as action agendas for equitable outcomes contribute to more powerful renewal initiatives within schools (Cook-Sather, 2006; Fletcher, 2005; Kohn, 1993; Mitra, 2005; Robinson, & Taylor, 2013).

### **Framework for Including Student Voice**

The framework (see Figure 1) introduced in this article provides ways to think about opportunities for meaningful and effective inclusion of student voice in urban school renewal. Students' and educators' cultural backgrounds and lived experiences differ in terms of age, race / ethnicity, socio-economic status, gender, religion, language, ability / disability, sexual orientation, and more. The purpose of the framework is to suggest multiple pathways that enable diverse students in the school to share their unique voices, experiences, and ideas through ongoing, systematic processes. Our framework for student voice supports a shift from conventional reform that is embedded in deficit orientations to culturally sustaining pedagogical practices and democratic decision-making processes that empower students and build upon their strengths and diverse backgrounds (Gay, 2010; Ladson-Billings, 2014; Miller-Lachmann & Taylor, 1995; Paris & Alim, 2014; Scheurich & Skria, 2003; Williams, 2003). Culturally sustaining pedagogy "seeks to perpetuate and foster linguistic, literate, and cultural pluralism as part of the democratic project of schooling and as a needed response to demographic and social change" (Paris & Alim, 2014, p. 85). The framework is designed to serve as a flexible structure that underscores the

ways educators can foster students’ abilities to transform their passive roles as recipients of information to engage in dialogue and collaboration to actively generate new knowledge and powerful understandings related to issues of diversity and equity in urban education.



**Figure 1. Framework for Including Student Voice in Urban School Renewal**

**Systematic Data Collection: Diverse Students’ Perspectives**

The types of data that may be collected through implementation of the framework include the following sources of information: surveys, interviews, focus groups, visual and video projects, social media, and student participation in governance. Schools already maintain quantitative data such as student demographics, grades, attendance, discipline, graduation rates, and achievement results on local measures and nationally normed standardized assessments. The framework for including student voice suggests ways in which educators create pathways to seek

students' diverse perspectives as qualitative data sources in the school renewal process. 'Qualitative' data, as opposed to 'quantitative' data, enable investigators to understand the "phenomenon being explored" (Creswell, 2007, p. 3). In this case, the phenomenon involves understanding diverse students' learning experiences, attitudes toward schooling, cultural backgrounds, and personal development within unique school contexts. Power and Scott (2014) stated that "too many educational leaders become so narrowly focused on student achievement that they fail to consider that the ultimate aim of education should be the full development of the child" (p. 51). If educators are to effectively meet the academic and affective needs of all learners, then listening to students share their stories must be as important as analyzing the quantitative data. There is much that we can learn from our students.

### **Collaborative Data Analysis and Preliminary Conclusions**

The students' experiences and perspectives are sources of qualitative data that help to understand the quantitative data that are abundant in schools. A diverse group of school community members, including students, come together to make meaning of these data during review sessions. Such an approach raises the empowerment and ownership of participatory action research which encourages "joint collaboration within a mutually acceptable equitable framework to understand and/or solve organizational or community problems" (Patton, 2002, p. 183). Inviting students to be co-constructors of knowledge through participatory action research and data analysis supports democratic practices in urban school renewal, providing "practical ways to increase the meaningful participation of everyone involved in the educational experience, including parents, local residents, and especially students themselves" (Apple & Beane, 1995, p. 101). The diverse team members draw conclusions or make hypotheses based upon their review and discussion of the information that has been collected.

### **Additional Data Collection, Analysis, and Evaluation**

Once the data gathered with students have been analyzed by a diverse group of stakeholders, the group may decide to collect additional data such as conducting interviews or focus group sessions with students or having students create video projects that explore the initial conclusions or hypotheses. Any of these actions would result in additional qualitative data from the students' perspectives that could be analyzed by the group. This is also a critical point in the process for the stakeholder group to explore the literature and research findings that are available to inform the conversations and planning. Final conclusions are made based upon the insights provided by students, the analysis of the data, and relevant research that have been gathered to investigate topics associated with school renewal. The point is that in participatory action research, there are no surprises about the findings, because participants have been involved in the project from start to finish, even in the process of selecting the facilitator for the group (Wadsworth, 2006). As part of the framework to include students' voices, the regular evaluation and reflection of the process is important to assess the effectiveness of data collection, data analysis, and integration of school renewal goals with conclusions based upon students' perspectives and other available data sources. This assessment could be done by a school leadership team, or by an advisory committee comprised of diverse membership that includes adults and students with the responsibility for facilitating the evaluation and reflection related to the framework implementation. Administrators and teachers cannot "go where they have not



been; in other words, if educators have not experienced using their voices to interrupt and deconstruct their own praxis and reflect on its meaning, they are likely to enact hegemonic narratives that present barriers” (Caruthers & Friend, 2014, p. 12) to adult-student advocacy and inquiry. Educators have the power to transform oppressive practices in schools through engaging in participatory decision-making and culturally sustaining pedagogies that are inclusive of diverse students’ voices; such actions model similar expectations for helping students reflect on narratives that guide behaviors.

### **Methods: Applying the Framework to this Study**

Elements of the framework were applied by the authors during the production of two documentary films (see Table 1) that utilized narratological inquiry through videotaped interviews with elementary (N = 144) and secondary (N = 28) students, along with observations in Midwestern urban schools, to explore the ways in which student voice can contribute to reculturing and school renewal (see also Friend & Caruthers, 2009; Friend & Caruthers, 2012). Identification of the participants was accomplished through the purposive selection of three elementary schools and two high schools that provided, the “greatest opportunity to gather the most relevant data about the phenomenon under investigation” (Strauss & Corbin, 1990, p. 180). All students in grade levels approved by the school administration were invited to participate in the videotaped interviews through a letter and consent and media release form that was signed by the parents of the participants. Every student in each school site who returned the consent form was included in the interview process.

**Table 1**  
***Links to Documentary Film***

Elementary Student Documentary Film	What Kids Love and Hate About School <a href="http://vimeo.com/54523282">http://vimeo.com/54523282</a>
High School Student Documentary Film	What Teens Love and Hate About School <a href="http://vimeo.com/53853260">http://vimeo.com/53853260</a>

The major questions guiding the inquiry included: What do kids love about school? What do they hate about school? What changes would they make in their school? What do students want to say to teachers? Interview questions were crafted based upon language that could be readily comprehended by students. We asked questions that mirrored the overarching research questions but were contextualized according to the students’ unique perspectives. These were:

- What are things you like about school?
- What are some of the things you do not like about school?
- What would you change if you were in charge of the school?
- If you could talk to teachers, what would you say to them?

Semi-structured, contextualized interviews, that incorporated these four questions, produced a unique set of questions for each participant (DiCicco-Bloom & Crabtree, 2006; Merriam, 2009).

For example, when we asked about what things students liked about schools, contextualized questions were often structured to continue conversations related to an expressed perspective: What was it that you liked about . . . ? How did this make you feel? How did other students respond?

In addition to individual student interviews, qualitative data can be collected through focus group interviews, which occur in one session with a small group of students, where a facilitator poses a set of questions that prompts discussion that encourage all students to participate in a meaningful way. Patton (2002) stated that the focus group, “Is an interview. The twist is that, unlike a series of one-on-one interviews, in a focus group participants get to hear each other’s responses and to make additional comments beyond their own original responses as they hear what other people have to say” (p. 386). This group dynamic and the interaction among participants can be seen in some of the video clips of elementary students in the film where three students were simultaneously interviewed.

Digital video recording captured students’ voices as “stories about school,” which provided thick description for analysis and interpretation. We listened to students’ voices as a critical component for supporting urban school renewal and used a deconstruction process, “exposing a concept as ideological or culturally constructed rather than as natural or a simple reflection of reality” (Alcoff cited in Collins, 1990, p. 4). Thematic analysis supported our understanding of the data in context, providing a “broader interpretive framework that people use to make sense of everyday happenings/episodes, usually involving past-present-future linking” (Grbich, 2013, p. 221). The identified themes informed the video editing process to select representative clips for inclusion in each of the short documentary films, similar to the process employed to illuminate findings in text-based research articles using selected quotations from the participants’ contributions to the data.

### **Discussion and Implications**

*If I could talk with teachers, I would actually tell them to sometimes put their feet in our shoes, because they only see their perspective - not ours. –Isabella, Tenth-grade Student*

As Isabella expressed during her interview, students want to talk with teachers to share their perspectives. Power and Scott (2014) described the importance of sustaining the “delicate balance” between adults in positions of authority and students, stating that, “They must encourage students to feel a sense of ownership of the school while also challenging students to strive for the ideals of community” (p. 60). The ways in which adult-student interactions are framed matter to students, and “insincere gestures” may contribute to students withdrawing their participation and feeling alienated from the adults in school (Mitra & Gross, 2009, p. 536). Stories from students like Isabella illustrate the value of skills for adult-student advocacy and inquiry within the context of urban education renewal (Senge, Cambron-McCabe, Lucas, Smith, & Dutton, 2012). Since cultural patterns of behavior or often deep-rooted cultural predispositions are learned attitudes and behaviors that people may not realize they have (Manning & Baruth, 2004), we encourage adult and student conversations that allow both to inquire about the assumptions and thinking of others.

Educators, community members, and students might spend time with a trained facilitator learning advocacy and inquiry skills or ways of talking together. Senge, et al. (2012) suggest ways of balancing advocacy and inquiry so that all persons involved confront their own and others’ assumptions, reveal feelings, and build common ground. “The technique is simple to

describe: Balance advocacy for your view against inquiry into others' views. Lay out your reasoning and get others to challenge it" (p. 104). Practicing advocacy and inquiry through adult-student interactions should be done first with less sensitive topics before addressing the more difficult conversations.

A more sustained collaboration between adults and students can be developed when students partner with educators in school renewal efforts through their involvement in governance and membership on school committees (see Cook-Sather, 2007). Kirshner and Pozzoboni (2011) found that, "students, particularly students of color from low-income families, are often left out of policy decisions that affect their lives" (p. 1633) and that, "students do not want to be passive recipients of decision making by others" (p. 1651). Including students in decision making as members of school committees can be emancipatory, and the practice provides a dedicated "space for student voice work" and a regular "time within the school" for students' voices to be heard (Robinson & Taylor, 2007, p. 12). There must be sensitivity to the nature of this work listening to students' beliefs, attitudes, and meaning-making, particularly when a student shares an idea or suggestion that does not lead to desired changes. One such example from the documentary film involved a fourth-grade student who wanted to transform the basement of the school into a roller skating rink where students could go after they finished their work. While this wish could not be fulfilled, her desire to be more engaged in learning through an activity called 'rocket math' was communicated to the teachers to reinforce pedagogical practices that many students found motivating and that were correlated to improved mathematics achievement results. This same school also had an anti-bullying policy that was not working, according to the stories shared by students, which led to transformative conversations among students and educators to address pervasive bullying issues in their elementary school. While every idea cannot be implemented, every student's voice can be honored with the same respect afforded to educators and parents who advocate for school renewal initiatives that may or may not be realized.

### **Conclusion**

Educators are in a unique position for "movement building in poor neighborhoods. They are in close proximity to, and able to have continual contact with, community, adults, and youth" (Anyon, 2014, p. 11). The framework for including students' voices, coupled with advocacy and inquiry, is designed to operate on a continuous cycle, so that there is a regular system for collecting qualitative data from students using any of the methods that have been described. The framework also creates opportunities to equip students with the skills they need for public engagement. The facilitation of this process could be the responsibility of one standing committee, or may be done by several collaborative groups. Robinson & Taylor (2007) stated that, "listening to pupils itself is not sufficient, it is what happens with the information, what is done with it, that is also of great importance" (p. 14). The engagement of students in urban school renewal is central to 'doing something' with the insights and ideas contributed by students with diverse perspectives. The possibilities and potential of the framework for including students' voices are as diverse as the unique context and individuals who make up each school community. Establishing fundamentally different schools requires different ways of seeing and knowing, in addition to innovative ways of sharing and co-constructing knowledge, making the experience of previous excluded groups more visible and inclusive and putting them at the center of our thinking. This distinction is the major difference between reformed schools and renewed or transformed schools.

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## **IMPACT OF COLLABORATIVE PROJECT-BASED LEARNING ON SELF-EFFICACY OF URBAN MINORITY STUDENTS IN ENGINEERING**

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### **Abstract**

This paper presents an interdisciplinary research project that studies the impact of collaborative project-based learning (CPBL) on the development of self-efficacy of students from various ethnic groups in an undergraduate senior-level computer networking class. Grounded in social constructivist and situated theories of learning, the study provides an in-depth analysis of how individual learners' characteristics, the social aspects of learning, and the pedagogical components in CPBL interact to affect student learning in an urban academic setting. The findings of this study indicate that significant learning outcomes and higher perceived efficacy in engineering design were directly related to the project experience. Moreover, although Hispanic students started with lower domain-specific efficacy, they demonstrated the largest growth of self-efficacy through CPBL. While subsequent studies have been conducted to create a more generalizable description, the current study suggests several areas to improve the CPBL learning experience for underrepresented engineering students within the urban context of this study.

**Keywords:** urban students, engineering education, project-based learning, self-efficacy, situated cognition.

Recruiting and retaining students is a pressing challenge in engineering education. While we do see a gradual increase in undergraduate engineering enrollment in the past ten years, it is far from adequate to meet the demand of the fast-evolving engineering workforce. The attrition rate of students in engineering programs remains high. According to Grose (2012), the retention

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rate for U.S. engineering schools was about 56% and it could go as low as 30% in some schools. Moreover, minority students remain underrepresented in engineering majors. Factors that contribute to the high dropout rate, particularly for engineering students in urban settings, include low income, minority groups, first-generation college students, commuters, and campus social isolation (Anderson-Rowland, Urban, & Haag, 2000). To address these factors, various campus inclusive programs have been created to provide a sense of belonging for engineering students (e.g., Anderson-Rowland, Urban, & Haag, 2000; Anderson-Rowland, Urban, Ighodaro, & Muchinsky, 2002). While important efforts have been made to retain engineering students, we must simultaneously explore suitable pedagogical practices that address the learning needs of underrepresented groups in engineering.

Recently, many engineering educators have begun to incorporate project-based learning (PBL) to stimulate students' interest via real-world design practice. The incorporation of PBL has been found to have a positive impact on student learning (Hadim & Esche, 2002; Stojcevski & Fitrio, 2008; Dong & Warter-Perez, 2009). This line of research has focused on the effectiveness of using PBL in various engineering classrooms (e.g., Mills & Treagust, 2003; Martínez-Monés et al., 2005; Smith, Sheppard, Johnson, & Johnson, 2005; Cooper & Kotys-Schwartz, 2013; Mayer, 2013). In general, earlier literature (e.g., Mills & Treagust, 2003) considered PBL as an effective pedagogy to enhance student skills in solving complex engineering problems or designing practical systems, but less effective in providing rigorous understanding of engineering fundamentals. Recent studies (e.g., Mayer, 2013) indicated that a well-designed PBL process can help students achieve better knowledge and skill outcomes compared to the lecture-lab combo in traditional engineering education.

Currently, there are no existing guidelines on how to design an effective PBL process for undergraduate engineering classes, especially for educational disadvantaged students in urban settings. This paper presents the findings of an interdisciplinary research project that studies the impact of collaborative project-based learning (CPBL) on the development of self-efficacy of engineering students from various ethnic groups in an urban context. The findings allow us to begin to better understand minority engineering students' learning needs, which is crucial to the development of suitable pedagogical strategies to increase their success in engineering education.

### **Theoretical Perspectives**

Self-efficacy has been identified as an important factor that influences students' pursuit of education. Bandura (1994) defined self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives." Notably, beliefs of personal efficacy are domain-specific and can be fostered through mastery experiences, vicarious learning, and social persuasion. To better understand how domain-specific self-efficacy might be fostered within the context of this study, a broader social constructivist perspective based on situated learning and cognitive apprenticeship (Brown, Collins, & Duguid, 1989; Collins, Brown, & Holum, 1991) is considered below. Project-based learning (PBL), as a way to implement situated learning, is also discussed.

Proponents of situated learning theory do not agree with the separation between "knowing" and "doing" by suggesting that learning should be situated in the context where the knowledge is applied. They regard knowledge as a product of the activity and context in which it is produced—if the goal of learning is to gain useable, robust knowledge (Brown, Collins, & Duguid, 1989; Brown & Duguid, 1996). Learning that occurs in authentic context is conceived



as a process of “enculturation,” in which the learners learn to use knowledge as tools as they develop an understanding of the rules and culture rooted in the actual practice of a profession. This process can be guided by “cognitive apprenticeship,” which is a means of learning-by-doing where the thinking process underlying complex, problem-solving skills is made visible through teaching methods such as modeling, coaching, scaffolding, articulation, and reflection.

The “learning as enculturation” metaphor suggests learning as demand driven, identify formation, and a social act within a rich cultural and social context (Brown & Duguid, 2000; Hung, 2001). It emphasizes collaboration, social construction of knowledge, using knowledge as cultural tools, and learning as active appropriation of the beliefs and behaviors of the culture in which the knowledge is used. Herrington and Oliver (2000) identified the following critical elements of situated learning: 1) authentic contexts, 2) authentic activities, 3) access to expert performances and modeling, 4) multiple roles and perspectives, 5) collaborative construction of knowledge, 6) reflection, 7) articulation, and 8) coaching and scaffolding.

Project-based learning (PBL) provides a feasible way to incorporate situated learning in the classroom. The Buck Institute for Education (2003) defined PBL as “a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks” (p. 4). A review of literature shows that PBL can promote higher-level of cognitive development (Newell, 2003), and enable students to learn a wide range of skill sets such as research, organization, project/time management, communication, presentation, and metacognitive skills. Students in PBL environments have been found to be highly engaging, and the development of social skills is also evident (McGrath, 2003). More significantly, when students are empowered as a “knowledge designer” in PBL, they are able to re-evaluate their own beliefs about themselves as learners (Chen & McGrath, 2003; Chen & Chen, 2007). This important finding becomes even more significant for students who do not do well in the traditional learning environment. For them, PBL provides an alternative learning method to put them “in a better position to function as a learner” (Perkins, 1996, p. viii).

This study was the first of a series of studies devoted to understand the impact of PBL on the development of self-efficacy of minority engineering students in an urban setting. An exploratory case study was conducted in an undergraduate senior-level computer networking class at a public urban university with a predominately minority student population. A Collaborative Project Based Learning (CPBL) model developed by Dong and Warter-Perez (2009) was adopted to address the specific learning needs of under-prepared minority students within the urban context of this study. The CPBL model has been implemented in several engineering courses and positive impact on student learning has been reported (Dong & Warter-Perez, 2007; 2009; 2010; Guo & Dong, 2011). This study sought to answer “why it worked” through the theoretical lens of situated learning. Currently, there is a lack of research focusing on engineering education in urban environments. Thus, this exploratory case study was conducted to investigate little understood phenomena so as to identify important variables for future research (Marshall & Rossman, 2010). The research project was guided by this key question: “How did various learning components in CPBL model affect the development of self-efficacy of urban minority students?”

## Methods

### The Urban Context

This study was conducted at a state university located in the urban city of Los Angeles. As a minority-serving institution, the university's student body comprises of approximately 53% Hispanic, 22% Asian-American, 15.6% White, 9% African-American, and 0.4% American Indian. As many students come from socioeconomically disadvantaged communities, they encounter significant learning barriers that prevent them from achieving their academic goals. Similar to the high dropout rate of engineering students reported in the literature, the institutional research revealed that almost 50% of the students who began their study in engineering eventually dropped out or changed their major. So far there are no reports of rigorous research on campus that study the factors associated with this high dropout rate. Informal observations made by the engineering faculty suggested the following reasons:

- 1) Many students are first generation college students, less encouragement and guidance from their parents poses an obstacle for them to persist in their educational pursuits.
- 2) Many students have a low sense of confidence with respect to scientific and technological careers requiring quantitative skills. They usually do not ask questions or respond to instructors' questions to avoid public attention in class. The isolated learning environment and high peer-competition in the traditional engineering classroom are seen by the students as two "scary factors" that tend to drive them away.
- 3) Many students come from low-income families and need to work to support themselves through their college education. An estimated 70% of the students work 30 or more hours per week; they are limited in their time and energy to engage in intensive coursework.

### Participants and CPBL Structure

Fifteen students enrolled in an undergraduate computer networking course in spring 2013 were the primary participants in this research. As the primary research participants, these students provided both pretest and posttest data presented in the results section of this paper. All primary participants were male students. Seventy-three percent of these students were seniors and 27% were graduate students. Five of the participants identified as Hispanic (33%), and 10 identified as non-Hispanic (6 Asian Americans and 4 Caucasians). All participants were U.S. Citizen/legal residents. Additionally, descriptive data obtained from 13 other students enrolled in the same course were included to provide a rich account of student perspectives. These students (10 males and 3 females) included 10 international students, 2 Hispanic students, and 1 Asian American student. In total, 28 students participated in this study.

The course integrated the CPBL model, which utilizes a series of small scope collaborative projects to build up students' competence to deal with open-ended design challenges in designing large-scale systems. In total, five projects were developed and implemented, including three small scope in-class projects, one medium scope after-class project, and one large scope term project. The small scope projects were designed to inspire students' interest in learning new theories, to reinforce theories with design examples, and to guide students through the design process. The project sequence allowed students to build up their design skills progressively, and gain sufficient knowledge and skills to tackle the authentic,

ill-defined design scenarios presented in the term project. Students completed the series of projects over the course of 10 weeks.

### **Data Sources and Analysis**

This study is an exploratory case study (Yin, 2003) framed as a single case with ten project teams as embedded cases. The data collection of this study followed the three principles suggested by Yin: using multiple sources of evidence, creating a case study database, and establishing a chain of evidence. To develop converging lines of inquiry, our study utilized the following data sources: 1) pre and post surveys, 2) team collaboration survey, 3) formal and informal interviews, and 4) participant observation. A pre-survey was administrated at the beginning of the course to measure students' baseline knowledge and skills related to the primary learning outcomes of the course. These knowledge and skills were critical for the students to meet the demands of the professional career in computer engineering. The pre-survey also included items to measure students' general and domain-specific (engineering) self-efficacy. Team collaboration survey was administrated electronically in the middle of the course. At the end of the course, students completed a post-survey which included additional items to measure their project experiences with respect to the critical elements of situated learning. Observations and informal interviews with course participants were carried out throughout the research period by the research assistant. In-depth interviews with the instructor, two teaching assistants, and a sample of students ( $n = 6$ ) were conducted at the end of the course to verify data and interpretations obtained from other methods.

All data sources were collected and organized into a case file for each project team. Data analysis involved the procedures recommended by Creswell and Plano Clark (2011): preparing the data for analysis, exploring the data, analyzing the data, representing the data analysis, and interpreting the results. HyperRESEARCH was used for qualitative data analysis, which involved coding the data based on categories from the literature (e.g., Herrington and Oliver's critical elements of situated learning) as well as codes that emerged from the data, assigning labels to codes, grouping codes into themes, and linking interrelated themes. Quantitative data analysis involved the computation of independent samples t-tests and dependent samples t-test to compare students' pre and post self-assessment ratings of knowledge of networking concepts and self-efficacy on content specific skills. Various data sources allowed the researchers to triangulate observations and interpretations of findings. Member checking was employed in the form of ongoing discussions and clarifications among the researchers and teaching/research assistants throughout the research period.

### **Findings and Interpretations**

Data analysis yielded interesting results regarding the relationship between CPBL pedagogy and the change of domain-specific efficacy across different student groups. Overall, students reported a high level of general and engineering self-efficacy at the start of the course. However, Hispanic students consistently exhibited a lower level of self-efficacy compared to non-Hispanics. To get a closer look into the differences among primary research participants, independent samples t-tests were computed to compare Hispanic students ( $n = 5$ ) to non-Hispanic students ( $n = 10$ ). Although there were no statistically significant differences between the groups, Hispanic students rated their knowledge of networking concepts and content specific

skills consistently lower on the pretest. For example, as shown in Table 1 and Table 2, Hispanic students rated their knowledge of "network simulation" (1.40 vs. 2.40), "network performance analysis" (1.80 vs. 2.50), "knowledge of Automatic Repeat reQuest" (1.20 vs. 2.40), "ability to analyze the network performance using simulations" (2.20 vs. 3.10), "ability to use OPNET to explore and learn new network protocols" (1.80 vs. 3.00) lower than other non-Hispanic students. By the time of the posttest assessment, however, these differences were not evident. Hispanic students' posttest ratings were very similar and in some cases higher than those of non-Hispanic students.

**Table 1**

**Knowledge outcomes: overall response from primary research participants: non-Hispanic students vs. Hispanic students**

Knowledge Outcome Index	Non-Hispanic Students (n = 10)				Hispanic Students (n = 5)			
	Pre	Post	D	t	Pre	Post	D	t
Computer network design process	2.80	4.10	1.30	2.75*	2.00	4.00	2.00	6.32**
Network simulation+	2.40	4.10	1.70	<b>3.43**</b>	1.40	4.20	2.80	<b>7.48**</b>
Network performance analysis+	2.50	4.20	1.70	<b>3.79**</b>	1.80	4.20	2.40	<b>4.71**</b>
Data communication model	2.90	3.90	1.00	2.12	2.00	3.80	1.80	3.65*
Layered network architecture (OSI and TCP/IP model)	2.60	4.20	1.60	2.95*	1.80	3.80	2.00	3.65*
Various data encoding technologies (NRI, Manchester coding)	1.80	4.80	3.00	7.61***	1.20	4.20	3.00	9.49***
Network topology (bus, star, etc.) +	2.80	4.40	1.60	<b>4.31**</b>	2.00	4.20	2.20	<b>2.99*</b>
Knowledge of Automatic Repeat reQuest+	2.40	4.00	1.60	<b>4.71***</b>	1.20	3.60	2.40	<b>6.00**</b>
Knowledge of Ethernet	3.30	4.20	0.90	2.21	2.20	3.80	1.60	6.53**
How to build and extent a LAN using bridge+	2.56	3.89	1.33	<b>3.02*</b>	2.00	4.40	2.40	<b>4.71**</b>
Knowledge of CSMA/CD+	2.60	3.80	1.20	<b>2.25</b>	1.00	3.80	2.80	<b>14.00***</b>

*Note.* Range of responses: 1 (None) to 5 (Expert); items with + are directly related to projects; D = Difference.  
\*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ .

Comparison between the pre and post survey results indicated a significant increase of students' self-efficacy in almost all learning outcomes. The dependent samples t-test revealed statistically significant differences between students' pretest and posttest ratings of networking

concepts and content specific skills, especially on those items directly related to the project experience. In Tables 1 and 2, outcomes labeled with ‘+’ are directly related to CPBL experience. It is clear that most of the top-ranked significant growths of knowledge and skills were directly related to the course projects regardless of the students’ ethnic groups; while the growths of knowledge and skills that are not related to CPBL were either smaller or non-significant.

**Table 2**

**Skill outcomes: overall response from primary research participants: non-Hispanic students vs. Hispanic students**

Skill Outcome Index	Non-Hispanic Students ( <i>n</i> = 10)				Hispanic Students ( <i>n</i> = 5)			
	<i>Pre</i>	<i>Post</i>	<i>D</i>	<i>t</i>	<i>Pre</i>	<i>Post</i>	<i>D</i>	<i>t</i>
Ability to identify user needs and define specifications to design a network system.	3.10	4.10	1.00	2.24	3.20	4.20	1.00	<b>3.16*</b>
Ability design a network scenario in OPNET+	2.80	4.30	1.50	<b>4.88***</b>	2.20	4.60	2.40	<b>4.71**</b>
Ability to analyze the network performance using simulations+	3.10	4.50	1.40	<b>3.77**</b>	2.20	4.80	2.60	<b>5.10**</b>
Ability to optimize network design based on realistic constraints using OPNET+	2.80	4.00	1.20	<b>3.67**</b>	2.00	4.40	2.40	<b>6.00**</b>
Ability to use OPNET to explore and learn new network protocols+	3.00	4.30	1.30	<b>3.54**</b>	1.80	4.60	2.80	<b>3.81*</b>

*Note.* Range of Responses: 1 (Strongly Disagree) to 5 (Strongly Agree); items with + are directly related to projects; D = Difference.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ .

An in-depth look into the pre and post survey data also revealed some interesting findings about how students from different ethnic backgrounds responded to CPBL model. Regarding students’ knowledge of networking concepts, the ratings on all items were significantly higher on the posttest for Hispanic students, while the differences between pre- and post-test ratings of non-Hispanic students on some of the items were not significantly different. Regarding students’ self-efficacy on content specific skills, both Hispanic students and non-Hispanic students’ pre- and post-test ratings were significantly different on the four items directly related to the project experience (see Table 2). In addition, Hispanic students’ posttest ratings on “Ability to identify user needs and define specifications to design a network system” were significantly higher than their pretest ratings, while non-Hispanic students’ pre- and post-test ratings on this item were not significantly different.

Qualitative results supported the quantitative findings in that the students reported the development of greater level of domain-specific self-efficacy (as opposed to general self-efficacy) related to the course subject and engineering design. They also reported the development of self-efficacy in people skills. Several themes emerged from the data suggested that a high level of student engagement was linked to the social characteristics of the learning environment based on situated learning and cognitive apprenticeship (Brown, Collins, & Duguid, 1989; Herrington & Oliver, 2000; Collins, Brown, & Holum, 1991). Below is a summary of major themes supported by examples of student comments:

***Developing domain-specific self-efficacy in authentic context.*** Students found the authentic project experience useful and engaging due to the real-world application of practical skills that directly benefit their future career. The term project was most liked by the students due to its open-ended nature. The constructive, recursive, and social process of the project design experience (Ehrmann & Balestri, 1992) appeared to help them “boost their confidence” as future engineers. Examples of student comments include:

- *I felt like this project, the skills we gained in this project...by testing and running different designs, I felt like we learned a lot about engineering designs.*
- *You can see what type of networks are being used like at home or office, the things that we learned in class while other engineering classes are very theoretical you don't see the applications in the real world.*
- *I think in engineering classes when you learn an engineering concept you don't really know what it can be used for, or even though you know what it can be used for you don't know what it actually looks like so I think it's a very good practice for you to actually experiment with it and see how it works out.*
- *I think you get to see the design that you build and see how effective it can be so you can actually see the application of the materials you learned, so it's not just theories, you can actually test and simulate and see how well the results are or how bad they are.*

***Learning from multiple perspectives and design scenarios.*** Students enjoyed working with people from different backgrounds and found it beneficial to learn from other's perspectives as they tested out different design scenarios with group members. Examples of student comments include:

- *The way that people approach doing the work is very different but ended helping me out.*
- *...for this whole experience in working in OPNET and working in groups, I felt like we actually solve the issues by finding and researching the different scenarios and designing them with different factors and scenarios and seeing what's the most optimal way of designing it. I felt like this project, the skills we gained in this project, engineering projects, like by testing and running different designs, I felt like we learned a lot about engineering designs.*
- *We used OPNET to implement different designs. We've seen the benefits and drawbacks. We were able to find the most interesting design and implement it. So I think that's the most important in this class. It was enjoyable to me.*
- *...it offers different perspectives on different projects. For example on the term project, we had the network design on the simulation, we each had an input and we came up with*

*all the elements and a lot of things were like my other group member would come up with something that never occurred to me, like separating traffic.*

***Collaborating through social support.*** A high level of student engagement was reported across different ethnic groups, due in large part to the teamwork and peer support elements in CPBL. Examples of student comments include:

- *We encourage each other and inspiring each other, which help us to work hard on the course or project.*
- *Well, I enjoyed working with my team for several reasons. First reason is that we actually ate together, lunch, and in other classes you don't really do this. You don't really sit down and get to know each other. I think I can learn each other's strengths and weaknesses and in other class, we don't really do that.*
- *I totally engaged in the activities that I did and fully participate even when I was behind, and I asked my group partners if they can show me the ropes...*

***Gaining communication and people skills.*** A higher level of self-confidence in students' people skills was also reported. Students indicated that the teamwork experience in CPBL not only enhanced their interpersonal skills, but also made them realize the importance of having this skill set for their future engineering career. Examples of student comments include:

- *The most important thing is working in a group. You have to have really good people skills and communication skills...because [in] engineering you have to have a lot of people skills. If you cannot cooperate with others to accomplish a goal or an objective then you're not going to be successful in engineering.*
- *I think it has boosted my confidence. It helped me work in groups. I am a bit shy person in terms of working with others. It's hard to get to know others and get to know them and work with them.*

***Engaging in deeper learning.*** Qualitative data obtained from different sources suggested that the learning environment encouraged a more active and deeper approach to learning. Students reported that the projects were well designed and useful to deepen their understanding, as evident in the following excerpt:

*You have a theory you have a prediction how something is going to turn out and you start looking at your data and you see how this is totally opposite of what I thought and you analyze your data even more and you go whoa, wait a second there are a couple of connections here and you look deeper and deeper and you sort of see how it works in different situations and it is actually very, very complicated. When you design a network, you have probability base and a little change to cause a big change for network and a lot of sub-nets for your network. And you can try to make sense of all of it but you have to analyze all the data and things in small simple steps in the things that you made to understand what's going on.*

This deeper level of learning was also noted by the TAs and the professor:

- TA#2—*I think they enjoyed it. I mean some of the teams, designs they created this quarter were pretty out of the box type of things. I guess they wanted to test all sort of designs to see how the network would be able to handle it.*
- Professor—*“[Students] generally go beyond the minimum standards...Many teams were able to think about advanced factors like security issues, for instance, and some of the teams were able to think about liability or reliability issues. Instead of just creating the network that supports different applications, they were able to think about how to provide a more reliable service to different groups of users.”*

**Challenges.** While teamwork seemed to foster a high level of student motivation and a sense of responsibility for some groups to go “above and beyond” the project requirements, it also created challenges such as scheduling conflicts, uneven distribution of workload, and dealing with disagreements among group members. Time constraint was recurrently reported as the most challenging factor in CPBL, especially for students who needed to juggle between work and a heavy course load. Factors like gender, ethnicity, and socioeconomic status were found to have little influence on individual students’ engagement, while team dynamics appeared to play an important role in this regard. Although both positive and negative group dynamics were observed, most students still preferred learning in groups.

### Discussion

Our analysis revealed that several factors associated with the social elements of situated learning were positively related to the students' learning and development of engineering efficacy. These factors include authentic activities, multiple perspectives, social support, and collaborative construction of knowledge. The real-world application of theory, the opportunity to explore and practice design skills, and peer learning were regarded by the students as the most valuable aspects of the project experience. The most significant learning outcomes in the students’ knowledge of networking concepts and self-efficacy on content specific skills were found to be directly related to the project experience. This result is consistent with our multi-year assessment findings since 2010. More significantly, although Hispanic students started with lower domain-specific efficacy, they demonstrated the largest growth of self-efficacy through CPBL. By the end of the course, their learning outcomes and self-efficacy on content specific skills were comparable or even higher than non-Hispanic students.

Two aspects of the learning environment were found to be conducive to the development of engineering efficacy for the students within the context of this study. First, the situated and open-ended nature of the project experience was intrinsically motivating to the students by engaging them in the constructive and recursive process of design (Ehrmann & Balestri, 1992). Second, the social aspect of learning and peer support often functioned as a driving force pressing student participation. Peer discussion was essential for the students to evaluate the quality of their own work, which contributed to the development of content-specific efficacy as well as important interpersonal skills. Data obtained from classroom observations and informal interviews further indicated that the social characteristics of the learning environment were particularly beneficial to minority (Hispanic) students. However, this observation will need to be verified by future studies.

The findings of this study support the results of previous studies pertaining to the positive effects of PBL on student motivation (McGrath et al., 1996/1997; Monahan & Susong, 1996;



Scheidler, 1993; Liu & Rutledge, 1997). Similar to the work of Cooper and Kotys-Schwartz (2013), this study focused on the importance of “designing the design experience” for engineering students. We have found several areas that can be improved in the current CPBL model, including providing more opportunities for student reflection and articulation, and enhancing the conditions that foster students’ acquisition of interpersonal skills and group processing (Kirschner, Jochems, & Kreijns, 2005).

### **Conclusion**

This paper presents an exploratory case study to analyze the impact of CPBL pedagogical components on different student groups in an undergraduate senior-level engineering class. Grounded in situated learning framework, this study highlighted several critical factors that positively impacted students' motivation which leads to a better retention rate. In particular, the positive results on Hispanic students’ development of self-efficacy are promising and warrant further investigation of the effectiveness of using CPBL to engage minority student groups in urban settings. As an exploratory single-case study with a small sample size, however, the study results are limited to analytic generalization as opposed to statistical generalization (Yin, 2003). To create a more generalizable description, we have implemented CPBL in several other engineering courses. This will allow us to perform a multiple-case analysis to increase the power of analytic generalization. As the first step in our series of studies, the current study allowed us to gain a better understanding of the learning needs of minority students within our urban context. With a better understanding of how students respond to various elements in CPBL, we can re-examine the pedagogical model and enhance the instructional system based on cognitive apprenticeship and its four building blocks: content, method, sequence, and sociology (Collins, Brown, & Holum, 1991). In the next stage of our research, we will continue to investigate students’ perceptions of their engineering efficacy in the CPBL environment. More specifically, our research will focus on three areas: 1) course related knowledge and skill outcomes, 2) engineering efficacy in relation to situated learning, and 3) student engagement (deep vs. surface learning) and team dynamics. As higher efficacy is related to the use of self-regulated learning skills, we will examine students’ use of self-regulated learning strategies in relation to the characteristics of the learning environment. Some tentative research questions include: How do various CPBL and cognitive apprenticeship components affect students’ way of approaching the learning tasks (i.e., use of surface approach vs. deep approach vs. strategic approach)? How do various CPBL and cognitive apprenticeship components affect different student groups and their approaches to learning? Finally, we expect to develop general guidelines for designing an effective instructional system based on CPBL to enhance student success in engineering at urban schools.

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## SHIFTING LEAST RESTRICTIVE ENVIRONMENTS IN A LARGE URBAN SCHOOL DISTRICT

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### Abstract

This study examined the efforts of one large urban school district to implement support to schools in increasing their rates of students being served in inclusive settings. The authors evaluate a process whereby the district used a self-created *LRE/Achievement at a Glance Tool* to measure programs, services, and learner outcomes for students with disabilities, and provide specific recommendations and supports to administrative teams in targeted schools. Results indicate statistically significant increases in the number of students who were fully included as well as statistically significant increases in average time students with disabilities spent with their nondisabled peers. Math and reading proficiency levels for students with and without disabilities are also reported. Implications for best practices in supporting inclusion in urban districts are examined, such as the importance of documenting and examining inclusive practices and further training for educators and administrators in ethical principles and practice.

**Keywords:** inclusive practices, school reform, compliance, students with disabilities

Schools, particularly in urban settings, continue to struggle with how or where to best educate students with disabilities. In 1975, the Education of all Handicapped Children Act (later renamed the Individual with Disabilities Education Act; IDEA) introduced the concept of instructing students in the least restrictive environment (LRE), mandating that students with disabilities be educated, to the maximum extent possible, alongside the general student population. The notion of LRE is that the environment is determined as appropriate on a student-by-student basis (Koegel, Matos-Freden, Lang, & Koegel, 2012; Wehmeyer, Lattin, & Agran, 2001). Arguably, this component of IDEA has had the most influence on students with disabilities being included in general education settings (Dybvik, 2004; Itokonen, 2007). Yell and Katsiyannis (2004) and Koegel et al. remind us that placement decisions should not be based on severity of disability, disability label, availability of educational or related services within a particular setting, availability of space, or administrative suitability; all are illegitimate reasons for choosing placement.

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However, mere placement in general education setting is only part of the concern. IDEA (2004) mandates that students with disabilities, regardless of placement, have access to the same curriculum and standards based instruction that their nondisabled peers receive. The purpose of this mandate is to ensure that students with disabilities have access to a demanding curriculum, are held to high expectations, and are not excluded from accountability measures stemming from school reform (Wehmeyer, Lattin, Lapp-Rincker, & Agran, 2003). As a result of this legislation, we have seen an increase in inclusive practices and a decrease in the use of separate educational models (Osgood, 2005; Ryndak, Taub, Jorgensen, Gonsier-Gerdin, Arndt, Sauer & Allcock, 2014). In fact, nationally, the inclusion rate has increased to 61% of all students with disabilities spending at least 80% of their time with their nondisabled peers (United States Department of Education [USDOE] National Center for Education Statistics [NCES], 2013). However, in urban districts, the shift towards inclusion often lags behind the national averages. For example, the district discussed in this paper had an inclusion rate of 50% for 2013. The district's population is significantly diverse with approximately 67% of the population being Hispanic, 23% being Black-non-Hispanic, and 8% being White non-Hispanic. Instructional staff in this large urban setting is made up of approximately 23% White non-Hispanic 26%, Black-non-Hispanic, 49%, Hispanic, and 1.8% Other.

### **Inclusive Practices in Urban Settings**

Although inclusion research has suggested that access to the general education curriculum through inclusive programs has several potential educational and social benefits, lower academic achievement among students with disabilities and those from culturally and linguistically diverse backgrounds persists in the era of inclusion as measured by performance on state tests (Barrocas & Cramer, 2014). Culturally and linguistically diverse students with disabilities are often excluded from the general education classroom (Koegel et al., 2012; Reid & Knight, 2006) or do not receive educational equity within the general education setting (Artiles, Bal, Trent, & Thorius, 2012) where poor urban children spend significantly less time directly engaged in academic learning than do their suburban counterparts (Artiles, 2015), thereby leaving students with a lack of access to the necessary supports and services that would level the playing field and potentially provide equitable educational opportunities.

Specific learning disabilities (SLD), the most common disability label, has shifted in demographics from primarily White students to students from culturally and linguistically diverse background (Carlson et al., 2003). For students with SLD in urban settings, their education is likely to take place in more restrictive environments than their suburban peers. This suggests that the amount of time a student with a disability spends in the general education setting is highly correlated to the student's race (Ferri & Connor, 2005). Culturally and linguistically diverse students with disabilities are overrepresented in more restrictive educational environments (Skiba, Poloni-Staudinger, Gallini, Simmons, & Feggins-Azziz, 2006), suggesting that students with disabilities who are also culturally and linguistically diverse are more likely to be served in separate settings or in high poverty, low-quality schools that don't effectively address considerations such as race, ethnicity, culture, language, or disability (Blanchett, Klingner, & Harry, 2009; Kozleski & Waitoller, 2010).

### Conceptual Framework

In order to design a comprehensive school reform approach that facilitates optimum learning for all students, regardless of any risk factor, Frattura and Capper (2006) developed an integrated comprehensive services model that includes four components: (a) focusing on equity, (b) establishing equitable structures, (c) implementing change, and (d) providing access to high-quality teaching and learning. The goal of this model is to prevent student failure, and this is accomplished by building teacher capacity to reach the diversity of students, a need that is essential for large urban settings (Kozleski & Waitoller, 2010). In addition, to providing comprehensive school reform, the reauthorization of the Individuals with Disabilities Education Act (IDEA, 2004) resulted in the USDOE, Office of Special Education and Rehabilitative Services (OSERS) establishing a new accountability framework, using quantifiable indicators related to student outcomes, to monitor states, and the states to monitor the local education agencies (LEAs) implementation of a free appropriate public education (FAPE). Under the revised accountability system, also known as Results-Driven Accountability (RDA; USDOE Office of Special Education Programs [OSEP], 2015a), the emphasis shifts from mere compliance to a framework of improving results for students with disabilities. These improved results for students with disabilities are to be demonstrated via student outcomes in areas such as assessments, graduation rates, and early childhood outcomes. As part of the current accountability system, states are required to submit a State Performance Plan/Annual Performance Report to the USDOE identifying targeted performance for specific indicators (e.g., time with non-disabled peers; achievement in reading and mathematics) related to learner outcomes.

Along this vein, in reforming the service delivery model in one large urban district in order to address the indicators on the State Performance Plan, particularly those indicators that address inclusion (defined in this state as students with disabilities spending 80 % or more of the time with their non-disabled peers) and increasing the achievement rate in mathematics and reading, a local monitoring tool was created by one LEA. The theoretical frameworks established through the Council for Exceptional Children (CEC) Special Education Professional Ethical Principles and Practice Standards (CEC, 2009) were used to guide the development of the *LRE/Achievement at a Glance Tool*.

The *LRE/Achievement at a Glance Tool* consists of nine educational domains: (a) exceptional student education (ESE) program delivery, (b) inclusion practices, (c) learning areas, (d) materials and equipment, (e) assessment, (f) instructional delivery, (g) behavior, (h) parental involvement, and (i) professional development. When used, this tool provides a “picture” of the programs, services, and learner outcomes of students with disabilities at a specific school. Under each of the domains, there are specific standards of practice listed that are rated (evidence = 3; partial evidence = 2; and limited evidence = 1) by the reviewer based on an observable evidentiary artifact. In implementing this tool, an initial review was conducted by school district-level special education staff at 56 schools. The results were then reviewed with administrators at each school and a list of recommendations, including follow up activities, related to specific domains were provided. The purpose of this study was to determine if the recommendations provided to these schools via the *LRE/Achievement at a Glance* review process and the support that followed served to improve the inclusion and achievement of urban students with disabilities.

## Methods

This study examined the inclusion rates (based upon the 80% of the school day criteria), average time spent with nondisabled peers, reading achievement, and math achievement of students with and without disabilities at 56 schools before and after a thorough review process that took place during the 2013 -2014 school year in one large urban school district. The review process that took place was the *LRE/Achievement at a Glance* review process.

### **LRE/Achievement at a Glance Review Process**

This process consisted of four parts: (a) data collection prior to the school visit, (b) school visit with observations of specific students within the context of their program using the *LRE/Achievement at a Glance - Student Observation Tool*, (c) compiling the review results, and (d) meeting with school site administrator(s). Schools were informed of the review prior to the on site visit through an electronic mail message as well as through a follow up telephone call from district special education staff.

Prior to the review, overview information on the state of the school's special education program was collected. In order to facilitate the classroom "walkthroughs," a group of students (typically 8-10) were selected at random from the students with disabilities at the school to be observed in their respective classrooms. The *LRE/Achievement at a Glance- Student Observation Tool* was used to conduct the walkthroughs. The student observation tool consists of six out of the nine domains from the *LRE/Achievement at a Glance*: inclusion, learning area, materials and equipment, assessment, instructional delivery, and behavior. In addition to the specific domains, the educational environment (i.e., general education, resource room, special class) where the student is provided instruction is also delineated in the *LRE/Achievement at a Glance- Student Observation Tool* as part of the demographic data. The student's special education program was reviewed in relation to each of these domains since these domains pertain to essential educational practices (CEC, 2009) that would have a direct impact on learner outcomes. The students were not aware they were being targeted and the observations were conducted via classroom "walkthroughs".

These classroom "walkthroughs" were conducted at each of the 56 schools with a minimum of two staff members assigned to conduct each "walkthrough". Each staff member completed his or her own evaluation and then the evaluators met to discuss their ratings and settle on a final score, thus attending to inter-rater reliability. The evaluators then worked together to develop recommendations for the school. The data (evidence = 3; partial evidence = 2; and limited evidence = 1) pertaining to the standards under each of the six domains were calculated for each of the students. The totals for each of the *LRE/Achievement at a Glance* domains, including the three domains not included as part of the student observation tool: program delivery, parental involvement, and professional development, were used to complete the Total Points per Domain section of *LRE/Achievement at a Glance Tool*. The Total Points per Domain section was used to calculate the grand total for the review. The grand total determined the schools provision of services to students with disabilities by prescribing one of the following classifications: outstanding – meets requirements; good – needs assistance; fair – needs intervention; and needs improvement – needs substantial interventions.

The classification was used to inform schools of the results of their evaluation and recommend appropriate follow up activities to the school site administrator. It should be noted



that in many instances the entire school leadership team met with district staff to review the recommendations at the conclusion of the site visit. The follow-up activities, the final part of the review process, were delineated and included goal completion date and personnel responsible (school or district). The follow up and support included but was not limited to such activities as professional development for both special education and general education teachers and reviewing and revising master schedules.

### Research Design and Analysis

Paired sample *t*-tests for the raw scores were used to determine the statistical differences of the mean of the school inclusion rates, the average time spent with peers, the percent of students achieving adequate yearly progress in reading (with and without disabilities), and the percent of students achieving adequate yearly progress in reading (with and without disabilities) at the start of the 2013 school year (prior to the LRE intervention) and at the start of the 2014 school year (after the implementation of the LRE intervention). Then Pearson's correlations of each were run to find any correlations between the difference scores from prior to and after the implementation of the LRE intervention to show the changes of inclusion rate by each of the other specific variables.

### Results

Results of the paired samples *t*-test showed a statistically significant increase in both the inclusion rate ( $t = -8.97, p < .01$ ) and the average amount of time that students with disabilities spent with their non-disabled peers ( $t = -12.17, p < .01$ ). Results of a power analysis (Howell, 2012) showed that all variables had a high power with the exception of changes in math achievement for general education students. See Table 1 for the paired samples *t*-test results.

**Table 1**  
**Paired Samples T-Test**

Variable	2013		2014		<i>t</i> -value	<i>df</i>	Power
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Inclusion Percentage	50.28	26.43	83.38	18.52	8.97**	54	0.99
Average Time with Peers	68.05	16.42	88.81	8.12	12.17**	53	0.99
Students Proficient in Math (SE)	22.11	12.54	23.75	12.56	1.06	55	0.99
Students Proficient in Math (GE)	52.66	11.93	52.57	15.2	-0.06	55	0.17
Students Proficient in Reading (SE)	17.14	10.87	17.66	11.17	0.37	55	0.97
Students Proficient in Reading (GE)	50.26	10.66	50.66	12.84	.46	53	0.85

*Note.* SE = Special Education, GE = General Education; percentage of student in proficient was used for both SE and GE.

\*\*  $p < .01$ .

The results of Pearson's correlation indicated that the changes in the inclusion rate showed significant correlations with changes in the average time spent with peers with a

Pearson's correlation coefficient of .675 ( $p < .01$ ). The changes in the inclusion rate also showed significant correlations with changes in the mathematics proficiency of general education students with a Pearson's correlation coefficient of .299 ( $p < .05$ ). Other statistically significant correlations were found between math proficiency for students with disabilities and reading proficiency for students without disabilities ( $r = .362, p < .01$ ), math proficiency for students without disabilities and reading proficiency for students without disabilities ( $r = .480, p < .01$ ), and math proficiency for students without disabilities and math proficiency for students with disabilities ( $r = .352, p < .01$ ). See Table 2 for the correlations among the variables.

**Table 2**  
**Correlation among Placement and Achievement Variables**

Variable	1	2	3	4	5	6
1. Inclusion	-					
2. Time with Peers	.675**	-				
3. SE Reading Proficiency	-0.048	0.004	-			
4. GE Reading Proficiency	0.164	0.159	-0.173	-		
5. SE Math Proficiency	-0.014	-0.108	0.124	.362**	-	
6. GE Math Proficiency	.299*	0.159	0.026	.480**	.352**	-

*Note.* SE = Special Education, GE = General Education.

\*\*  $p < .01$ . \*  $p < .05$

## Discussion

Findings of this study show that through the LRE review process and the supports provided to schools, the inclusion rates and the average time that students with disabilities spent with their nondisabled peers significantly increased. The average time with peers variable captures the average amount of time all students with disabilities spend in general education settings, even if it is less than 80% of the school day which is the requirement in order for a student to be counted towards the inclusion rate. This means that in addition to the increases in inclusion rates, students who were not included 80% of the day or more were still included for a larger portion of the day than they had been previously.

The overall average inclusion rate (students included for at least 80% of the day) for these 56 schools went from 50% (well below the national average) to 68% (well above the national average) in just one year. This is remarkable growth in just one year, particularly for urban schools such as the 56 that were targeted in this study. As federal mandates and accountability measures compel school districts to focus on both meeting the demands for students to be educated in the LRE as well as to show improved results, student placement is merely the first step (McLeskey, Waldron, & Redd, 2014).

While statistically significant increases were not found in the reading or math proficiency levels of students with disabilities, the rate of students meeting proficiency in each of these areas did show an upward trend. It is possible that over time in the general education settings, these changes will become significant. Nevertheless, the fact that there were no significant decreases in proficiency rates for any of the students in these schools (with general or special education

designation), show that shifts in placement did not have a negative effect on the academic proficiency levels of either group. This is in line with previous findings (e.g. Barrocas & Cramer, 2014; Murawski, 2006; Redmon, 2007). As Barrocas and Cramer note, "...although this study did not find statistically significant differences in achievement, as the law (IDEA) requires that students are educated in the least restrictive environment possible, if students can achieve equally in a segregated or inclusive setting, certainly students should be included by default" (p. 47). It is apparent from the proficiency scores that the rapid increase in inclusion at these schools did not negatively affect achievement rates, thus the LRE for the students in these schools should be the general education classroom. If students can perform as well in the general education classroom as in a segregated setting, then the law would deem the less restrictive setting as the most appropriate.

It is not surprising that the increased inclusion rates were correlated with increased amount of time spent with peers. One interesting finding was the correlation between inclusion rates and the math achievement of general education students. This relationship is one that warrants further exploration. Other relationships (i.e. between math proficiency for students with disabilities and reading proficiency for students without disabilities, math proficiency for students without disabilities and reading proficiency for students without disabilities, and math proficiency for students without disabilities and math proficiency for students with disabilities) seem to imply that as schools raised their proficiency rates in one subject area or for one group of students they were more likely to see proficiency increases in other subjects and with other students. This could be related to the model used that made recommendations and actionable plans directly with administrators as reform efforts were systemic and may have been occurring schoolwide. It is worth further exploration into specific schools that showed increased proficiency to see what types of reform were occurring. The model described in this study involved an element of follow up support for administrators in the way of logistical support and professional development training. The effects of such support may take longer than one school year to "show up" in students' test scores. The proficiency levels of these schools should be followed to see if these upward trends continue. Indeed, the equality of access for the students with disabilities in these schools improved after the *LRE/Achievement* process.

### **Implications and Conclusion**

These findings have implications for state and local policy makers, school administrators, educator preparation programs, and researchers. Monitoring frameworks such as the tool used in this study can be used by states and other LEAs to address the new results driven accountability system required by the USDOE (USDOE, 2015b). The framework could result in LEAs developing their own customized tool to review school site special education program implementation which can address such issues as the scheduling of students with disabilities, an issue impacting many schools nationwide. This tool can also provide documentation that including students with disabilities in the general education program does not have a negative impact on their performance (Cole, Waldron, & Maj, 2004; McLeskey et al., 2014) and rather may have a positive result on students. School administrators, who typically do not have a background in special education (McLeskey et al., 2014), could benefit from having a tool that they could easily use to assess the IDEA requirements through the observation of standards of practice (DiPaola, & Walther-Thomas, 2003). Furthermore, school administrators who lack the knowledge and expertise related to the provision of services and instruction to students with

disabilities can consider general education placements and scheduling for students with disabilities with little hesitation since there does not appear to be negative impact (Cole et al., 2004). Educator preparation programs would benefit from ensuring that coursework has the depth of knowledge in the field of special education that are found in the CEC's *Special Education Professional Ethical Principles and Practice Standards* (2009; Hamilton-Jones & Moore, 2013; Kozleski & Waitoller, 2010). The implementation of these standards ensures that a program for students with disabilities focuses on positive learner outcomes.

Under the RDA system (USDOE OSEP, 2015a), the focus is on improving results for students with disabilities. Although many states provide monitoring information and assessments, there is a need to have a practical framework for LEAs to use when monitoring the implementation of LRE requirements with the focus on learner outcomes. A tool that can be used by district and school level staff is essential to ensure that students with disabilities are being provided quality instruction in the LRE. Finally, further research is needed to identify what educational practices and standards assessed through *LRE/Achievement at a Glance Tool* resulted in schools that both increased the inclusion rate as well as reading and/or mathematics achievement. A more in-depth examination of the process can serve as a guide to other urban districts in how to increase both the rate and quality of the inclusion of students with disabilities in general education settings.

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## **BRAVEST GIRL IN THE WORLD: EXPLORING SOCIAL JUSTICE THROUGH ADOLESCENTS' LENS**

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### **Abstract**

As professors of education in an urban community, we wanted to identify mechanisms that would allow young people in the urban core the opportunity to share their unique voices with the world and for us to better understand their views on social justice and social change. The purpose of this paper is to discuss adolescent student perspectives on social justice. Data was gathered from narratives written by students in which they identified the “Dreamkeepers” in their worlds, and how they would define a social justice advocate. Findings suggest that these young writers had deep thoughts about the policies and practices that create socially just environments; were able to recognize, identify, and label characteristics and behaviors of social justice advocates—Dreamkeepers—both in peers and adults; and they strive to emulate these ideals and have a deep desire not only to achieve their dreams but also to enable others.

**Keywords:** social justice, advocacy education, urban student voice, culturally relevant pedagogy

Langston Hughes (Hughes and Hughes 1932/1996) asks us to dream of a world that is limitless and full of possibilities. His poem, "The Dream Keeper," specifically calls on readers to see the power of their own dreams and to envision a reality that might one day welcome them. Knowing the "too rough world" can sometimes be a place where dreams are not allowed to flourish, Hughes offers to protect those who come to him, so that he can "wrap them in a blue-cloud cloth" and keep them safe. He suggests the very seeds of social justice in this powerful poem, and he encourages us to become Dreamkeepers—agents of social justice and social

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change—on behalf of anyone marginalized in society (Rampersand, 2002). As professors of education in an urban community, we viewed Hughes’ important poem as a direct call to action. Indeed, we wanted to identify mechanisms that would allow young people in the urban core the opportunity to share their unique voices with the world. In doing so, we would not only have a better understanding of their views on social justice and social change, but we would hopefully empower them to recognize the power that lies in their ability to speak up when injustice occurs around them. With these ideas in mind, we created an online literary magazine for students in grades three through twelve that specifically asked them to identify who the “Dreamkeepers” were in their worlds, and how they would define a social justice advocate. Ultimately, this paper attempts to illuminate student voice as a vehicle to bring about transformational teaching and learning and that results improved academic achievement.

### **Background/Purpose**

It is commonly agreed upon that a population of underprivileged youth, who experience social injustices such as poverty, homelessness, parental drug use, and unsafe living environments, make up a significant portion of students in the United States school systems.

Student populations that seem the most affected by these inequities include students of color and immigrant/refugee students, lesbian, gay, bi-sexual and transgender students (LGBT), and children with disabilities (Harley, Nowalk, Gassaway, & Savage, 2002). These injustices have been associated with school-related consequences such as unequal access to education opportunities, decreased academic achievement, grade repetition, expulsions and suspensions, and higher dropout rates. Further, schools situated in urban settings too often have disproportionate representation of students of color, poverty, and schools that fail them (Kozol, 1991). We believe it is critical to provide access to systems that will confront these injustices and allow all students to reach their full potential. In essence, each of us must become *Social Justice Advocates*, and we must also encourage those we serve to understand and embrace these ideals so that they are able to identify policies and practices that promote injustice and advocate to influence social, economic, political and educational change for the individuals, families, and communities in which they live, work, and serve.

### **Conceptual Framework**

We define *Social Justice Advocacy* as, “the fundamental valuing of fairness and equity in resources, rights, and treatment for marginalized individuals and groups of people who do not share equal power in society” (Constantine et. al., 2007; McCarther, et. al., 2013); in other words, someone who stand up for the rights of others. Thus, *Social Justice Advocates* are those individuals who espouse these ideas. Essentially, for the purposes of working with adolescents and for the online literary magazine, we used the term “Dreamkeeper” rather than advocate and then provided students with our framework’s definition. Students were invited to submit an essay describing a “Dreamkeeper” in their lives, and we explained to them that a Dreamkeeper is someone who works to uplift others in some way—someone who believes in social justice and equity for all and is willing to defend these principles. Further, we looked to the ideals of culturally relevant pedagogy to think about how best to provide an educational experience that



honored what students already knew and could do (Hefflin 2002; Irvine, 2010; Ladson-Billings, 1995; Milner, 2011). We hoped our invitation to submit an essay with the theme of social justice at its core would ignite in them a desire to become change agents—something required in the very tenets of culturally relevant pedagogy (Gay, 2003; Irvine, 2010; Ladson-Billings, 1995; Milner, 2011; Sleeter 2012; Ukpokodu, 2011).

### **Methodology**

We were guided by three essential research questions: (1) How do students in grades six – eight define social justice? (2) Who do they see as examples of social justice individuals in their lives? and (3) How can we use student voice on the issue of social justice to transform teaching and learning and improve achievement for urban students? We received 117 essays in all, with 53 coming from grades six through eight, and for this discussion, we are focusing on the student entries from these middle grades. The participants are all students in the urban core in a large, Midwestern city with a history of deep racial and economic divide. Of the 53 participants, 23 were African American; 15 Latino; 10 White; 3 Asian; and 2 Multiracial. They attended public, charter, and private schools, all of which receive Title I support.

Marshall and Rossman's (1999) six phase qualitative method was used to analyze the data. The first phase includes organizing the data and becoming familiar with it. For this study, this meant we individually read all essays. In the second phase (generating themes and patterns), each of us read and examined each essay for patterns, recurrent ideas, or language to create themes. We then came together as research partners to compare recurrent themes and reach consensus on their meaning. The third step was the coding phase and involved the development of a coding scheme. We met several times to discuss revisions of the themes and until all data were coded and final descriptions were created. The next two stages—the fourth and fifth—involved working with the data by testing emergent understandings and searching for alternative explanations; that is, we examined the data as a whole to develop a broad understanding of the patterns, including looking for patterns that did not fit the themes. We reconciled discrepancies by searching for alternative explanations to the data and by modifying when necessary. We also used an outside auditor to review our work and make sure we did not miss any categories, themes, patterns, ideas, or expressions. The sixth stage entailed writing up the report (Marshall & Rossman, 1999).

### **Emergent Themes/Results**

Three themes emerged from our data that connect directly to the research questions. Indeed these themes centered on the fact that youth and young adolescents are more than capable of responding to complex questions and are indeed very astute and aware of their ability to bring about change. To be specific:

Theme #1: *Youth and young adolescents understand very clearly issues of equity and fairness.* Nicholas, in Sixth Grade remarked:

I think that everybody should be treated fairly. My mom and dad are my Dreamkeepers because they always encourage me to do what I want and to follow my dreams. Every Christmas my family picks out a couple of kids that are not as fortunate as me, and we get him or her a bunch of presents. Something else that I can do to help others is to donate cans of food to food pantries. At our school, we donate a lot of cans and even socks for people who cannot afford them. I think our school is the most giving.

Clearly, this student recognized not only that the world should be “fair,” but that he had a responsibility to help others in need. Further, fairness and helping others are behaviors that define social justice for Nicholas.

Theme #2: *Youth and young adolescents believe they can have an impact on social structures.* Diana, in Seventh Grade stated:

Maybe you can imagine that one day, you get arrested with no evidence, law enforcers are heartless, and you know nothing about the laws. You are absolutely confused, terrified, helpless, and have no money to bail yourself out of jail. The protection of human rights is just one aspect of social justice that promotes the rights for human dignity, impartial treatment, and equitable opportunities. Among the advocates for social justice that I know, my late grandfather stands out. My grandfather was a lawyer who had strongly supported social justice in a world that had none. He may not have been rich, but he was intelligent, kind, and compassionate to compensate tenfold. He fought for people who had no means to defend themselves in court. He gave them hope and rightfulness, representing them with unadulterated wisdom and passion. He stood for truth, righteousness, and fairness.

Jared, in Eighth Grade asserted:

When a basic right is infringed upon, people like Harvey Milk, Billie Jean King, Senator Lynn C. Woosley, Abraham Lincoln, and Martin Luther King stand up. We are blessed that there are those who remembered the liberty this nation was founded on and stood up when it was being threatened. Being different should not lead to being ostracized. I want to be among the voices of those whose voice has been stolen: people like that girl or boy in the hallway who walk with their head down in fear. I want to be an advocate for this simple reason—to free those we have imprisoned. I want to stand up, speak out, and be among the past and present Dreamkeepers.

Young people know what it means to sacrifice for others and they welcome the challenge. They are not confused by these ideals and they seem unafraid and courageous as they express the desire to advocate for others. As Diana and Jared reveal here, they see characteristics and behaviors that define social justice, that is to say, Diana - intelligence, kindness, and compassion; Jared – standing up for those who are different; and they desire to emulate individuals who embody these ideals.

Theme #3: *Youth and young adolescents are able to identify and recognize what social justice advocacy looks like in others.*

Diviley, in Eighth Grade wrote:

Education creates the basis of social equality and the people who made it happen. We call these heroes social justice icons or Dreamkeepers. Dreamkeepers are those who stand up to others for others in return for justice for all. A Dreamkeeper has to be brave, determined, and stubborn enough to not care if they get detained or hated. They will not give up no matter what until good is done. A great example of a social justice icon would be the “Bravest Girl in the World,” Malala Yousafzai. She and I are very different. She actually likes school and education. She likes it so much, she would risk her life for it. In 2009, she wrote a blog about how she promotes education for girls (since girls were banned from going to school). Thanks to her courageous act for speaking for herself and millions of other girls wanting to learn, she was awarded the International Children’s Peace Prize.

That reminds me of what someone wise once said: “A dream doesn’t come true through magic; it takes sweat, determination, and work.” Because of those three things, Pakistan released their first education bill, in which all children will be required to attend school by the end of 2015. Now, no kid has to worry if they will be that one kid with books and a bright future or the kid who has to work as a child to help sustain his family. We all owe thanks to one girl who saved many children, jobs, and lives. This girl made a young girl’s dream come true of getting education and possibly becoming a professor, a lawyer, or even a parent who can help their children with their homework at home. She will not give up; not even a couple of bullets will stop her and she is my social justice icon.

Diviley, whose powerful essay inspired our title, as a young adolescent girl, identifies social justice characteristics and qualities in an age-mate who lived far away in a country whose culture vastly differed from her own, yet she valued the extraordinary courage and deep moral conviction displayed by Malala Yousafzai’s steadfast commitment to schooling. From this we can determine that adolescents are quite capable of understanding the complex ideas surrounding social justice, and indeed Diviley defines social justice as one who uses her or his voice and abilities to change the very fabric of social structures in their society.

### **Discussion**

Our university is situated in the urban core and thus we feel an obligation to find ways to provide relevant opportunities for young adolescents to engage in meaningful and empowering endeavors. Indeed our city, like many others, endured decades of racial isolation, separation, and injustice, culminating in a lengthy and painful desegregation battle (Davis, 2004). As a result, there is still great fragmentation within the school systems, and limited and uneven access to quality teaching and learning experiences (McCarther & Caruthers, 2009). With these ideas in mind, our project sought to replace a void and make audible student voices that have long been silenced. Further, we sought to discover avenues to transform not only our own teaching practice, but also to transform the work of practitioners who serve youth in urban settings. Essentially, what we discovered was that these young writers wanted to be heard and had deep thoughts about the policies and practices that create socially just environments. In urban communities and schools, this is necessary and vital to ensuring overall academic and life success. Our findings outlined above clearly suggest students recognize, identify and label characteristics and behaviors of social justice advocates—Dreamkeepers—both in their peers and

in adults. Further, they strive to emulate these ideals and have a deep desire to not only achieve their dreams but to enable others to do the same.

### **Implications and Conclusion**

Research in the area of multicultural education and culturally relevant pedagogy make very clear the need to honor what students already know and can do (Hefflin 2002; Irvine, 2010; Ladson-Billings, 1995; Milner, 2011). Indeed, culturally relevant pedagogy mandates the need for teachers to encourage students to become advocates for social change (Gay, 2003; Irvine, 2010; Ladson-Billings, 1995; Milner, 2011; Sleeter 2012; Ukpokodu, 2011). We believe educators must design, develop and implement opportunities and experiences that support and nurture growth and expression of student voice. What we have learned from these students – Nicholas, Diana, Jared, Diviley and their peers – is the importance of structuring our teaching and learning activities to embrace individuality and voice. Our hope is that through modeling this behavior, we encourage our students who are current practitioners in urban schools to do the same.

Students in the first volume of our online magazine are inspiring and full of light and life. When we consider the plight of too many young children globally and how critical it is for us to place value on their lives and thoughts, we believe very strongly in the need to provide access to share exactly what they see, think, and feel about the world around them. In our particular neighborhood, there are examples of social injustice every day, and we believe it is our responsibility to raise submerged voices and to listen to what children and youth have to say about what is done in their name. These are lofty ideals described with impressive and academic terminology—social justice advocacy—but at the end of the day, it really is about providing a space and a welcoming place where children and youth feel safety to voice their thoughts; autonomy to air their dreams; and freedom to grow intellectually. In fact, we believe we must empower our children and youth of today through encouragement and nurturing the passion, courage, and dreams they carry inside so that in their tomorrow, all children and youth will feel freedom to share their voices and know they, too, will be heard.

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## “WHAT YOU SUPPOSED TO KNOW”: URBAN BLACK STUDENTS’ PERSPECTIVES ON HISTORY TEXTBOOKS

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### Abstract

Research in social studies education has raised significant practical and epistemological concerns with the history textbooks used in urban schools. While these concerns are well documented, we know less about their implications for Black students’ understandings and applications of historical content. This qualitative, ethnographic study explored six Black, urban students’ perspectives on history textbooks and how these textbooks influenced their historical knowledge about civil rights leaders. Guided by the critical race framework, connections are drawn between participants’ recollections of textbook accounts and their understandings of contemporary racial relationships and civil rights struggle. Findings suggest a *contentious relationship* with the information presented in textbooks and the need to rethink social studies curriculum and pedagogy in relation to the contextual realities and lived experiences of Black urban youth.

**Keywords:** black students, urban schools, social studies education, history textbooks

Social studies education researchers have identified notable limitations with representations of racial struggle in history textbooks (Alridge, 2006; Brown & Brown, 2010; Curwen, 2011; Ladson-Billings, 1998; 2003). In relation to the histories and identities of Black people, history textbooks have been described as “reductive” and “incoherent” (Ladson-Billings, 1998; 2003); “stereotypical” and “inaccurate” (Brown & Brown, 2010); as well as “overly simplistic” and “one-dimensional” (Alridge, 2006). These limitations are exacerbated in many urban schools, wherein a racially homogenous teaching force (Sleeter & Milner, 2011) routinely relies on outdated history textbooks (Crocco, 2008; Epstein, 2010).

Analyses conducted through the critical race framework suggest that history textbooks deeply inform students’ understandings of citizenship and democracy (Brown & Brown, 2010; Epstein, 2001; Howard, 2003; King & Swartz, 2014; King, L., 2014; King, L., Davis & Brown, 2012; Woodson, in press). However, few studies have centered Black students’ perspectives of

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history textbooks to illuminate if and how these resources help “students engage in the complexity of social issues that they encounter on a daily basis” (Howard, 2003, p. 497). In this article, I examine six Black urban students’ perspectives on textbooks. Specifically, I interrogate their understandings of the term ‘civil rights leader’ as synecdoche for broader representations of racial struggle. The data illuminates a contentious relationship with textbook narratives. I conclude offering recommendations toward supplementing and challenging problematic textbook knowledge.

### **Black Urban Students and Social Studies Textbooks: A Brief Review**

In a review of challenges and possibilities faced by social studies teachers in urban classrooms, Gay (2004) contended that the field of social studies education “has a long history of not being very popular with or valued by” students in urban schools, in part because the content and priorities of the field may not meet the needs of urban students (p. 76). Gay’s position is supported by research examining history textbooks in urban classrooms. Reporting on the meanings that high-achieving, urban secondary Latino students’ afford to history curriculum, Terzian and Yeager (2007) argued that the American history “textbooks and curricula” in urban schools “tend to depict an authoritative account of the nation’s past” that students of color “may not subscribe to” (p. 56). In a survey of nineteen history textbooks published between 1999-2003, Brown and Brown (2010) found that narratives about Black political struggles are rendered in “fragmented” (p. 59) and “misleading” (p. 54) ways. Alridge (2006) added that “textbook writers have difficulty giving equal attention to all who participated in the black freedom struggle” (p. 673), erasing some historical voices and models of resistance to racial subjugation. Consequently, Black students “will not leave their history course with any sense of a coherent history of Africans in the Americas,” and the ways these individuals struggled for social and political recognition (Ladson-Billings, 2003, p. 3).

Two additional concerns compound issues with content. Crocco (2008) noted that many “urban school systems use textbooks that are 10 or 20 years old” (p. 181), further restricting the historical accuracy and sociopolitical relevance of the texts. With few cost effective curricular alternatives, many social studies teachers continue to rely heavily on these textbooks as a source of information (Alridge, 2006; Percy, 2014; Salinas & Sullivan, 2007). A second area of concern is the identities and perspectives of the social studies teachers utilizing the textbooks. Levstik (2008) argued, “urban schools may face more challenges” finding and keeping “ambitious teachers who provide coherent, interesting and worthwhile social studies instruction” (p. 52). Sleeter and Milner (2011) add that many schools also struggle to recruit and retain racially diverse teachers, who might be more aware of or inclined to challenge textbook limitations in regard to race and racism. Milner (2014) suggests that social studies teachers often do not prepare students for the “racialized experiences that they will inevitably face” (p. 14).

Problematic narratives of race in dated textbooks, and the reality that many urban teachers serve students whose social, cultural, linguistic and socioeconomic needs differ from their own, foreshadow a contentious relationship between Black urban students and history textbooks. Without minimizing the need for continued structural critique and reform, this study builds on Gay’s (2004) insistence that social studies educators in urban settings must explore “the contextual reality of urban living and the perspectives and positionalities” of diverse students, and allow these explorations to inform and improve social studies instruction (p. 77).

### **Theoretical Framework: Critical Race Theory**

The theoretical framework for this study is critical race theory (CRT) (Ladson-Billings & Tate, 1995). In the field of education, CRT is used to “question social constructions and assumptions of race” (Parker, 1998, p. 44), and to illuminate the meaning of race and racism in the lived experiences of students and educators (Howard, 2004). The framework has also been used to examine how race and racism are represented within social studies curriculum (Brown & Brown, 2010; Ladson-Billings, 2003), and how students understand and engage in race-related dialogue in social studies classrooms (Howard, 2004). The critical race tenet that race and racism are integral features of society and schooling systems (Ladson-Billings & Tate, 1995; Parker, 1998) supports centering race and racial identity as variables in examinations of urban Black students’ access to and understandings of the knowledge presented in social studies textbooks.

CRT also affords primacy to the experiential knowledge of marginalized racial groups when analyzing the nature and implications of race and racism (Howard, 2004; Ladson-Billings & Tate, 1995). Thus, CRT supports positioning urban, Black students’ experiences in social studies classrooms as necessary and legitimate sources of knowledge for constructing social studies curricula that better respond to these students’ cultural, political and educational needs (Bernal, 2002; Howard, 2004). CRT provides a useful lens for examining urban, Black students’ perceptions of social studies textbooks, the narratives of the civil rights leadership within these textbooks, and how these narratives inform students’ understandings of contemporary race relations and civil rights struggle.

### **Methods**

This study explored Black urban students’ perspectives on social studies textbooks. Data was collected during a larger, three-year ethnographic case study exploring Black urban youths’ broader perceptions of social studies education. All six participants were between 16 and 19 years of age and were identified through a work readiness program for vulnerable youth of color where the author facilitated writing and journalism workshops. All participants also attended one of two urban schools. Both schools had not met Adequate Yearly Progress at the time of participant recruitment, had high proportions of students who receive free and reduced lunch, and high rates of administrative and teacher turnover.

Data sources were semi-structured focus group and individual interviews, participants’ assignments and journals, and participant observations conducted during community events that participants identified as relevant to the study. Extensive field notes were maintained throughout the interviews and observations. Individual interviews lasted sixty to ninety minutes, and focus group interviews lasted ninety to 120 minutes. Twelve individual interviews and four focus group interviews are the primary source of data for the findings below. All interviews were audio-recorded and transcribed. Though all data sources are not reported on here, each source was used to develop and confirm the results shared below.

### **Data Analysis**

The objective of this study was to ascertain my participants’ perspectives of history textbooks in general (rather than responses to a particular text or texts). To meet this objective, I read all transcripts and field notes, with specific attention to reflections on textbooks. A table



documenting expressions, observations and experiences related to social studies textbooks was created for each individual participant utilizing individual interview transcripts, journal entries, individual assignments, and ethnographic field notes. Tables were also created for each focus group session utilizing interview transcripts and artifacts brought to or created during that session. Reflections on textbooks were then categorized based on the nature of the reflection: positive or negative, useful or not useful, trustworthy or untrustworthy, accurate or inaccurate, relevant or irrelevant, boring or engaging, etc. A cross-case synthesis was then developed by identifying convergence across the tables created for each case (Yin, 2013). Through this process, I was able to develop insight into participants' understandings of history textbooks, their content, and their significance. I verified all themes during member-checks (Maxwell, 1996).

For the present analysis, I focus on the theme *contentious relationships*, which captures participants' simultaneous judgments that textbooks were useful and untrustworthy. Black students' perspectives on textbooks are underrepresented in research literature (Epstein, 1994; Howard, 2004), and this theme advances understandings of the perceived credibility and role of textbooks in these students' lives. *Contentious relationships* describes my participants' sense of suspicion toward textbooks, despite the fact that textbook accounts serve as the primary source of their historical knowledge. As this theme was well represented across interviews and recurrent conversations about civil rights and civil rights leaders, excerpts from these conversations frame the findings presented below.

### **Results: Contentious Relationships**

During a focus group session, Stefanie defined civil rights leaders as "Black people who fought for, um, our freedom to do what we were born to do". Jasen<sup>1</sup> would add that civil rights leaders were "brave" individuals who "basically told white people what's up". These and other comments contributed to a baseline understanding of how my participants' understood civil rights leaders, including the perception that civil rights leaders were Black people who engaged in confrontation with white people for certain freedoms. To explore these insights further, I asked my participants to name ten civil rights leaders. This request resulted in the following list: Martin Luther King, Jr.; Rosa Parks; Malcolm X; Medgar Evers; Maya Angelou; Thurgood Marshall; Nelson Mandela; Frederick Douglas; Harriet Tubman and Sojourner Truth. Once the list was compiled, I inquired:

Researcher: Where do these names come from?

LaDarius: Like, you know, school and shit. In like history classes.

Xavier: I hates history classes.

Crystal: We been talking this whole time about like, what we don't be learning in schools.

LaDarius: I'm not saying that like everything they say in school is what's up or whatever. That's not what I'm saying. It's like who was supposed to be a historical person, like who was important, you know what I mean, that is like something that they will basically tell you at school... So teachers lie, you know books lie, I mean or whatever, but they can't just make a person up and write that down and put it in a book.

Crystal: ...But they can like, leave people out of the book.

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<sup>1</sup> Participants are referred to by pseudonym.

Jasen: But like, what do they basically win by doing that? Like, civil rights leaders are like you know American heroes or whatever.

Stefanie: Why would they take away role models? I mean like, Black role models? They always be like we need them, so why not put them in the book?

In this exchange, my participants debated the authority of textbooks for understanding history. Their responses suggest they believed history classes and textbooks are intended to provide information about “who was important,” “American heroes,” and potential “Black role models”. LaDarius seemed to believe that textbook accounts were at least in part accurate when he argued that textbook authors “can’t just make a person up”. Crystal was critical of the extent to which textbooks provided accurate information, but felt that she had limited options to develop alternative interpretations of history. In an individual interview, she reflected:

I was always like kind of not with it... like always like this don't seem like right, like how Black people would just disappear from total whole moments... My last history book was like five hundred pages. Like, you can't make up five hundred pages worth of writing. But still it's like, how do you know what stuff is for real and what somebody made up? ...And if you don't know, then like, you have to trust it until somebody tell you different.

Crystal's reflection supports Rosenweig's (1992) contention that for many students, textbooks are “the primary lens through which they incorporate historical knowledge for the rest of their lives” (p. 1377). Despite the primacy of textbooks in her understandings, she did not invest completely in these accounts. Still, she felt she had to “trust” these accounts until a “different” one emerged.

My participants' descriptions of textbook knowledge appeared to affirm Alridge's (2006) argument that history textbooks often “deny [students] a realistic and multifaceted picture” of history (p. 663). They seemed to believe that textbooks were missing information. Their recollections of textbook accounts did suggest notable historical absences. For example, a particularly truncated portrait of civil rights leaders emerged as we explored commonalities across their list of civil rights leaders. This portrait confirmed that they perceived all or most civil rights leaders to be Black:

Researcher: What else do these people share in common?

Monica: They're all Black.

Researcher: They are all Black, you named all Black people.

Jasen: But you said civil rights leaders.

Researcher: Are all civil rights leaders Black?

Xavier: What else would they be?

This exchange highlights an overly simplistic black-white binary in understandings of civil rights struggle, one that silences the historical voices of queer, feminist, labor, and other activists of color that have called for social reform. Participants attributed this perceived binary in part to textbooks, and it contributed to their contentious relationship with textbook narratives. For example, Monica stated:

...I'm not saying they always tell everything... but the textbook is what you supposed to

know, so basically, if it's just us against white people in there, then that's what history will be to me...I feel like they can't make somebody pose for that kind of picture, you know, or just find a group of all Black people to pose on the street for a march. That makes me feel like other races of people, you know like Mexicans or whatever, just used our sacrifices for their communities with no appreciation.

During a subsequent interview, I asked Monica to elaborate on what she meant by "the textbook is what you supposed to know". She shared:

It's basically what you know, what you need to know to graduate...not like the real history of the world, just like what your teacher thinks important... I know that a lot of our history, like Black women and things we did as maybe civil rights leaders in history is missing. It's what you supposed to know to get through this system, you know, to graduate...just to keep your teachers or the testers happy.

Monica distinguished between the history she read in textbooks and "our history," or the history of "Black women". She described the practical utility of textbook knowledge, which she understood as necessary to graduate and to pass standardized tests. But this history was not "real" to her, as it excluded the historical achievements and civil rights leadership of Black women. Though she needed textbook knowledge to do well in school, she believed that important parts of her history as a Black woman and potential leader were "missing" from this knowledge.

### **Discussion and Conclusions**

Though Monica, Stefanie, Crystal, LaDarius, Xavier and Jasen debated the accuracy of textbook accounts, they also seemed to rely on these accounts as they explored the concept and designation of civil rights leader. The theme contentious relationships highlights the tension between the centrality of textbook knowledge to their high school success, and their perception that textbooks "lie", that Black people "disappear", and that Black women leaders are "missing" from textbook accounts. Their synopses of the textbook knowledge that they encountered affirmed previous research on textbook representations of race, racism and racial struggle (Aldridge, 2006; Brown & Brown, 2010; King, L., 2014).

In relation to their understandings of civil rights leaders, their understandings suggest troubling implications of "reductive" and "overly simplistic" presentations of history. For example, they believed that all civil rights leaders were Black and were primarily active during the abolitionist and modern Civil Rights movements. These beliefs led to Monica's contention that other ethnic and cultural groups unfairly benefited from Black leaders' sacrifices, and seemed to prevent the recognition of contemporary figures as civil rights leaders. Further, my participants viewed civil rights leaders almost exclusively as "heroes" and "role models". This tendency might prevent my participants from understanding these figures as "real" people, who develop into leadership over time (Aldridge, 2006, p. 667). These understandings seemed to constrain their sense of contemporary race relations and civil rights struggle.

Social studies educators face significant structural challenges in presenting curricula that will better prepare Black urban students to understand and live in a racialized world (Milner, 2014). My participants' understandings of civil rights leaders are not inherently 'urban'.

However, I argue that their understandings bear specific implications in urban contexts. The reliance on textbooks seemed to function as a conceptual barrier to more radical interpretations of civil rights leadership, in which ordinary people from multiple oppressed groups work collaboratively to combat disenfranchisement. Urban students of color are in dire need of such interpretations, as they are uniquely vulnerable to various forms of political, economic and cultural marginalization and exploitation. Due to the design of this study, the findings may not be considered generalizable. Nonetheless, the perspectives shared above offer insight into the types of questions we might ask to disrupt the influence of limited social studies textbooks in urban students' understandings of the world.

Based on the data and my experiences as a social studies and urban teacher educator, radical interpretations can be developed in many ways. A teacher might engage LaDarius, who believes that social studies teachers and textbooks "lie," in dialogue about the origins of and politics surrounding textbook narratives. Assignments that support such dialogue include allowing students to construct their own history textbook units. As they do so, teachers can provide conflicting primary and secondary sources for students to reconcile, offer a variety of photographs for students to select and contextualize, and encourage students to be explicit about how they understand the significance and meaning of figures and events. Once the units are completed, teachers can pose questions such as: *What perspectives are present?*, *What perspectives are absent?*, and *What interests are served by the perspectives shared?* These questions might help students to understand textbooks as a potential source of evidence, a source whose content and structure reflects the perspectives of its creators.

For students like Crystal and Monica, who desire more historical representations of Black people and Black women, a teacher might enliven the curriculum with autobiographies, guest speakers, photographs and other historical artifacts that extend or challenge aspects of the textbook narrative. Asking students to pick social groups of interest – groups of varying ability and diverse ethnic, racial, gender, sexual, religious, and socioeconomic identities – and discussing the experiences of these groups across time periods discussed in the textbook, allows an opportunity to cover the same material while diversifying historical representations in the social studies classroom. My participants' respective reflections provide a point of departure for rethinking the role of history textbooks in urban classrooms. For urban students and for all students, educators must work to present textbook narratives as narratives that can be resisted, corrected and enhanced, so students' knowledge reflects the complexity of race and the potential of ongoing civil rights struggle.

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## RETHINKING PEDAGOGY IN URBAN SPACES: IMPLEMENTING HIP-HOP PEDAGOGY IN THE URBAN SCIENCE CLASSROOM

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### Abstract

A significant amount of research regarding Hip-Hop Based Education (HHBE) fails to provide insight on how to incorporate elements of Hip-Hop into daily teaching practices; rather Hip-Hop based educators focus mainly on incorporating Hip-Hop culture into curricula. This study explores the benefits of using two specific Hip-Hop pedagogical practices in an urban science classroom. Call-and-response and co-teaching, two different pedagogical approaches that are related to Hip-Hop culture, were implemented and studied to understand their benefits in an urban science classroom. Participants in this study are middle school students who attend an urban school in one of the largest school systems in the country. This study provides insight on ways Hip-Hop can be incorporated into the art and science of teaching, extending current HHBE research, which mainly discusses how Hip-Hop can be used to design curricula based on music and rhymes. Through this study the researchers find that Hip-Hop pedagogical practices studied in this paper support students science content acquisition, connects science content to students' realities, and encourages their voice and agency.

**Keywords:** Hip-Hop pedagogy, urban education, science education

In both authors experiences and observations as science educators in the same school system where we obtained both our primary and secondary educational most a decade apart from each other, we have each noted a significant lack of engagement and what can be described as an aversion for learning science among African-American and Latino/a students. We argue that there are many reasons why students of color may not be interested in science including “envision[ing] the field of science as distant and inaccessible” (Basu & Barton, 2007, p467).

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According to Munce and Fraser (2012), African-American students' interest in STEM has decreased significantly over time, is now lower than that of any other ethnic group, and is expected to remain low in upcoming years. Additionally, there is an achievement gap in science that exists between African-American / Latino/a urban students and their counterparts from other ethnic and less diverse social settings. Yet there continues to be an ongoing misunderstanding of the experiences and realities of these African-American and Latino/a students who predominantly populate urban settings (Kahle, Meece, & Scantlebury, 2000; Seiler, 2001). In order to gain insight into urban students' experiences, we argue that it is time that science education researchers develop and suggest innovative approaches that "focus explicitly on understanding the realities of youth within urban classrooms and supports the teacher in utilizing an understanding of these realities as an anchor for instruction delivery" (Emdin, 2011, p. 5).

Hip-Hop culture has impacted youth populations across the globe, especially youth of marginalized groups, since its conception. Though much research has been published in regards to Hip-Hop Based Education (HHBE), researchers mainly focus on how to incorporate Hip-Hop culture into school based curricula, particularly using English Language Arts curricula (Hill & Perchauer, 2013; Morrell, 2002; Morrell & Duncan-Adrade 2002; Seidel, 2011). There are not many studies about the pedagogy of Hip-Hop, specifically the art and science of using Hip-Hop as a teaching approach in the classroom (Hill & Perchauer, 2013; Morrell, 2002; Seidel, 2011). Emdin's (2010) research addresses the need to meet students on their cultural turf by engaging them in teaching practices that are anchored in the realities of young people, especially in content area of science where students of color have traditionally been marginalized. This study is not intended to overshadow or disregard the work of HHBE scholars, but to serve as an extension of HHBE research to arm educators with practical and tangible pedagogical tools to support efforts to be culturally relevant while teaching to the realities of their students.

We define Hip-Hop pedagogy as a way of authentically and practically incorporating the creative elements of Hip-Hop into teaching, and inviting students to have a connection with the content while meeting them on their cultural turf by teaching to, and through their realities and experiences. Emdin (2010) calls for a teaching approach "which involves a process of learning and or utilizing the complex nuances of communication in hip-hop and a valuing of student culture" (p. 62). In this paper, we challenge urban educators - in particular science educators- to focus on the culture of students by using Hip-Hop pedagogical approaches that resonate with the realities of their students.

In this paper, we explore the benefits of two Hip-Hop pedagogical approaches, co-teaching and call-and-response, used in an urban science classroom. Although co-teaching and call-and-response can be identified more broadly as culturally relevant teaching approaches, the added value with identifying them as Hip-Hop pedagogical approaches in this study is that these approaches are anchored by the creative elements of Hip-Hop. These include but are not limited to graffiti art, MCing, Bboying (break dancing), DJing and knowledge of self. In addition, implementation of these pedagogical approaches involve the process of learning and or utilizing the complex nuances of communication in hip-hop, which shows a valuing of student culture and allows for the creation of "weak ties" between the students and science content (Burt, 2001). There are links between individuals and groups within every social network that are categorized as strong ties or weak ties. Strong ties correspond to the links or connections individuals or groups who are "friends" have a lot in common. On the other hand, weak ties correspond to "acquaintances" who do not have much in common that would normally connect them (Easley & Kleinberg, 2010). Hip-Hop practices that are enacted in an urban classroom act as "weak ties"



that can be developed over time into strong ties between students who identify as Hip-Hop and the science content.

### **Conceptual Framework**

This study is rooted in a sociocultural framework that explores the concepts of culture and social capital as they relate to the experiences of African- American and Latino/a urban students in a science classroom. Vygotsky states that “human activities take place in cultural context, [and] are mediated by language” (John-Steiner & Mahn, 1996, p. 191). Most urban students’ experiences outside of school are rooted in Hip-Hop culture (Emdin, 2010). The ways urban students dress, the ways they talk, the ways they dance and other non-verbal forms of communication are all rooted in Hip-Hop culture. We suggest bringing Hip-Hop culture into urban classrooms and not only incorporating it into curricula, but also incorporating the culture into the ways in which teachers teach their students. Normally, learners depend on others with more experience to teach them in a way that will make them feel comfortable with the content. If students are engaged and excited about science content in the classroom, and their exchanges around the content are occurring with the use of hip-hop forms of communication, over time, students they take on increasing responsibility for their own learning (Lave & Wenger, 1991; John-Steiner & Mahn, 1996). Being culturally relevant through Hip-Hop pedagogy will not only allow students to view themselves and a culture which they value as a part of the classroom, but it can also encourage independent self education of science content; since students will take increasing responsibility of their own learning (Ladson-Billings, 1995).

For this study, I also draw insight from sociologist Bourdieu (1986) who describes capital and its varied forms as necessary for articulating the ways that humans exist in a social world. In particular, I focus on the form of capital that is acquired in social fields like classrooms when individuals develop a conscious or unconscious personal investment in an activity or process. This form of capital is called “cultural capital” and in its embodied state, is both inherited and acquired as one engages with either new or familiar tools in an activity. In other words, one may possess forms of cultural capital outside of the classroom, and then use these forms of capital to acquire new forms of knowledge in the classroom. The goal is for science educators to create contexts that generate new forms of cultural capital that will eventually lead to the acquisition of science content knowledge. If students develop more opportunities to expand their cultural capital within their science classrooms, they will not only be more prepared to navigate science spaces outside of the science classroom, but they will also be more comfortable while navigating these spaces. Hip-hop is a form of cultural capital that many urban youth possess. When brought into science classrooms, and used as a viable form of knowledge acquisition in science, it can be used to expand youth cultural capital to include science. Students who develop more cultural capital within the science classroom may be more likely to take on a science identity because both Hip-Hop and the teaching approaches being employed in the classroom are connected to their lived experiences. In this type of scenario, students are accumulating and exchanging cultural capital both in hip-hop spaces outside of the classroom and within the classroom. Bourdieu describes cultural capital as having an unconscious and non-deliberate quality in terms of how the individual generates it. However, he also describes cultural capital as something gained as the result of “conditions of acquisition.” I suggest that science classrooms that allow and welcome the expression of hip-hop culture are the ideal spaces for the “conditions of acquisition” for urban youth who identify as hip-hop.

This study provides new insight on how Hip-Hop can be implemented in educational spaces with the goal of supporting students' learning, engagement and agency in science. As mentioned earlier, many researchers have revealed the benefits of incorporating Hip-Hop in education, but mainly focus on English classroom settings. For example, Morrell and Duncan-Andrade (2002), discuss using Hip-Hop to promote youth literacy in an English classroom. In their study students developed written and oral debate skills, learned how to critically critique Hip-Hop songs and poems and created and presented formal presentation based on their critiques. This paper provides insight on how Hip-Hop can be incorporated into teaching and how an educator interacts with students in a science classroom, as opposed to an English classroom.

### **Research Questions**

1. How are Hip-Hop pedagogical approaches (co-teaching and call-and-response) beneficial in an urban middle school science classroom?
2. How do Hip-Hop pedagogical approaches support urban students learning of science content?

### **Methodology**

#### **Setting and Participants**

The primary site of this study is a 6th grade science classroom in a public urban middle school located in the most densely populated city in the northeast region of the United States. The school is located a few miles from the affluence of a large economic hub, yet streets away from areas of extreme poverty. The school enrolls 486 students in grades 6 – 8. The ethnic break down of the school is described on the school's website as follows: 68% African American, 26% Latino/a, 3% Asian and 2% White. The school is a Title 1 school and all students qualify for free or reduced lunch. Students are from urban communities of extreme poverty populated by people of color.

#### **Intervention with Hip-Hop Pedagogical Approaches**

*Principal Investigator.* The first author of this paper acted as the principal investigator of this study and enacted the Hip-Hop pedagogical approaches in the middle school science classroom in his role as classroom teacher. Both authors served as researchers and took field notes based on observations of students and their reactions to the specific pedagogical approaches implemented. The researchers identified moments that had evidence of student participation /engagement, and moments where students self-identified as scientists.

*Co-Teaching.* Co-teaching is a teaching approach, most commonly used in secondary education, which has been popular for decades. Co-teaching is defined as “two or more professionals delivering substantive instruction to a group of students with diverse learning needs” (Cook & Friend, 1995, p.25). The goal for implementing this approach in a classroom is to allow the responsibilities for instruction to be shared between the two professionals. In this study, the student is identified as a professional and expert in the science classroom. As the

responsibilities for instruction are shared between both the teacher who is normally viewed as the main authority figure of the classroom and a student, the student feels a sense of empowerment and excitement that can allow them to take responsibility for their own learning and participation to enhance their science content knowledge (Lave & Wenger, 1991; John-Steiner & Mahn, 1996). In Hip-Hop when a Master of Ceremonies (MC) is performing to an audience, oftentimes that MC is accompanied by a fellow MC whose essential role is to be a professional in terms of knowing and understanding the musical content to provide support to successfully showcase meaningful performance for the audience. Co-teaching increases instructional options, provides students with the opportunity showcase their mastery of the content as they support their colleagues to gain that same mastery. In addition, co-teaching in itself is a culturally relevant approach in the sense that the student who is now deemed the professional is a part of the same population that is receiving the instruction. In this study, co-teaching was supported using the following steps:

*Before class:*

- A student who volunteered to be a co-teacher is given a lesson plan to review for homework in preparation to teach the class the following day.
- The teacher performed a quick review of the lesson plan with the co-teacher to ensure that content is reflected accurately.
- The student was responsible for enhancing that lesson plan so that it can reflect their “teaching style.”

*During class:*

- The teacher sits in a student's seat in a place that is prominent in the classroom and in the view of the co-teacher.
- The teacher pays close attention to parts of the lesson where the content delivered and guides the instruction (by raising a hand as a traditional student would) only when there are issues with the content (Emdin, 2011).

*Call-and-response.* Smitherman (1977) defines call-and-response as "spontaneous verbal and non-verbal interaction between speaker and listener in which all of the statements ('calls') are punctuated by expressions ('responses') from the listener" (p. 104). Responses from the audience can follow from a speaker specifically requesting them, or they can be unsolicited and spontaneously interjected into the ongoing interaction (Foster, 1989). Call-and-response is a popular teacher approach and is commonly used in music and dance produced by African-Americans. Several studies show call-and-response to be effective in teaching students in urban communities (Foster, 2002; Piestrup, 1973). Call and response is considered integral to communicative behavior and functions as an expression of identity and as a means of conveying cognitive information among African Americans (Cazden, 1988). In Hip-Hop, to engage the audience, the MC will use call-and-response during their performance as a way for audience members to have an opportunity to be active participants during the performance. This exchange between the MC and the audience generates high energy and allows every audience member to participate in the exchange. In this study, call-and-response is used to review and reinforce science content information, as a classroom management tool and to generate positive emotional energy among students. In this study, call-and-response was supported in the following way:

*Classroom management:* To gain the attention of students when necessary.

Teacher: If you can hear my voice clap once

Students (*in unison*): [Clap]

Teacher: If you can hear my voice clap twice

Students (*in unison*): [Clap] [Clap]

Teacher: No music

Students (*in unison*): [Clap]...[Clap] [Clap]...[Clap]

The clapping rhythm used in this call and response pattern originated from a classic Hip-Hop dance song entitled “No Music” by a Harlem rapper named Voice of Harlem.

## Data Collection

The primary data sources for this study were student focus groups, video vignettes and a likert scale questionnaire. Secondary data sources are participant observations and field notes. All focus groups were video recorded and transcribed in their entirety, and reflective field notes were taken during and after each focus group. Videotaping of 6th grade science classes throughout the data collection period provided another means of making observations. Observations and field notes taken during and after each class respectively provided another source of data through which the researchers coded and analyzed for reoccurring themes. Focus group interviews were conducted with participants about their past experiences in science courses, and their conceptions of how the different teaching approaches that the principal researcher uses in the classroom engages them in the sciences.

*Questionnaire.* All students participating in the study completed a questionnaire to gain information about their perspective on Hip-Hop culture and the use of Hip-Hop incorporated into instruction. The goal of the questionnaire was to provide information that concluded or refuted whether or not participants in the study identify as students of the Hip-Hop generation and if they enjoy Hip-Hop pedagogical approaches. The questionnaire was composed of five-point Likert scale questions (using a scale of 1 – 5, where 1 = strongly disagree and 5 = strongly agree), but also allowing participants to elaborate on their choice of their selection on the Likert scale for every question.

*Focus Groups.* Focus groups of 2-5 students were formed with participants selected based on responses from the questionnaire. The goal of the focus groups was to understand student’s perceptions and opinions of the different Hip-Hop teaching approaches that are implemented in the classroom. There was a focus group of students for each of the two Hip-Hop pedagogical approaches that this study focuses on.

*Video Taped Recordings/Video Vignettes.* Participants were recorded during classes when the principal investigator enacted Hip-Hop pedagogical approaches. These recordings gave researchers an in-depth understanding of what Hip-Hop pedagogical approaches impacted participants in different ways and the nature of, and exact moment these approaches were implemented. The video recordings allowed researchers to rewind, fast forward and analyze the classroom frame by frame.

## Data Analysis Methods

A variety of data analysis strategies were used to efficiently and effectively analyze data collected during this study. Observations and field notes produced in the natural setting of this

study were coded and used as a guide to select video vignettes that showed students interacting with the two Hip-Hop pedagogical teaching approaches being studied. Focus group interviews were transcribed, as were open-ended answers from the questionnaire.

Qualitative coding techniques, including member checking and coding for reoccurring themes were used to analyze the data generated from this study (Guba & Lincoln 1989; Creswell, 2013). All focus group, questionnaire and observation data were entered into a Word document for word-by-word coding and initial coding for categories. Then, the data that was selected for categories was entered into Nvivo to organize and then combine into reoccurring themes. The three themes that emerged from data analysis were (1) using Hip-Hop to support students' understanding of science content, (2) supporting students' agency and voice through Hip-Hop pedagogical approaches, and (3) students' connection to Hip-Hop and Hip-Hop pedagogical approaches.

### **Results and Findings**

The findings of this study are organized by reoccurring themes that emerged during the data analysis process. To elaborate on reoccurring themes, exemplary moments from transcripts that reflect students who participated in this study individually and collectively would provide insight on student's experiences with Hip-Hop pedagogy and in turn the benefits of these teaching approaches.

#### **Call-and-Response Supporting Students' Understanding of Science Content**

In the middle school science classroom that was the focus of this study, all students participated in, and were engaged by, the call-and-response approach when it was enacted. Oftentimes, it took up to three "call" prompts to receive a response from the entire class, but students found that this approach was an effective way for students to remember and memorize scientific content taught during its use. Call-and-response was used to reinforce definitions of basic scientific words like force and energy. Naomi, a student who participated in the call-and-response and focus groups thought that call-and response approach was beneficial to student learning "[because the teacher is] jamming [the content] into our head without jamming it into our heads." The student here was referring to the colloquial definition of the word jamming that connotes music and dance as a metho to get her to remember information without jamming (forcing) the information.

Another student, Sean agreed, by stating, "saying it over and over they (students) will be listening and they will get it." Sean felt that when the teacher enacted call-and-response around science content all students in the class would listen and eventually not only join in by participating, they will have a better understanding of the content. Naomi later said, "You keep repeating it until [students] can understand and catch on." Similar to Sean, Naomi felt that the more call-and-response was enacted around science content the more participation there would be from students. Therefore, we suggest that students would gain a better understanding the science content through rhythmic call- and-response interactions with the teacher and entire class. Both Naomi and Sean felt that this was an effective and interactive way of learning in the science classroom.

*Interviewer: So when I do call-and-response either if I'm asking you to respond*

*with definitions or with clapping, does that make you more attentive in the classroom?*

*Sean: Yeah, I think that it like gets us more hype to do the work.*

Sean explains how the call-and-response approach not only garners student's attention in the classroom, but it also makes students "hype," which means it makes students excited and eager to engage in the science content, activity or lab that might be next on the agenda for the lesson.

Overall, students who participated in this study explained how the use of this Hip-Hop pedagogical approach in the science classroom helps engages them in, and deepen their understanding of, the science content.

### **Co-Teaching Supporting Students' Agency and Voice**

The second theme that emerged from this study was how the implementation of Hip-Hop pedagogical approaches supported students' agency and voice in the science classroom. Both students who had an opportunity to co-teach enjoyed their time teaching the class because they were able to influence what and how students, including themselves, learned in the classroom. They were able to interact with students differently than the teacher to foster students' understanding of the content. Courtney said, "[co-teaching] was great because I felt in charge, I felt like I had control over what the kids were learning and what I was learning." She later went on to explain how it is beneficial for students to learn from their peers because, "it is like us helping us... we have conditions that we can understand, like the way I was teaching...[the teacher] explains things but is not putting anything into it, and sometimes we would get confused." Courtney enjoyed the feeling of being "in-charge" when she co-taught the class and had control over what her peers were learning and how they learned it. She saw benefits in students teaching other students because they are able to explain the content in ways where the content can be transferred from student to student because they understand one another realities and "conditions." Courtney felt that it was more beneficial for students to learn from one another than for the teacher to disseminate the information because students "do not always understand the content when the science teacher teaches it."

Brandon shared similar sentiments to Courtney, but focused more on acquiring the trust of his peers and developing the skill to talk to a large number of his peers. He said, "because I'm in front of all of these people it seems like [they] trust me and chose me to do something smart." Brandon felt that since his peers were engaged while he co-taught, they trusted him to teach them science content. Brandon then says, "[co-teaching] helps me because when I was teaching in front of [of the class], because I was talking slow, and I got to stand in front of people and talk." While Brandon was very timid when in front his peers teaching science content, he viewed co-teaching as an opportunity for him to develop his voice in the science classroom. Brandon is normally a quiet student that often participates, but often feels like he has no voice in the science classroom because as he stated, "my partner doesn't like to talk to me." Brandon was excited for the opportunity to be in a position of power to develop his voice and public speaking skills in the science classroom, while co-teaching.

### **Students' Connection to Hip-Hop and Hip-Hop Pedagogical Approaches**

The third theme that emerged from this study was students' connection to Hip-Hop and

the Hip-Hop pedagogical approaches implemented in the science classroom. Students who answered the Likert questionnaire expressed their connection to Hip-Hop culture and how they would like to see more of it in the science classroom. Out of the 31 students who completed the questionnaire, when students were asked if they enjoyed and listened to Hip-Hop music 81% strongly agreed, 13% agreed, and 7% neither agreed nor disagreed (Table 1). Some short answer responses included:

- Student 1: Because I love Hip-Hop
- Student 2: I love it
- Student 3: Because that is my culture
- Student 4: Because of the beat and what they say connect to me sometime

Table 1  
*Student responses to likert scale questionnaire*

Question		Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly Agree
Q1. I enjoy science	#	0	2	9	9	11
	%	0%	8%	29%	29%	34%
Q2. I enjoy this science class	#	0	2	9	11	9
	%	0%	7%	29%	34%	29%
Q3. I enjoy that my teacher uses Hip-Hop culture to teach me	#	0	1	4	12	14
	%	0%	3%	13%	39%	45%
Q4. I enjoy and listen to Hip-Hop music	#	0	0	2	4	25
	%	0%	0%	7%	13%	81%
Q5. I would like to see more Hip-Hop culture inside the classroom	#	0	2	0	5	24
	%	0%	7%	0%	16%	77%

These responses show that students in this urban science classroom are active participants of the Hip-Hop generation. Students connect to Hip-Hop because they identify it as a part of their culture.

When the call-and-response approach is used for classroom management, students become excited and would wait for the teacher to say “no music,” so they can respond and clap with the matching rhythm. Through analyzing the video vignettes, I noticed some students did not respond to the first two prompts (1. if you can hear my voice clap once, 2. if you can hear my voice clap twice), but respond enthusiastically to the “no music prompt” because it allowed them to clap to a rhythm that is tied to their culture and their life outside of school. When asked where the rhythm that students clap to when call-and-response is used for classroom management, students could not identify the popular song entitled “No Music” by Hip-Hop artist Voice of Harlem. Instead students said, “[the rhythm came from the streets, just the streets in general. It didn’t necessary come from where I came from... it came from the streets, it came from Harlem, it came from the Bronx, Brooklyn.” Students were able to connect the call-and-response approach to their lives outside of school. When students say the rhythm comes from the streets, they are referring to the urban communities where they live and where their school is located. Sean also shared, “I think music in class is cool, not high, but I think it would get everyone to do their work.” Sean believes that while students are participating in group work or independent work Hip-Hop music should be played at low volumes to encourage students to do their work, it

is also another way to bring students realities into the classroom, as Sean said “it makes me feel comfortable. It makes me feel at home.”

### **Discussion**

Based on the interviews and statements of participants in this study, it became clear that students were overwhelmingly positive about the benefits of Hip-Hop pedagogical approaches in the classroom. These approaches were welcomed because they are rooted in the culture of the students, reflect their realities, and puts the teaching and learning in their own hands. The findings of this study also show that students are able to memorize and then understand science content through both the call-and-response and coteaching approach because it allows them to move from memorization to active participation through the use of culturally rooted approaches to teaching. Students noticed that they are able to relay scientific content to their peers while coteaching more efficiently than their teacher because they (students) are members of the same community. In many ways, the teacher is an outsider to their culture that needs to create “weak ties” to students that can be fostered by Hip-Hop pedagogical practices (Burt, 2001). While call-and-response may be perceived as just repetition, it has a rich tradition within African communities and takes on a very distinct form within Hip-Hop that gets activated through the enactment of call and response. Within the science classroom, this Hip-Hop pedagogical practice (call and response) awakens a connection between students and the content and creates the conditions for student engagement in science. If students are able to obtain a deeper understanding of the science content and understand the definitions of scientific vocabulary words they increase their science cultural capital and are more likely to navigate spaces where they will need knowledge of science content to thrive (Bourdieu, 1986; Coleman, 1988).

In this study, when a student explained that they had fun while engaging in Hip-Hop pedagogical approaches in the science classroom, I related that to positive emotional energy, which is ultimately beneficial to the learning experience of students and their interactions with one another. Through call-and-response, students are allowed to participate in a positive collective effervescence, which is a sociological construct created by French sociologist Durkheim, where participants in the same community come together, simultaneously communicate the same action, and experience the same social force (Rawls, 2004; Throop & Laughlin, 2002). If teachers are able to create situations that evoke students enacting positive social effervescence in the science classroom, it allows the teacher to further strengthen “weak ties” with students because both the teacher and students become co-participants in the exchange of positive emotions (Burt, 2001; Rawls, 2004).

Through this study, we were able to affirm that students are more excited and engaged when Hip-Hop pedagogical approaches are implemented in their science classrooms, students gain a better understanding of science content through their exposure to Hip-Hop pedagogical practices, students are provided with a different route to develop their voice in the science classroom and are able to share and obtain scientific content knowledge from their peers. Moments like when a student like Brandon expresses how he was nervous speaking in front of a class full of his peers, until co-teaching allowed him the opportunity to practice that skill in a way that connects him to his peers or when Courtney expressed how she was able to explain a concept to her peers because they share the same realities speak to the fact that incorporating Hip-Hop pedagogy in the science classroom allows students to feel at home while within the school walls and feel comfortable with learning science.



### Conclusion

The fact that this study positively impacted teaching and learning in an urban science classroom holds tremendous value for urban learning, teaching and research in a subject area where achievement gaps are most prevalent. However, although an urban science classroom served as the setting for this study, we believe that Hip-Hop pedagogy can be beneficial when utilized in any content area. This motivates us to engage in future work that moves beyond the one class that is the focus of this article, and towards comparative studies among classes in different subject areas where Hip-Hop pedagogy is used, not used at all, and/or used sporadically. Other possible next steps for researchers include developing and modifying more teaching approaches and activities that are anchored in the other creative elements of Hip-Hop (such as knowledge of self, storytelling graffiti art and DJing), and longitudinal studies of the impact of Hip-Hop pedagogical practices on students. This article, and the burgeoning area of research that births it, shows that Hip-Hop pedagogy has the potential to transform classrooms and generate new forms of cultural capital for urban students and their teachers. Once Hip-Hop based approaches to teaching and learning that focus on practical aspects of pedagogy become rooted in our practice and research, new opportunities for students are opened, and educators collectively move towards more equitable and transformative experiences for young people.

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## **ENACTING A SOCIAL JUSTICE LEADERSHIP FRAMEWORK: THE 3 C'S OF URBAN TEACHER QUALITY**

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### **Abstract**

The purpose of this study was to conceptualize a social justice leadership framework that identifies essential urban teacher qualities. This framework serves to benefit education leaders seeking teachers best suited for urban schools and urban educators seeking to improve their praxis. The study used a critical approach to analyze data collected from semi-structured interviews with 15 district and school leaders from one large, northeastern, urban district. While administrators all searched for teachers with strong content knowledge, they also sought teachers who possessed qualities for what the authors interpret as the 3 C's: (a) cultural competency, including cultural awareness, experience, and understanding; (b) communication skills bridging urban teaching and learning; and (c) commitment to serve students and the community. The implications from the 3 C's framework can serve to remind policymakers and practitioners of the teacher qualities needed to provide children in urban communities with a just and equitable education.

**Keywords:** social justice, leadership, teacher quality, teacher hiring

Who should define the necessary qualities of teachers best suited for an urban school? Currently, policymakers, politicians, and philanthropists influence national, state, and private initiatives designed to improve teaching and learning outcomes in urban public schools. Though at one time conversations of teacher quality were localized to teacher preparation programs and public schools (i.e. those who supplied and demanded teachers);

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more recently, teacher quality has become the focus of multiple stakeholders including federal and state agencies, nongovernmental lobbyists, and departments of education (Ravitch, 2014). This focus has resulted in the high stakes accountability policies of the “new professionalism” (Brantlinger & Smith, 2013), such as No Child Left Behind (NCLB) mandate, that now shape the definition of teacher quality through the establishment of stricter certification requirements for teacher preparation and licensure (Roellke & Rice, 2008).

New professionalism policies relying upon “technicist” metrics, such as progress monitoring and assessment, limit teachers’ autonomy to make context-specific decisions based upon the unique dynamics of the classroom (Zeichner, 2010). An overemphasis upon such metrics may inhibit educators from developing other teacher qualities, such as their dispositional traits. One example is the exclusion of the social justice component in the Council for the Accreditation of Educators Preparation (CAEP) nomenclature when NCATE (National Council of Teacher Education) and TEAC (Teacher Education Accreditation Council) merged to form one teacher accreditation body (Wasley, 2006). The removal of this language, as a policy decision, may influence the scope and content of teacher preparation programs, resulting in a move away from courses that speak to the societal responsibilities of schools, the nonacademic roles of teachers, and the historical marginalization of students of color.

### **Conceptual Framework**

Teaching and learning depends upon strong school leadership. To develop schools that produce equitable teaching and learning opportunities, many authors note the importance of school leaders’ beliefs, experiences, and attitudes toward social justice (Brown, 2004; Theoharis, 2007), particularly with regard to teacher quality equity (Skrla, Scheurich, Garcia, & Nolly, 2010). Teacher quality inequity refers to the current inequitable distribution of quality teachers, where underserved urban districts have less access to teachers who are qualified (Haberman, 2005; Ingersoll, 2001; Lankford, Loeb, & Wycoff, 2002), particularly in hard-to-staff subjects like mathematics and science (Ingersoll & Perda, 2010; Liu, Rosenstein, Swan, & Khalil, 2008). For urban districts, this unequal distribution of teachers has led to research on the teacher staffing challenge, which is characterized by the challenges urban districts experience and cope with as they deal with multiple factors of low supply and high demand. However, few studies describe how urban district leaders strategize to address such challenges (Liu et al., 2009); and fewer address principals’ perceptions of teacher quality (Ingle, Rutledge, Bishop, 2011). This study was developed to address the gap in the literature by connecting social justice leadership with urban teacher quality, as district and school leaders “enact justice” to cultivate the necessary human capital needed to educate diverse student populations (Theoharis, 2007, p. 222).

### **Research Questions**

The following questions served to examine school and district leaders’ perceptions of teacher qualities they believed were essential for serving students with a just and equitable education: “What characteristics would urban district and school leaders search

for in new teacher hires?” and “How can these findings conceptualize a framework for social justice leadership in recruiting, hiring, and developing quality urban teachers, particularly in hard-to-staff subjects like mathematics?”

### **Methods**

This research used a case study design (Yin, 2013) of one large, northeastern, urban district with a student population of over 40,000 students – the majority of whom are students of color eligible for free or reduced-price lunch. To elicit the rich details that explain the staffing challenge, this study used qualitative interviews of district and school leaders to examine problems in recruiting and hiring new teachers, specifically science and math teachers; the challenges associated with the equitable distribution of new teachers among schools vacancies; the approaches they have taken (or plan to take) to solve these challenges; and the results from the implementation of these approaches (if any). The semi-structured interview protocol was derived from an earlier study by Liu et al. (2008), and adapted to reflect the national economic decline of the 2009 Great Recession, which impacted many labor markets including several district-wide reductions-in-force (RIFs).

An invitation to participate in the study was sent to the directors of human resources, the union leader, and all public secondary school principals. All of those invited agreed to participate in the interview, except for two principals who could not schedule a mutually convenient time. The sample was limited to secondary schools, as the mathematics staffing challenge is more pronounced at that level (Liu et al., 2008).

In total, 15 district administrators were interviewed between April and May, 2011; the sample included administrators from charter schools, magnet schools, and the local comprehensive high schools. The student populations in these schools range from approximately 200 to 1800 students. To understand the patterns and themes of each organization’s experience with recruiting and hiring math teachers, data analysis involved both contextual analysis of each school and cross-school analysis across the settings. To establish in-rater reliability, each document was coded by two research assistants and then by two researchers (Miles & Huberman, 1994). The researchers first coded inductively by the various emerging patterns and themes that were first identified, and then deductively as the researcher cycled through the data set and created tables and analytic matrices to compare the approaches, challenges, strategies, and structures that affect the recruitment and hiring of teachers in the urban district (Creswell, 2009).

### **Findings and Interpretations**

Administrators reported finding quality teachers a challenge, despite the Great Recession of 2009, and the resulting increased supply of teachers. Due to the Highly Qualified Teacher (HQT) requirement of NCLB, all leaders reported candidates’ content knowledge as a sought out quality. In addition to content knowledge, school leaders pursued candidates who reflected qualities the authors interpret as the 3 C’s: (a) cultural competency including cultural awareness, experience, and understanding; (b) communication skills bridging urban teaching and learning; and (c) commitment to serve

the students and the community. Finding a dynamic candidate embodying the 3 C's in conjunction with content competency was at the heart of the hiring challenge.

### **Cultural Competency**

A school merely reflects society, which includes multiple cultural identities and a range of connections to social power based on historical, political, and economic factors. When teachers enter a school, their cultural identities follow them; how they interact may mirror interactions occurring in today's de facto segregated society. Given this, it is vital that teachers be aware of privileges and prejudices (Solomona, Portelli, Daniel, & Campbell, 2005). The growing mismatch between teacher candidates' demographics and the K-12 student population means teachers must be consciously aware of the inequitable distribution of power and the plethora of prejudice and racism embedded throughout society to ensure that they are not vehicles for prejudice, classism, and racism (Haberman & Post, 1998; Ladson-Billings, 2009; Valencia, 2010).

A cultural disconnect experienced between teachers and students may result in pedagogical and philosophical obstacles that can pose a challenge to the teaching and learning in a classroom. Thus, relationship building, trust, and caring skills that are congruent with student cultural norms are key to educators' ability to effectively connect with underserved students and promote educational equity (Delpit, 1995; Duncan-Andrade, 2007; Kohl, 1995). An educator's ability to look beyond the day-to-day stressors of the school to the larger structural context of segregation and historical marginalization can empower the educator to see his or her societal role in educating and inspiring students. Such a position requires informed hope (Duncan-Andrade, 2009).

District and school leaders identified teacher candidates' awareness, experiences, and understanding of urban cultures as absolute necessities for teachers to become reflective urban practitioners. Urban areas, like suburban or rural ones, have distinct historical, political, and economic characteristics that mold school cultures (Anyon, 1997). This awareness should include an analysis, or at least an acknowledgment, of the difference between urban and non-urban areas. As these principals explained:

Principal 1: [We need teachers] who know what they're getting into in an urban environment, or at least they're cognizant that this is not [a wealthy suburb].

Principal 2: You [can]'t live in a vacuum, you have to know what you're up against when you going into [an urban district].

As a result the majority of administrators sought candidates with either prior exposure to cultures different than their own, or experiences in urban settings. The administrators connected candidates' urban experiences and their comfort with urban children with their ability to actively engage urban students in appropriate ways.

One administrator lamented the lack of experience included in teacher preparation programs, stating, "Well, people go through those [teacher preparation] programs, come here, and they're not ready... [New hires] don't know the culture of the children, the culture of the district." These administrators spoke to the importance that teacher candidates:

[Be] able to learn, willing to learn. For us it also takes the sensitivity, for urban children in urban situations, because say what you want, urban is totally different than any place else and you have to be mindful of that.

District and school leaders emphasized that understanding the community culture needed to be asset-driven and not have deficit undertones. One described how

A lot of things that [students] have encountered in their home life has made them appear certain ways sometimes-- they may be very aggressive, they may be in many ways considered disrespectful....[but] what you have to do is understand that my kids, before you can teach them, they have to trust you, they have to think that you're real and that you care about them.

Thus, centering curricular and pedagogical goals on the interests, realities, and lives of the students increases teachers' expectation and promotes student achievement (Duncan-Andrade, 2007; Gay, 2002; Watson, 2013).

Not only should educators incorporate students' culture into their pedagogical approaches, more importantly, educators should always seek potential and promise in them. Principals wanted teachers to be able to distinguish the difference between how students have been *placed* at-risk (Boykin & Noguera, 2011, Haberman, 1995) due to their surroundings, in contrast to labeling students "at-risk," and implying that teaching them is somehow risky. Making this distinction, administrators felt, will make a significant difference. For example, one principal said:

Because like a lot of urban schools there is sometimes a culture of deficit thinking which tends to be a disadvantage to the students that we serve. So to believe anything less than or to believe that anything less than success is possible by the person within themselves, that's their belief system, their value system, is not something that I, if I'm hiring somebody that's not something that would be acceptable to me. For example if I interview someone and I ask what do you think of the biggest challenges facing our students success, and you tell me it's the parents, I have a problem.

Several principals emphasized that teachers must have high expectations of their students, thereby appreciating and capitalizing on what researchers have coined as a school community's 'funds of cultural knowledge' (Koerner & Abdul-Tawwab, 2006; Seidel & Friend, 2002; Zeichner, 2010). To gain such appreciation, Zeichner (2010) recommended that teacher preparation programs expose their teacher candidates to an equitable amount of knowledge from academia, the school, *and* the community they will serve. Khalil and Griffin (2012) proposed urban field experiences as one strategy for influencing teacher candidate' preference for urban settings. Teacher candidates' exposure to school communities may offer a culturally rich teaching experience, which can better prepare candidates to approach new communities with respect and dignity in contrast to fear and xenophobia.

## Communication Skills

For students to internalize concepts and form a knowledge base, a teacher must be able to communicate engagingly and responsively with all students (Braun, Willems, Brown, & Green, 1987; Ralph, Kesten, Lang, & Smith, 1998). Warren (2014), among others, described how communicating empathetically can improve culturally responsive teaching practices that are necessary for student gains in a diverse classroom setting (Dolby, 2012; Warren, 2014). Administrators repeatedly referred to the importance of a teacher's ability to deliver information. One administrator explained,

It's one thing knowing the content area, it's another thing being able to teach and being able to relate to the kids and being able to communicate with them and be able to motivate them. It's important the way the teacher talks, it's important. Their entire demeanor is important, their communication skills are very important.

Other principals discussed interpersonal skills and their importance in communicating effectively: "You need to have the personality and the skills to be able to navigate and to interact with the different kids because kids are different and that is part of the community of the school." Another principal explained, "Like would I be engaged in the classroom with this individual? It has to do with persona, it has to do with the delivery of message, it has to do with the fire in your belly."

Communication as a quality of teaching goes above and beyond process and interpersonal skills; effective communicators must be able to read social cues and use non-verbal expressions. These are often dependent upon cultural contexts (Delpit, 1995). In an urban context, this includes the ability to communicate with bilingual students, as urban areas attract many new immigrants. One principal described how multicultural his school really is:

[There are] 56 different countries from you know different continents and you know 30 something 35 or 32 different languages here. So [a teacher], is somebody I guess who's very international, I mean who understands and who's very aware and very much embraces differences of different cultures.

Administrators also spoke about the importance of being able to code-switch (Anderson, 2000), and the teacher's ability to react appropriately can be a challenge. For example, a selected number of principals stated:

Principal 1: It's knowing where the line is. It's knowing how to talk to the kids, it's knowing when you should raise your voice a little, and when you shouldn't. It's knowing when you got to be, for me a little bit of a mother at a times, and a bit of a disciplinarian.

Principal 2: They may be committed to the urban center, they just cannot adjust with the kids. Its converse is also true: you have folks in the comprehensive setting you know you send them to a school like this they wouldn't be able to function because they are so used to speaking in a certain way and these kids will give a tongue lashing if you speak to them that way, so it depends.



Just as teachers' cultural competencies may help them effectively communicate with students, their lack of intercultural communication skills may result in their frustration and lack of commitment to the profession. Urban administrators search for candidates with receptive communication skills that allow them to better understand students' worldviews and meaning making, in particular, as it affects the course of both learning and teaching in the urban school context. Communication involves more than a teacher verbally delivering information to students; connections and understandings, the byproducts of communication, rely upon educators building rapport and forming trusting relationships with students through the act of truly listening to their students. By engaging in practices that draw on the intersection of interpersonal, intrapersonal and intercultural communication (Carmack, 2014), teachers emit a sense of "cultural caring" (Gay, 2002) that promotes positive affect and well-being in the classroom, specifically, and equitable learning opportunities more generally.

### **Commitment to Urban Communities**

In addition to a cultural knowledge base and congruent communication skills, several urban administrators identified "star" dispositions as desirable character traits in new hires (Haberman, 1995, p. 777). Specifically, administrators sought dispositions they believed embodied commitment, which many associated with both dedication and retention. To connect with students and truly impact them academically, one must be driven and motivated. Administrators explained that dedication to the school, community, and the children is the hardest aspect to vet in new hires. Further, commitment is a disposition with a meaning that varies by audience. A well-intended new hire may think that she or he is committed, but often this disposition is not fully understood until a teacher meets his or her first struggle.

Urban school commitment refers to both long-term retention (Ingersoll, 2001) and teachers' ability to act as agents of social justice who are highly dedicated to providing equitable student outcomes. Henkin and Holliman (2009) referred to this level of dedication as "affective commitment" (p. 160). Often, the daily commitment to excellence requires thorough preparation, high expectations of students, and dedication. After a three-year study of four effective teachers, Duncan-Andrade (2007) identified constant preparation, self-reflection and relentless effort as the characteristics necessary in quality teachers.

Similarly, principals in our study spoke about "teachers who have special kinds of skills, some staying power, high level of commitment, endurance." In addition, they desired teachers who were flexible, reflective and sufficiently self-aware to seek assistance in times of need to make improvements. As one administrator explained:

...When I hired physical ed[ucation] teachers, I had to have people who were going to be willing to teach phys. ed. in a building that doesn't really have a gym... Or a science teacher who's willing to work without a real science lab. You look for those kinds of qualities in a person. Dedicated.

Another administrator highlighted the importance of dedication in an urban environment by comparing the high demands of an urban school in contrast to a suburban school by stating:

You can go to any suburban district and be a teacher and be a mediocre teacher and probably do fairly well. We don't need mediocrity, we need teachers who have special kinds of skills, ability to relate to the kids...high level of commitment, endurance, content area has to be tight and have the desire to work hard and constantly improve their class. This is the difference between brain surgery and a general practitioner. You have to come in here ready to go.

Thus, in order to ensure that urban students have access to equitable opportunities, administrators believed they needed to have teachers who were highly committed to student success, and who recognized that they may be depended upon to help navigate their students towards their postsecondary aspirations. As many teachers in urban districts deal with a higher number of undesirable work conditions such as car theft, lack of parking, etc.; conditions that adversely affect career preferences for urban settings (Khalil, 2012), principals repeatedly noted that commitment to the profession is one of the most necessary qualities. Such dedication requires an understanding of the obstacles and a drive to persist beyond them.

While some administrators felt that dedication was enough, others strongly expressed a need for long-term retention and commitment to the school. One principal argued:

In education, when you're working with a population, one of the things is most important is to have consistency. ... when you have to constantly, every 2-3 years, constantly re-teach the culture to a teacher, you're spending half of your time re-teaching all over again, and all over again. They're a cycle and you never move out of the cycle to really get student achievement. So you can have wonderful teachers coming in every two years, but the culture of the school changes every two years because everyone is different. So then you never have any consistency with the teachers.

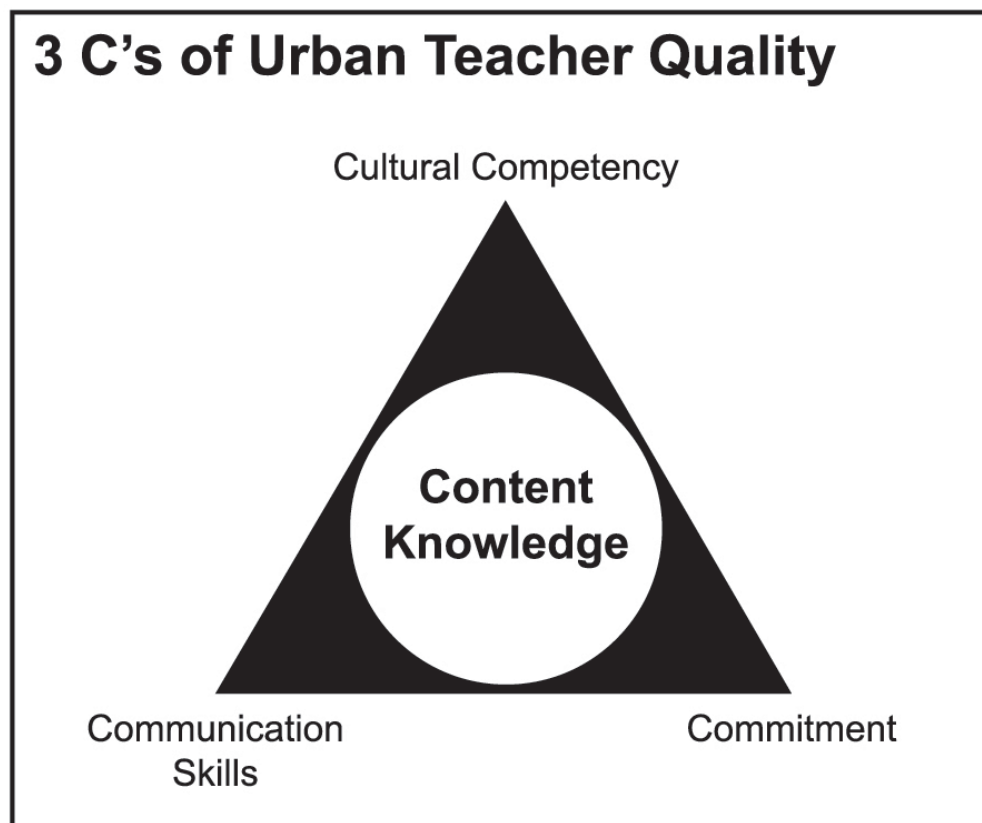
The revolving door of exiting teachers occurs more often in high needs districts (Ingersoll, 2001). This, urban leaders explain, requires more time and more resources to develop and support the teacher. Thus, commitment requires teachers to perceive their teaching positions as careers and not brief service opportunities. One administrator elaborated:

You have to really groom them and find people who are really dedicated and committed to the profession. And there's not a lot of people that are like that, especially given the instability of the profession, and the dangers associated with it. All the work and the hardship that's associated with it.

In sum, leaders sought both dedication and retention to justly serve the students in their urban schools. Teacher commitment, as a quality, allows leaders to not only build a school culture, but a professional community of practice capable of serving both the needs of teaching and learning.

### **Discussion - Toward a Framework of Social Justice Leadership for Urban Teacher Quality**

Three primary characteristics emerged in the iterative data analysis process: cultural competency, communication skills, and commitment. Through the analysis of their experience, it is clear that central office administrators' and principals' efforts were aimed to create equitable opportunities for their underserved students by hiring teachers that embodied these characteristics. Furthermore, these characteristics are consistent with kinds of dispositions and skills that the literature identifies as essential for teachers to be effective in educating students in urban communities (Duncan-Andrade, 2007; Gay, 2002; Haberman, 1995; Ladson-Billings, 2009; Warren, 2014). Figure 1 below represents a framework for understanding how these 3 C's are related and support one another around the core quality—content knowledge.



**Figure 1.** The social justice leadership framework for the 3 C's of urban teacher quality.

While content knowledge remains a central component of the highly qualified teacher mandate of NCLB, the social justice leadership framework for the 3 C's of urban teacher quality can serve to extend this mandate as a paradigm that reinforces the need for

other qualities administrators can strive for as they develop, recruit, hire, and retain their teacher workforce. The 3 C's requires exposure and opportunities for pre- and in-service teachers to communicate with community stakeholders in an effort to further develop the cultural awareness necessary for commitment. Similarly, a teacher's cultural awareness supports his or her ability to communicate with students. Interwoven and interdependent, each C informs and supports the other two. Communication skills that are congruent with student cultural norms are key to educators' ability to effectively connect with and gain trust of students. A lack of intercultural communication skills may result in teacher frustration and burnout, leading to a lack of commitment. Commitment results from teachers' understanding of students' lives, the community where they live, and requires an appreciation of the community's cultural funds of knowledge. The 3 C's paradigm promotes the interrelationship between each "C" with content knowledge such that educational equity and social justice become the educator's aim.

At the teacher preparation level, programs need to renew their dedication to the social justice paradigm to promote the 3 Cs. This can be achieved by required coursework that includes urban field placements in model classrooms and experiences for candidates to be involved with, not only teachers, but students, families and communities. Through these exposures and strategic learning opportunities, candidates would receive the preparation to communicate affectively and effectively with stakeholders, develop culturally responsive pedagogies, and experience the types of commitment required of highly successful teachers. However, teacher candidates cannot merely learn these practices and dispositions, but must embed them into their teaching practice to ensure that by the time they become in-service teachers these qualities are routine to their practice. To communicate effectively and justly, a teacher must understand the cultural context and strategize how to remain committed. Similarly, developing culturally responsive lessons requires listening to the interests and needs of the students. Effective communication tools will enhance a teacher's ability to align pedagogy, content, and methods to students' prior content knowledge, cultural funds of knowledge, and interests.

At the district level, an administrator dedicated to the 3 C's framework may rely upon the Framework for not just hiring, but also in the diagnosis, development, and self-reflections of the teaching staff. Just as curriculum, assessment and content knowledge evolves, a teacher's 3 C's must not stay static. Throughout the career of a teacher each of the 3 C's develops and changes. In some cases the development in one C could result in the decline in another due to the focus upon one area. For example, a focused and committed teacher may lose sight of the communication skills required for building trust and rapport with students. Or tackling cultural issues in the classroom may result in continued struggles with students or colleagues resulting in a commitment decline.

While cultural awareness and communication both involve knowledge and skills, commitment is a disposition. Dispositions may be challenging to develop, because they are essentially a component of a teacher's personality. Thereby it may be difficult for an administrator to convey to a teacher that his or her commitment is not in tandem with his/her students' needs. Cultural awareness and communication can also be difficult to develop in teachers who are resistant to change. Such development requires a safe space and should not be approached in an evaluation context, but rather through reflective and trusting professional developments.

The paradigm of the 3 C's has implications for how school and district leaders involved in recruiting, hiring, developing, and retaining teachers can search for qualities that address the current unequal distribution of quality teachers. If school and district leaders actively attract and hire urban teachers with the 3 C's, and continue to design professional development within the 3 C's social justice paradigm, urban districts as an organizational whole will improve and stand a greater chance of addressing the academic and emotional needs of their students.

In sum, the 3 C's paradigm re-introduces qualities that have become largely absent from the recent national conversation due to the rise and abundance in new professionalism metrics. The 3 C's Social Justice Leadership Framework, as a paradigm, can be used by urban education leaders seeking to hire and develop teachers, and by education preparation programs seeking to better prepare in-service candidates who can provide urban students with a fair and equitable opportunity to learn.

### **Limitations**

The conclusions of this case study are constrained by limitations that must be acknowledged. The data are dependent on perceptions of a single district's administrators. Given the limited sample, it cannot be assumed that these findings are generalizable to all urban districts. In addition, the constructs from the conceptual framework guided analysis, but did not reflect precisely what the interview protocol sought. Finally, the study relied on the capacity and willingness of district and school administrators to accurately recall and describe events. Recall bias or limited memory may have influenced the results.

### **Conclusions and Implications**

As a qualitative study informing the authors' theoretical interpretation of the 3 C's, this study is reflective of practices school district leaders may espouse as they face the challenges implicit to recruiting and hiring high quality urban teachers. Today more than ever, these findings have timely implications for policies within schools of education, school districts, and at the national level. Beyond basic requirements that NCLB (2001) established in requiring HQTs, urban districts have realized that recruitment of teachers for urban classrooms also require the 3 C's.

To provide equitable teaching and learning opportunities, school leaders must apply the 3 C's to lead for social justice. Similarly, to bridge the gap between teacher preparation and the needs and demands of urban schools, the teacher preparation pipeline must provide ample opportunities to identify, discuss, evaluate, and reflect upon the 3 C's dispositions and skills. Further, while there are current policy efforts to propose evaluation criteria of teacher quality, the 3 C's framework strongly urges stakeholders to move beyond mere new professionalism metrics toward social justice criteria of cultural competency, communication skills, and commitment. District leaders should augment schools of education efforts by providing professional development to new school and district leaders for more coherent cultivation of urban teacher quality.

At the national level, a renewed commitment to social justice principles must be implicit to the goal to educate all students. This commitment must look beyond evaluating teachers and scrutinizing test scores. While accountability in education is a necessity to

ensure that all students have access to opportunities for academic growth and development, accountability must not be limited to just mere quantifiable indicators of the new professionalism movement. Social justice demands that policies extend beyond accountability metrics toward competencies that systemically and equitably meet the cultural, social, emotional, and linguistic needs of diverse communities.

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**“WHAT HAPPENED TO OUR SENSE OF JUSTICE?” TRACING AGENCY AND  
CRITICAL ENGAGEMENT IN A YOUTH PARTICIPATORY ACTION  
RESEARCH PROJECT**

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**Abstract**

Tracing the nature of critical engagement and agency among youth in a participatory action research (PAR) collective, the study attends to the manner in which critical engagement and agency developed over time for the youth researchers. The focus of the project was to conduct a survey among ninth grade students concerning their early high school experience, using participatory methods in data collection, analysis, and reporting back. Data collection included participant observation and review of footage of project activities, field notes, and the youth researchers' auto-ethnographic texts and creative products. Access to the ninth grade students was clearly achieved, and they were informed first among many stakeholders about the results of the survey; however, the classroom setting proved challenging in terms of facilitating critical engagement, compromising youth researchers' sense of agency. The university setting served as a site conducive to inquiry and agency for the youth.

**Keywords:** participatory action research, youth researchers, agency, critical engagement.

In this study we trace the nature of critical engagement among youth as they participate in critical inquiry and social action concerning opportunities and constraints within the educational system. A collective of youth, an educator/community member, and university faculty and students worked together over an academic year to study the early high school experiences of youth. The context is a high poverty urban district in the Midwest. Our particular interest is in the process we engaged together in data collection, analysis, and reporting back as

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we drew increasingly from a critical interpretive lens. The project includes a mix of out-of-school and in-school time, with the concentration of gatherings occurring in participatory action research (PAR) sessions at the university. The research question guiding the study is as follows: How do critical engagement and agency develop over time within a collective of youth, educators, and university members in a PAR project within an urban school district?

### **Conceptual Framework**

The paper is guided by a strong tradition of participatory action research in psychology and education involving youth (Cammarota & Fine, 2008), often employing the arts. This work is also informed by critical theory, and thus attends to history, policy, and an ecology of power (Fals-Borda, 1985; Freire, 1970) in its analysis of data and in the reflexive study of the research process. Our conceptualization of critical engagement involves the following commitments: recognition youth bring to research their experiential knowledge; critical analysis of data toward fostering critical consciousness; youth leadership in partnership with adults; attention to structural intersectionality, where multiple axes of inequity are frequently experienced in urban settings by youth of color in low-income and other marginalized communities; and inquiry toward collective action and social change (Fox, Mediratta, Ruglis, Stoudt, Shah, & Fine, 2010, p. 632).

The youth researchers attended seven high schools in the district, including schools on the east, west, and south sides of the city, each of which represents particular racial, ethnic, and socio-economic communities. The schools the youth researchers attend are both comprehensive high schools with deep roots in neighborhoods and several theme-based schools opened in the 2010-2011 school year as part of the district's plan for transformation. The seven schools represent about one-fourth of the district's high schools. The district is 100% economically disadvantaged, with some variation in the degree to which students experience concentrated poverty in their neighborhoods and schools. The state designation for the participating seven high schools in 2011-2012 ranged from effective to continuous improvement to academic emergency.<sup>1</sup>

### **Methods**

Our data collection for this study included our participant observation and review of footage of project activities, field notes, and the youth researchers' auto-ethnographic texts. Our data sources were journal entries by youth researchers<sup>2</sup>; our field notes; video recordings of project activities; and the creative products developed by the youth researchers at different phases of the project to engage others in the study topic.

In this paper we do not directly address the results of the ninth grade survey that was the focus of the PAR project. When we do discuss survey results, it is primarily to underscore data that reveal the development of critical engagement within the collective over the duration of the PAR project. Survey results are in the process of being reported through other scholarly products created by the youth researchers and their adult collective members (Cooke et al., 2015).

### **Findings**

To pursue our question regarding critical engagement and agency within our PAR collective over the duration of one year of the survey project, we focus on one team from a

particular high school and the youth researchers' deliberation. We look at the experience of this team at three moments in the life of the project, the first and third taking place in a school setting and the second occurring at the university.

*You have a choice  
to either take the survey  
and speak up for you education  
or just leave your education  
the way it is  
- Marcel*

### **Seeking Space for Critical Engagement within Constraints of the High School Classroom**

In November of 2012 Anne and youth researcher Marcel invited ninth grade students from Hamilton High School to participate in a survey on their ninth grade experience. A teacher had been asked by the principal to permit Marcel and Anne to meet with the teacher's five classes. In each class there were approximately fifteen students. The students' responses to the survey invitation ranged from arguments that "nothing's gonna change" to their emotional connection with a video produced by youth in a nearby city organizing for change in policing and neighborhood safety policies. Marcel equated voice with political agency. The teacher advised Anne that very few students would take an interest in the survey.

During one of the class periods, the teacher, who was White and grew up in the South, got animated after our reference to the civil rights struggle of the 1960s. Stepping from behind the desk, the teacher spoke to the students:

Things do change! It was not too long ago that signs told people where to sit or use facilities based on the color of your skin. So much has changed for you, things are so different for you now!

Anne wrote later in her field notes:

We sit in a classroom in a school with the following demographics: 98% African American/Black, 100% economically disadvantaged, and 29% students with disabilities (higher than the district average). There's a profound irony in this teacher's statement, but the class period is about to end, and the critical analysis needed at this moment will not be accessed. Marcel and I have several more classes to speak to after this one. Our time is limited. This teacher is our point of access to the students. The space for critical engagement is not available to us.

### **From the Outside Looking In – From the Inside Looking Out: Shifting the Critical Lens**

As a collective, we gathered in January of 2013 at the university to review the survey data, prepared by Regina. The team from Hamilton High School focused on the theme of students not getting along with teachers and with their peers, which was evident in the survey data. Data from two questions in particular informed our discussion: "How do students get along with each other in your school?" and "How safe do you feel in school?"

The data were especially salient to the youth researchers because of an incident that had just happened in their school involving a student-on-student fight that led to security and police

involvement and the use of pepper spray on the students. This school was recently rebuilt and the new building generated a great deal of hope about what educational opportunities might be possible at the school. During the meeting, the youth researchers played an excerpt from the evening news that covered the fight. They noted the following in their early analysis of the issue of safety:

**Marcel:** People say it's the school. I say it's the students.

**Roy:** It's basically gang-on-gang violence. We're put on the middle of [names several local neighborhoods] so basically everybody is beefing with each other, and we all are put in one place, so – they're gonna fight

**Marcel:** We've got a big gym and a small gym and they shoved everybody in the small gym

**Brittany:** It was for the [state tests]

**Marcel:** Because of [state tests], *but*, you know, you can't shove a bunch of kids in the small gym and expect nothing is gonna happen. So there was a couple of fights in the gym

**Marietta:** Nobody broke it up

**Marcel:** Nobody—by the time security got—only one security guard that finally got there

In this exchange among the youth researchers, Marcel initiates his explanation of students as responsible for the violence in his school, echoed by Roy who describes the school at the center of gang activity. However, Marcel soon moves to a structural explanation, noting how overcrowded conditions in a small gym during a week of state testing and insufficient presence of security personnel contributed to the problem of one particular fight.

The youth researchers discussed the way in which the media often portrays youth in a negative manner. The evening newscaster had noted about the rebuilt school facility, "It's absolutely a gorgeous building. However, what you're seeing repeatedly on the inside, it's ugly." The youth researchers talked about what it was like to go to a school with a "bad" reputation, and how it affected the way others view them as students attending the school. In the excerpt below, they noted the repercussions of negative media representation:

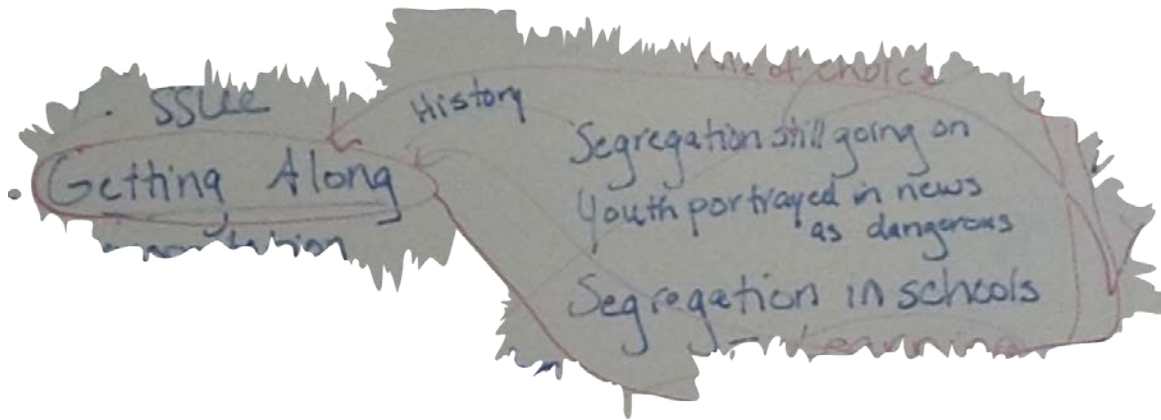
**Carl:** If a school gets a bad reputation they might think...it doesn't matter who you are. If you go to that school, you are a bad kid

**Marietta:** That's like the outside looking in. If you all looked at our school, they like "dang, they're terrible" but us going there it doesn't happen every day. They just catch us on like—

**Brittany:** —the bad days

**Marietta:** Right, like, ok, “Oh, they do this *all* week.”

During this session, each team as well as the broader collective explored the survey results. We considered what ninth grade students reported, placing it in relation to contextual dimensions such as educational policy in the state and district, conditions local to schools and their neighborhoods, and what we have studied of local history. We located the key themes emerging from the survey data and drew connecting arrows to this broader context. See figure 1 for a photograph of a whiteboard reflecting a discussion during our January session.



**Figure 1.** Discussion points during January PAR collective data analysis meeting held at the university in January 2013.

### Reporting Back to Ninth Grade Students as a Form of Critical Engagement

In preparing their creative product for reporting back to the ninth grade students, the Hamilton youth researchers noted 95% of the students surveyed in their school said they felt “fairly safe” or “very safe” in the school, while 50% of the students reported they got along “poorly” or “very poorly” with other students in the school. The apparent contradiction between students “feeling safe” at the same time they reported “not getting along” became a focus for the broader collective.

In the creative product by the Hamilton team, the youth researchers developed a video that juxtaposed the perspective of the televised evening news with the youth researchers’ alternative newscast, which was more nuanced. In the video, Marietta plays the role of a journalist, and she interviews Roy on his views of attending Hamilton. Roy tells her, “I like it. I like the fact that it’s a new building and I get a good education there...I feel overall safe. Although we have our ups and downs, fights, and violence, I feel pretty much safe.” Similarly, Brittany appears unwilling to cast a sweeping generalization of the school and the students in it, responding, “I feel very safe [pause]. Now look, I don’t feel so safe when they be talking about shooting up our schools, and stuff. I don’t feel safe.” Here the issue of the response to students’

fighting on the part of security guards and police officers is noted, possibly intending to raise questions about the use of pepper spray on students as a means of restoring order.

In March of 2013, Marcel, Brittany, Marietta, and Anne returned to the ninth grade classes of Hamilton High to report back survey results. We spoke to the same five classes of students as we had in the fall. Unlike some other schools surveyed, the response rate for the survey at Hamilton had been very low (20 students). There appeared to have been little interest on the part of the teacher in reminding students to return their consent forms. The teacher's prediction of low turnout became a reality.

However, the creative product, featuring the televised evening news program, negatively characterizing student relations within the building as "ugly," provided considerable engagement on the part of the ninth grade students. The youth researchers' counter-narrative of contradictory feelings of comfort and fear within their school also created the space for thinking about individual and institutional factors contributing to the issue of school safety.

The classroom setting was a challenge for the youth researchers and Anne. It is very likely the students were not told in advance that we would be presenting, so our arrival may have been seen as a school-imposed activity. Nonetheless, here at Hamilton High and across all of the seven schools, when the creative product was featured, the ninth grade students were drawn into the use of poetry, drama, music, and connections with the survey results. The use of performance in some form had durability in the youth researchers' engagement of their peers.

### **Discussion**

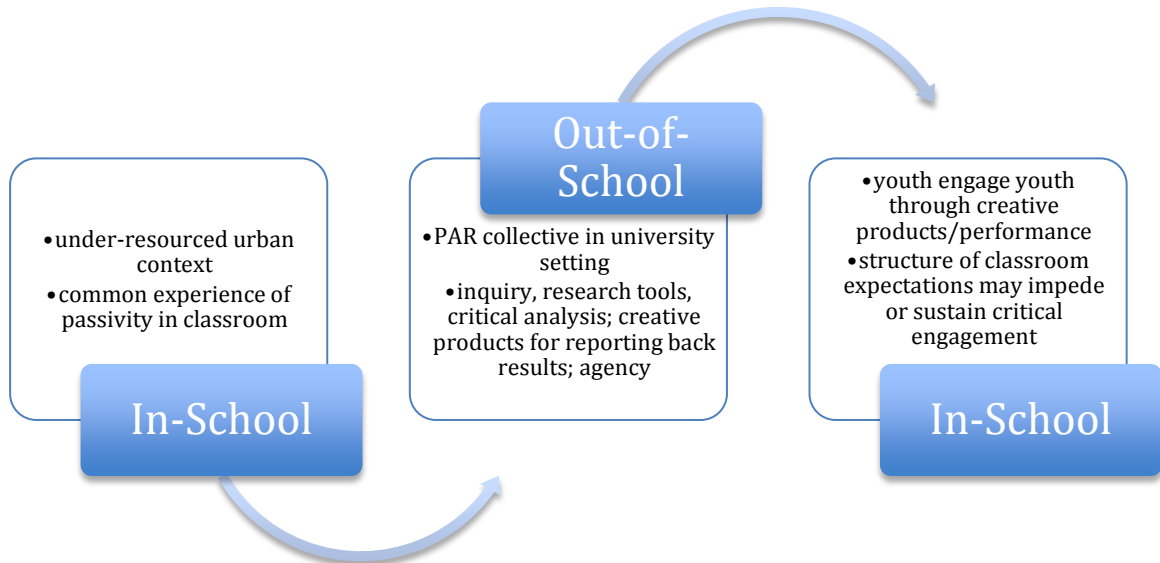
As the PAR collective moved more deeply into inquiry, the youth researchers provided valuable information and acted as agents of change in their discussion of the data, interpretation, development of creative products, and returning to the schools to report back their findings and to engage other students to express their voices. This process did not happen immediately nor did it occur in a linear fashion.

It appeared that youth researchers transitioned from a view of themselves as "students" to the role of "youth researchers." The former embedded them in the hierarchical relations of school, encouraging passivity; the latter recognized youth knowledge and nurtured agency, voice, and possibility. Also, their response to the university setting was striking in terms of how the youth researchers participated – taking greater initiative than was evident in the school setting.

In this rich and complex study of youth inquiry and action, we conceptualize a looping process of roles and identities among the youth researchers, moving from a sense of self as "student" to that of "youth researcher" and returning to "student" as the project conditions and settings changed. Passivity tended to occur in the settings of their urban high schools. This process was not necessarily predictable, but it did reveal challenges in efforts to achieve critical engagement with high school youth through the work of the PAR collective. We illustrate this process in Figure 2.

In reflecting on youth agency, we draw on six aspects of agency outlined in a study by Young et al. (2010). These dimensions of agency are reflected in the participants' discourse when they clearly define their goals, seek and provide information, support others during the process of inquiry, participate in decision making, and claim agency for self. Evans, Fox, and Fine (2010) discuss development of new identities that occurs for youth in their experience of PAR, becoming "experts and translators of both their classroom and community experiences" (p.

120). Evans et al. (2010) underscore this movement toward agency, as youth “shift positions from passive receivers/refusers of knowledge and take on the identities of producers and spokespeople for critical knowledges” (p. 120).



**Figure 2. Looping of sense of agency among youth researchers within a PAR collective as evident within in-school and out-of-school (university) settings.**

### Conclusion and Implications

As evident in the project, there is an experience of agency and passivity as the youth researchers physically and psychologically moved between the experience as a student in an under-resourced school to that of a youth researcher in a university environment. Contributing to the shifts in critical engagement are the spaces that open or shut down inquiry regarding the challenges youth experienced in their school environment. In our study, the spaces supporting inquiry were frequently located at the university. However, under the right conditions of youth leadership and creativity, urban classrooms have the potential for student agency and critical engagement.

### Notes

<sup>1</sup> State designations were as follows: excellent, effective, continuous improvement, academic watch, academic emergency. The 2011-2012 district designation was academic emergency.

<sup>2</sup> Journal entries were written or self-videotaped. Journal topics included attention to agency, critical engagement, and aspects of the survey project.

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## MAKING INTERNATIONAL EXPERIENCES ACCESSIBLE TO IN-SERVICE TEACHERS THROUGH EAST MEETS WEST PROGRAM

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### Abstract

The goal of this study was to examine the impact of the integration of global experiences on in-service teachers' international perspectives in mathematics classroom teaching through offering a graduate course "Global Perspectives in Mathematics Teaching" in the form of the East Meets West Program. This program engages teachers in an interactive face-to-face learning process in a dual language immersion setting. The opportunity of learning effective teaching strategies from Chinese top-ranked mathematics teachers and applying these strategies in teaching mathematics by working with a group of Chinese and US children in the East Meets West Program has benefited classroom teachers in various ways. The results of the study show that observing Chinese teachers' mathematics lessons, doing the case study on student learning, and observing and discussing the US colleagues' mathematics lessons highly have benefited them as classroom teachers.

**Keywords:** global perspectives, mathematics education, internationalization of teacher education, children learning, fieldwork

The internationalization of teacher education has long been an interest of instructors of education programs in the US (Klassen, 1972). It provides opportunities for sharing, discussing, questioning their own teaching practices, and finding the better choices in constructing the teaching process (Stigler & Hiebert, 1999). Therefore, it is imperative to engage U.S. teachers in learning instructional strategies with international perspectives and applying the strategies in classroom teaching. However, "while the

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tremendous influence of globalization, the interconnectedness of economies, and the importance of intercultural communication have been clear for some time, too little attention has been given to the question of how to make curriculum more reflective of international dimensions and concomitantly how to insure that we have more internationally competent teachers” (Koziol, Greenberg, Williams, Niehaus, & Jacobson, 2011, p.2). According to Knight (n.d), the internationalization of university general education curriculum is the process of integrating international, intercultural or global dimensions into the purpose, functions or delivery of post-secondary education. This definition emphasizes the importance and ways of integration of internationalization in teacher education programs (NAFSA Report, 2012).

With the increased growth of diverse student populations in urban areas, it is important to integrate international perspectives in mathematics teacher education programs in urban universities because international assessments from TIMSS (1999 & 2007) and PISA (2010 & 2102) revealed that the disparity between U.S. students’ mathematics achievement and those from other countries has not improved. In contrast, four Asian countries are among the top groups in mathematics scores in these international assessments. To improve the US student mathematics learning, teachers’ knowledge must be improved (An, Kulm, & Wu, 2004; An, 2004; Ma, 1999), and the international perspectives in mathematics classroom teaching must be introduced because it often leads mathematics educators to develop a deep understanding of various aspects of mathematics teaching and learning and it promotes teachers to question their own teaching practices and to develop better strategies in the teaching process (An, 2004; National Mathematics Advisory Panel Report [NMAPR], 2008; Stigler & Perry, 1988). However, there has been little discussion on the internationalization of mathematics teacher education in urban areas (Wu, Wei, An, McCoy, & Serrano, 2012).

The purpose of this study was to examine the impact of the integration of international experiences into a graduate mathematics education course on in-service teachers’ international perspectives in mathematics classroom teaching. Specifically, this study examined the impact of the East Meets West Program which was integrated into a graduate course and made international experiences accessible to in-service teachers (graduates) through engaging them in an interactive face-to-face learning process with two groups of teachers and children from China and the US in a dual language immersion setting. This study sought to answer the following research questions:

1. What are the learning experiences of in-service teachers in the East West Program?
2. What is the impact of working with colleagues on the in-service teachers’ perceptions of the East Meets West Program?
3. What do the in-service teachers learn in terms of the differences between the US and China in children’s learning?

### **Conceptual Framework**

The conceptual framework in this study first discussed the needs for international perspectives in mathematics education in general and then discussed the needs for improving mathematics teaching and learning in urban areas specifically. Next, a brief discussion further framed the methods of internationalization of teacher education and

indicated how the methods of internationalization were applied in the East Meets West Programs.

### **Needs for International Perspectives in Mathematics Education**

According to Reimers (2009) “the educational paradox of the beginning of the twenty-first century lies in the disconnect between the superb institutional capacity of schools and their underperformance in preparing students to invent a future that appropriately addresses the global challenges and opportunities shared with their fellow world citizens” (p. 183). This paradox also exists in mathematics education. In recent years, despite the fact that various comparative studies have revealed notable differences between the US and China in math teachers’ knowledge (An, Kulm, & Wu, 2004; An, 2004; Ma, 1999), we have learned little about ways to improve mathematics instruction in real classrooms (NMAPR, 2008; Stigler & Hiebert, 1999; Wu & An, 2007).

In general, the US has viewed Asian countries, especially China, as having a superior mathematics educational system (Schleicher, 2014). Recent evidence from international assessments in TIMSS 1999 and 2007 revealed the disparity in students’ mathematics achievement between the US and other countries. In the recent PISA2012, US students’ mathematics average score of 481 was still below average among the 34 OECD member countries and 31 partner countries (494), as in previous years. In contrast, five Asian countries (Shanghai-China, Singapore, Hong Kong-China, Taiwan, and South Korea) were among the top groups in mathematics scores according to the results of PISA2012 (Organization for Economic Co-operation and Development, 2014). To understand why this is and what are vital in making students’ learning successful, and to prepare students for global competence, mathematics teaching in the US would benefit by examining international mathematics education practices and integrating such international perspectives into mathematics classroom teaching (National Center for Education Statistics, 1999; NMAPR, 2008; Stigler & Hiebert, 1999).

### **Needs for Improving Mathematics Teaching and Learning in Urban Areas**

In several urban areas in the US, such as California, math, science, and reading achievement levels of public school students in grades 4 and 8 as assessed by the *National Assessment of Educational Progress* (NAEP) have been below the national level in recent years (National Center for Education Statistics, 2013). According to the 2013 NAEP, in California, average score gaps in NAEP mathematics for White and Hispanic fourth- and eighth-grade public school students are wider than the national level. The recent international, national and local assessment results also show that a significant achievement gap continues to exist for African American, Hispanic/Latino, low-income, and English-learner students in urban areas, compared to their peers (Orfield, Losen, Wald, & Swanson, 2004). Assessments indicate that struggling students have a limited understanding of basic mathematics concepts and they show underachievement in the application of mathematical skills to solve even simple problems (NRC, 2001).

Research on teachers’ knowledge indicates that many of the difficulties students have in learning mathematics are attributed to teachers’ own fragile understandings of math (Dreyfus, 1999; Harel & Rabin, 2010). There is widespread agreement that teachers

need to develop profound mathematics content knowledge and pedagogical content knowledge in mathematics (Ma, 1999; An, Kulm, & Wu, 2004). Although many professional development programs have sought to improve teacher's knowledge and related teaching practice, little progress has been made in improving classroom teachers' knowledge and in effectively supporting struggling student mathematics learning. Further, the implementation of the Common Core State Standards has placed even greater emphasis on developing a deeper, more cognitive (less rote) understanding of mathematics concepts among students (Porter, McMaken, Hwang, & Yang, 2011). Teachers must be given an opportunity to learn different perspectives in teaching and learning mathematics (An, Kulm, & Wu, 2004; Ma, 1999), especially to learn teaching strategies from the countries that had higher mathematics achievements in the international assessments (Wu, Wei, An, McCoy, & Serrano, 2012).

### **Methods of Internationalization of Teacher Education for the Global Age**

According to Moss (2012), many teachers are ready to face the challenge of educating for global competence, but others feel less prepared. The US Department of Education has made broader global skills for college students a priority - to make global competency a benchmark in learning for today's students (Fisher, 2012). To achieve this goal, it is vital to provide global learning opportunities and related courses in teacher education programs to develop successful teacher candidates with global competency, and much work still needs to be done at institutions across the country. Basic to their development are these elements (Moss, 2012):

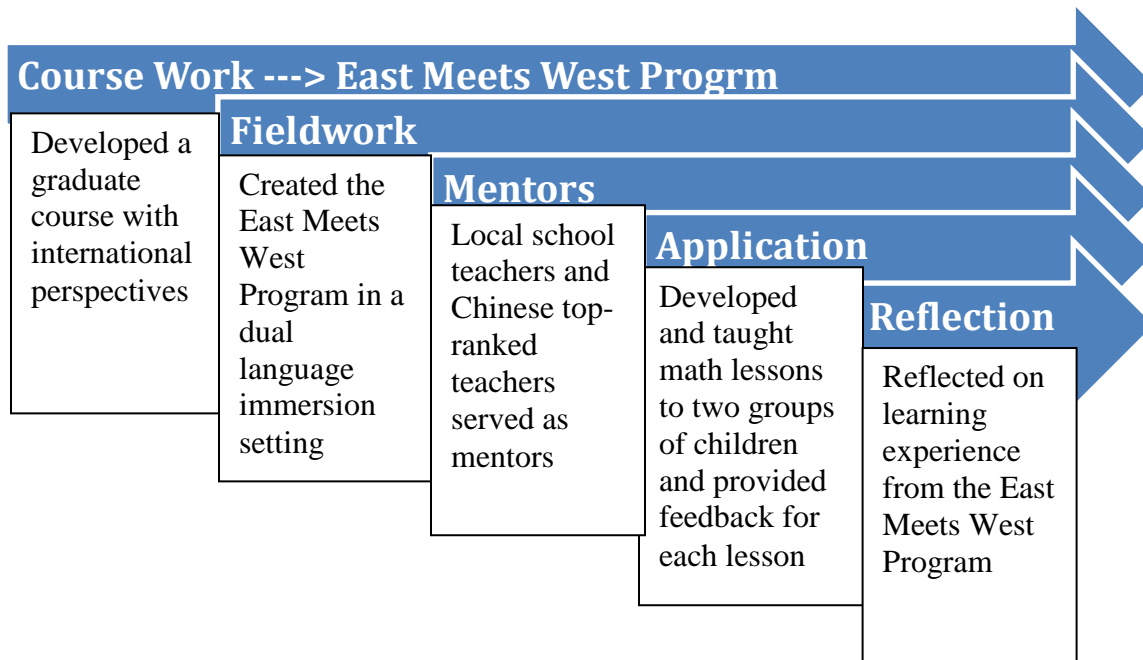
- Coursework that has integrated global competence into both content and pedagogical development.
- Clinic and field placements in schools that model effective global education.
- Professors and mentors who value global competence and seek out global contexts in all aspects of the teacher preparation curriculum.
- Application of theories of cross-cultural learning, communication and adjustment across the program.
- Learning about other regions of the world and global current events.
- Reflection on one's own culture and its impact on daily choices and classroom practice.
- Opportunities for experiential learning in other countries and cultures through study abroad, teaching practicums, and/or internships (p.4).

### **Background of the Study: Description of Globalizing Instruction in Mathematics Education**

The main elements of internationalization of teacher education that was addressed by Moss (2012), such as coursework, field placements, mentors, application, learning and reflection, are the main approaches in this study (See Figure 1).

**Course work: Global perspectives in mathematics teaching.** To help classroom teachers develop a deep understanding of mathematics teaching and learning from a

different perspective, in 2009, we developed a graduate course with international perspectives in mathematics education: Global Perspectives in Mathematics Teaching. The main objective for this course was to develop global perspectives in mathematics teaching by engaging graduate students in exploring, analyzing, and applying multifaceted teaching approaches from different cultural and educational systems.



**Figure 1. The process of internationalization of math education courses in East Meets West Program.**

**Fieldwork: East Meets West Program.** With the support of the Incentive Award to Globalize Education by the University, we created the East Meets West Program (EMW), focusing on globalizing and modifying instruction with a concrete international perspective and experience in a graduate course in 2010. The general purpose of this program was to integrate a mathematics education graduate course in the Summer Teacher Institute which provided a unique opportunity to classroom teachers. The specific goals of this program were to provide children and classroom teachers an opportunity to experience different cultures and educational systems, and to promote their global awareness in a first-hand experience. In the East Meets West Program, graduates worked together with local school teachers and Chinese teachers to provide integrated language, mathematics, science, social science, and physical education for children from both China and the US through a series of creative cultural hands-on activities, integrated and innovative lessons, and field trips.

**Mentors.** In the East Meets Program, the selected local school teachers played the mentor roles to support the classroom teachers' learning and understanding of international perspectives in teaching and learning mathematics. The local school teachers all had opportunities for experiential learning in China through the international exchange and attending the international conferences in the recent few years so they were able to share their experience of global competence in the mathematics teaching practice with the graduate students.

**Application.** The graduate students had an opportunities work with their grade level peers to develop and teach a series of interactive, fun, and real life related mathematics lessons to two groups of children. They observed and provided constructive feedback for each lesson taught by their peers. The graduate students also conducted a case study on comparing differences in student learning between the two groups of children from working with them and observing their learning.

**Reflection.** The graduate students reflected on their learning on a daily basis by talking and sharing their experiences when preparing for the next day's activities. They also reflected on their learning in their post-survey at the end of the East Meets West Program.

**2010 East Meets West Program.** A graduate course was integrated with the East Meets West Program for a group of Chinese and US children as a piloted project in summer 2010. It brought 21 Chinese children from an elementary school in Nanjing, China to interact with 21 US children from their sister school in an urban city in Southern California. The two groups of children were paired up and worked together for a weeklong East Meets West Program. It involved nine K-12 classroom teachers and four graduates from the mathematics education program, as well as more than 20 college and high school student volunteers. Because of the successful experience, children from both China and US participated in this program again in summer 2011.

**2011 East Meets West Program.** Based on the experience from summer 2010, the summer course Global Perspectives in Mathematics Teaching was integrated with the East Meets West Program for Chinese and US children groups in summer 2011. Along with a group of local school teachers, 24 graduate students in the mathematics education program designed a set of mathematics lesson plans, taught these children for a week, and did a case study on comparing student learning from two groups.

The East Meets West Program has provided our graduate students with rich experiences on how to teach and learn mathematic effectively with international perspectives via face-to-face with international colleagues.

## Methods

### Participants

In 2011 summer, 38 children from an elementary school in the US (18 children at grades 4-5) and an elementary school in China (20 children at grades 4-6) participated in a weeklong East Meets West Program. Both groups of children were recruited on a

volunteer basis. Twenty-four in-service teachers were graduate students in the mathematics education program and they participated in this program along with five teachers from local school districts in an urban area in Southern California and teachers from China. Out of the 24 teachers, 10 were elementary teachers, 10 were middle school teachers, and four were high school teachers with 19 being full-time and 5 part-time (substitute teachers). Their teaching experiences ranged from 4 years to 21 years.

### **Procedures of 2011 East Meets West Program**

The graduate students worked with the five local school teachers to develop the curriculum and activities for the East Meets West Program. They attended planning and scheduling meetings, designed and taught a series of hands-on, fun, innovative, and interactive SDAIE (Specially Designed Academics in English) mathematics lessons for both Chinese and US children in a dual language setting. For example, a fifth grade teacher taught a lesson on percentages using the actual Target store flyers that show the original price and percent of discount; students were asked to figure out what, how, and why to buy merchandise while working together with their partners, which paired one US and one Chinese student. The graduate students also went with the children on fieldtrips to experience real world mathematics and science applications, and observed how the two groups of children learn mathematics differently for the case studies they developed. In addition, they observed not only local school teachers' mathematics, science, and English integrated lessons, but also observed mathematics lessons taught by Chinese teachers and had discussions with them about their effective teaching. In addition, they evaluated their peers' instruction by providing constructive feedback for each lesson. As a result, 10 graduates presented their learning experience from the East Meets West Program at the

National Association for Asian and Pacific American Education Conference (NAAPAE) in Long Beach during fall 2011, and two graduates co-presented a study on the East Meets West Program with faculty members at the 12 International Congress on Mathematical Education (ICME 12) conference in Seoul during summer 2012.

**Learning teaching with international perspectives.** Four Chinese teachers came with their students from an elementary school in China. A top rank Chinese math teacher taught a mathematics lesson to both groups of children for the US classroom teachers and graduate students. This provided the US classroom teachers and graduate students an opportunity to watch and learn how Chinese mathematics teachers teach mathematics and provided them a chance to interact and discuss effective teaching face-to-face with Chinese teachers. The graduate students also watched four video Chinese mathematics lessons prior to actually meeting the Chinese teachers and analyzed effective teaching strategies.

**Curriculum design and field experience in a dual language immersion setting.** The US classroom teachers and graduate students designed and taught six hands-on, fun, innovative, and interactive math lessons to the two groups of children in a dual language immersion setting. For example, a group of graduate students taught a lesson on percentages using the actual Target store flyers. Children worked with the group to figure

out what, how, and why to buy merchandise. The graduate students evaluated each other's teaching using the daily evaluation log, got feedback from Chinese teachers, and also wrote a reflection on their teaching and learning experience from the East Meets West Program.

**Case study.** The graduates conducted a case study on comparing how children learn mathematics differently from field observations and interactions with the two groups of children. They were required to observe and work with two children, one Chinese child and one US child, and develop a case study to identify and analyze differences or similarities in their mathematics learning: differences in conceptual understanding between Chinese and US children, differences in procedural or computational fluency between two groups, differences in problem solving in real world or word problems between the two groups, and differences in disposition toward mathematics learning. Their report includes analyzing the differences or similarities in these four areas, discussing implications in teaching and learning, and reflecting on their learning from doing this case study.

### **Data Collection and Instruments**

**Surveys.** Pre- and Post-Surveys were provided to the classroom teachers and graduate students. The graduate student pre-survey consisted of 12 questions and post-survey included 27 questions. The goals of the graduate student surveys were to identify the effects of their learning on global perspectives in mathematics education from working with children in the East Meets West Program, and identify the relationships between various approaches in the East Meets West Program and its impact on the teachers' views and their future plan for their professional development.

**Lesson evaluation and reflection.** The graduate students engaged in self- and peer evaluation activities. Their daily teaching evaluation logs and reflections on their learning were collected.

**Lesson plans and video lessons.** The graduate students' lesson plans were collected. All lessons in the East Meets West Program were videotaped for data analysis purposes.

### **Data Analysis**

This study only used the graduate students' surveys in the data analysis. Both qualitative and quantitative research methods were employed in the data analysis of the surveys. Quantitative methods were used for analyzing the questions 1-14: Descriptive statistics were used for the 5-point *Likert items* in the surveys to compare the differences in the participants' responses on their learning from observing and discussing Ms. Jin's mathematics lesson (Q1) and the US colleagues' six mathematics lessons (Q2), watching and discussing Chinese mathematics video lessons (Q3), presenting the group lessons to children (Q5), doing the case study with the two groups of children (Q8), and participating in the East Meets West events (Q9); correlation tests were used to identify the



relationships between various approaches in the East Meets West Program, such as working with peers on group lessons (Q4), providing and getting feedback from colleagues on their group lessons (Q6), discussing mathematics teaching with their colleagues (Q10), planning their mathematics lessons with colleagues together (Q11), observing their colleagues' lessons (12), being observed by their colleagues (Q13), and having the lesson study activity at their school or district (Q14) and the impact of these activities on the teachers' views and their future plan for their professional development.

Qualitative data analysis was used for analyzing the open-ended questions on their learning from working with the two groups of children in their case study in the surveys. The open-ended question used in the pre-survey was "In this class, you will have an opportunity work with both Chinese and US children in mathematics. What do you expect to gain the most from this activity? Why?" The open-ended question used in the post-survey was "What did you learn from observing children learning and working with them in East Meets West Program?" The analysis first identified the frequency and compared the differences of the teachers' observation on two groups of children mentioned in both surveys in five main components: Disposition, interaction, learning, teaching, and curriculum. Based on analysis of the differences in teachers' expected learning and their real learning in these five components between the pre-survey and post-survey, the analysis then focused on three main areas of children learning, children disposition, and children interaction to further identify teachers' learning from the case study.

## Results

The results of the data analysis revealed the important influences of the East Meets West Program on the classroom teachers' views on teaching and learning, and showed some relationships between these influences.

### Knowledge and Skills

Table 1 shows that the graduate students highly recognized that their participation in the East Meets West Program benefited them as classroom teachers, which had a highest mean score ( $M = 4.87$ ,  $SD = .352$ ), followed by the second highest mean score indicating that watching the video lessons benefited them as classroom teachers ( $M = 4.73$ ,  $SD = .458$ ). They also stated their learning from the observation of Ms. Jin's Chinese mathematics lesson ( $M = 4.60$ ,  $SD = .828$ ), and highly stated that their teaching to the two groups of children benefited them as classroom teachers ( $M = 4.53$ ,  $SD = .915$ ). In addition, all graduates really enjoyed the observation of their peers' six mathematics lessons ( $M = 4.67$ ,  $SD = .488$ ).

Table 2 shows the benefits of the East Meets West Program to the classroom teachers from working with their peers on group lessons ( $M = 4.40$ ,  $SD = 1.121$ ), from feedback by their colleagues on their group lessons ( $M = 4.40$ ,  $SD = .737$ ), on their willingness of planning mathematics lessons together with their colleagues ( $M = 4.40$ ,  $SD = 1.056$ ), observing their colleagues' lessons if there is an opportunity ( $M = 4.60$ ,  $SD = .910$ ), being observed by their colleagues and discussing about their lessons ( $M = 4.33$ ,  $SD$

= 1.113), and having the lesson study activity at their school or district ( $M = 4.33$ ,  $SD = .900$ ).

**Table 1**  
**Descriptive Statistics**

Questions	<i>M</i>	<i>SD</i>	<i>N</i>
Q1. How did the observation of Ms. Jin's math lesson and discussion benefit you as a classroom teacher?	4.60	.828	15
Q2. How did the observation of your US colleagues' six math lessons and discussion benefit you as a classroom teacher?	4.67	.488	15
Q3. How did watching Chinese math video lessons and discussion benefit you as a classroom teacher?	4.73	.458	15
Q5. How did presentation of your group lesson to children benefit you as a classroom teacher?	4.53	.915	15
Q8. How did the case study benefit you as a classroom teacher?	4.40	.737	15
Q9. How did your participation in the East Meets West events benefit you as a classroom teacher?	4.87	.352	15

**Table 2**  
**Descriptive Statistics**

Questions	<i>M</i>	<i>SD</i>	<i>N</i>
Q4. How did working with peers on group lesson benefit you as a classroom teacher?	4.40	1.121	15
Q6. How did feedback from your colleagues on your group lesson benefit you as a classroom teacher?	4.40	.737	15
Q10. Would you like to discuss math teaching with your colleagues?	4.40	1.056	15
Q11. Would you like to plan math lessons with your colleagues together?	4.40	1.056	15
Q12. Would you like to observe your colleagues' lessons if there is an opportunity?	4.60	.910	15
Q13. Would you like to be observed by your colleagues and discuss about your lessons?	4.33	1.113	15
Q14. Would you like to have the lesson study activity at your school or district?	4.33	.900	15

### Impact on Working with Colleagues

Table 3 shows three strong correlations and one medium correlation between the teachers' responses based on Cohen's correlation strength test (1988). The strong correlations are: "The observation and discussion of Ms. Jin's mathematics lesson benefit you as a classroom teacher" is highly associated with "How did the case study benefit you as a classroom teacher?" ( $r = .7632$ ,  $p = .011$ ); "How did the observation and discussion of your US colleagues' six mathematics lessons benefit you as a classroom teacher?" is highly associated with "How did presentation of your group lesson to children benefit you as a classroom teacher?" ( $r = .7602$ ,  $p = .008$ ); "How did the observation and discussion of your US colleagues' six mathematics lessons benefit you as a classroom teacher?" is

highly associated with “How did your participation in the East Meets West events benefit you as a classroom teacher?” ( $r = .500, p = .035$ ). The medium correlation is: “How did presentation of your group lesson to children benefit you as a classroom teacher?” is associated with “How did your participation in the East Meets West events benefit you as a classroom teacher?” ( $r = .476, p = .046$ ).

**Table 3**  
**Correlation**

Variable	q1	q2	q3	q5	q8	q9
q1	1					
q2	-.158	1				
q3	.222	-.175	1			
q5	.602**	.095	.159	1		
q8	.632*	-.199	.339	.402	1	
q9	-.158	.500*	-.219	.476*	-.055	1
N	18	18	18	18	15	18

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Results from Table 4 show 14 strong correlations between the teachers’ responses based on Cohen's correlation strength test (1988). The strongest correlations, shown in Table 3, are feedback from the colleagues on their group lessons and discussing mathematics teaching with their colleagues ( $r = .790, p = .000$ ); feedback from the colleagues on their group lessons and willingness to observe their colleagues’ lesson if there is an opportunity ( $r = .788, p = .000$ ); willingness to be observed by their colleagues and discussion about their lessons is highly associated with willingness to have the lesson study activity at their school or district ( $r = .783, p = .000$ ).

**Table 4**  
**Correlations**

Variable	q4	q6	q10	q11	q12	q13	14
q4	1						
q6	.484	1					
q10	.419	.790**	1				
q11	.653**	.422	.455	1			
q12	.562*	.788**	.653**	.674**	1		
q13	.401	.697**	.715**	.553*	.674**	1	
14	.272	.539*	.626**	.619**	.451	.783**	1
N	18	15	18	18	17	17	18

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

### Awareness of Differences between Two Groups of Children from the Case Study

The graduates conducted a case study on comparing how children learn mathematics differently from the field observations and interactions with the two groups of children in the East Meets West Program. The data analysis focused on their learning from the case study addressed in their surveys. Table 1 shows the graduate students' overall learning from the case study ( $M = 4.40$ ,  $SD = .737$ ). The results of analyzing the surveys on their learning from working with children from the two groups show some changes on their views between the pre- and post-surveys. Table 5 shows the frequency and differences of the teachers' observations on two groups of children mentioned in both surveys:

**Table 5**  
**Differences in Learning from Working with Two Groups of Children**

	Pre-Survey: In this class, you will have an opportunity work with both Chinese and US children in mathematics. What do you expect to gain the most from this activity? Why?	Post-Survey: What did you learn from observing children learning and working with them in East Meets West Program?
Disposition	4	8
Interaction	4	10
Learning	13	9
Teaching	4	4
Curriculum	1	

The results of Table 5 show differences in teachers' expected learning and their real learning between the pre-survey and post-survey. Before working with the two groups of children, they expected to gain the most on children's learning mathematics ( $n = 13$ ), very little on other areas. For example, the frequency of disposition was 4 and the frequency of interaction was 4 compared to 13 in children learning in their pre-survey. However, after they had an opportunity working with the two groups of children, they indicated that their learning occurred beyond just children's learning mathematics ( $n = 9$ ), but also the children's disposition ( $n = 8$ ), and their interaction ( $n = 10$ ) with children of different cultures. Based on the comparing the differences in the frequencies, the following areas were identified as the main learning areas identified by the classroom teachers in the East Meets West Programs.

**Children learning.** The US teachers observed many differences in student learning between the two groups of children. The following two are the main differences based on their views. The first interesting difference in student learning is student attentiveness. Melissa, a 5th grade teacher, indicated:

I noticed that the Chinese students are very attentive to everything the teacher is saying, showing, and modeling for them, which the American students lack most of the time. Attention to details in a classroom is very important because it leaves

little room for confusion for the students and the teacher is free to mingle in the classroom assisting or formally assessing students' learning on the content.

The second difference in student learning is computation and reasoning, noticed by Jerry, a middle school teacher. He said:

From observing both groups of students, I was able to see and understand that the Chinese students use a lot of mental math to come up with answers whereas the American students always use paper and pencil to calculate their answer. I was amazed at the accuracy of the Chinese students' answers and their confidence level of explaining their answers. The American students here are content with just giving an answer to a question whereas the Chinese students give an answer but justify their answer to give the teacher an idea of how the student came up with his or her answer.

Melissa and Jerry's observations on children learning show that Chinese children's learning is different from the US children's learning in a number of respects: attentiveness, mental math, accuracy, and justify the answers. These differences suggest the gaps in children learning between the two groups.

**Children disposition.** The notable difference in student disposition observed by the US teachers was addressed by Karen, a high school teacher, "I was impressed by the students' motivation and respectfulness. Being a high school teacher I work daily with difficult students." Jessica, an elementary teacher addressed the same challenge in comparing the Chinese children with their US counterparts, "Students from China are very disciplined and respectful when participating in class. American students are more impatient and need to be active." Liz, an elementary teacher also addressed the same observation and concern, "I feel that students have a better respect for their teachers in China, perhaps because the teaching profession is more respected there. I also feel like Chinese students are more disciplined and focused in the classroom than American students. Chinese students have amazing mental math skills which American students lack." However, Diana, a high school teacher agreed Karen and Jessica's comments, but indicated the influence from the Chinese peers on the US children, "How well mannered, respectful and disciplined the Chinese students are. I feel this is very helpful to them in obtaining their education. The Chinese listened to their teacher during listening time and did their practice during practice time. The US students seemed very interested in their Chinese peers and seemed to follow their example of respect. The US students seemed to enjoy the lessons. I think the students from both countries enjoyed observing each other." Diana's observation shows that the children from both groups were able to observe, learn, and influence each other in the East Meets West Program.

**Children interaction.** All the classroom teachers observed the active interaction among children between the two groups. For example, Robert said, "By observing children learning and participating in the East Meets West Program, I learned that both groups of students were very well receptive of one another. Students were helping each other out during lessons to ensure their partner was not lost or confused. Even though the

students did know the language, depending of the langue of the lesson, the students very learning and doing by watching the teachers and their classmates.” The teachers realized that “children, when not influenced by adults, are alike all over the world. They all enjoy interaction and sharing,” and they also understood that “regardless of a language barrier that children will find ways to communicate, interact, have fun, and help one another.” Andrew indicated, “As I valued the experience in East Meets West Program, I saw children loving one another as friends not be hindered by language at all. I saw that both US and Chinese children greatly valued the time spending together learning and having fun in this program.” These teachers’ observations on the children’s interaction show that children are more likely to be involved, interacted, and communicated regardless of the language barrier if they are given an opportunity to be together and participating in well-designed meaningful activities like the East Meets West Program. Overall, as indicated by the classroom teachers in their reflections, “the East Meets West learning experience for the graduate students, the Chinese students, and the US students was an opportunity of a lifetime. All of us are walking with a much appreciation of each other and their cultural values.” It was an eye-opening experience for observing student learning in different cultures.

### **Discussion**

The results of this study show that participation in the East Meets West Program has broadened the graduate students’ views on how different cultures and educational systems teach and learn mathematics in different ways, and how children from different cultures and educational systems possess varied dispositions. Children from different cultures and educational systems can work together very well if an opportunity is provided. The results of this study also show that it is possible to make international experiences accessible to all in-service teachers (graduates) through offering an appropriate in-service teacher education course on global perspectives in mathematics teaching, and by engaging the in-service teachers in an interactive face-to-face learning process in a dual language immersion setting in urban area. The opportunity of learning effective teaching strategies from Chinese top ranked mathematics teachers and applying these strategies in teaching mathematics by working with a group of Chinese and US children in the Summer Teacher Institute - East Meets West Program has benefited classroom teachers in various ways according to this study.

### **Internationalization of Mathematics Education**

This study shows the benefits of the internationalization of mathematics education as addressed in Table 3. There were strong associations between the East Meets West activities that benefit them as classroom teachers, such as the association between observing and discussing the Chinese teachers’ mathematics lessons and conducting the case study with the two groups of children, and the association between observing and discussing their US colleagues’ mathematics lessons and their participation in the East Meets West Program. Prior studies have noted the importance of the internationalization of mathematics education that provides the classroom teachers opportunities for sharing,

discussing, questioning, and reflecting on their own teaching practices, and identifying the better strategies in developing their teaching process (Stigler & Hiebert, 1999).

The important findings in this study were that the classroom teachers identified some differences in children learning between the US and China: attentiveness, mental math, accuracy, and justify the answers. These differences not only address the gaps between the US and Chinese children learning, but also are consistent with the new Common Core State Standards for Mathematical Practice (MP) that suggests developing students' capacity in eight areas (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). The Chinese children seem to be strong in the four MPs compared to their US counterparts according to the teachers' observations in this study: Persevere in solving them (MP1), attend to precision (MP6), reason abstractly and quantitatively (MP2), and construct viable arguments and critique the reasoning of others (MP3). To help classroom teachers equip with strong knowledge and ability in teaching the Common Core State Standards, integrating the international perspectives in mathematics teaching and training more internationally competent teachers is a vital task (Koziol, Greenberg, Williams, Niehaus, & Jacobson, 2011).

### **Approaches for Internationalization of Mathematics Education**

This study used the main elements of internationalization of teacher education addressed by Moss (2012) as the guiding approaches in the East Meets West Program: coursework, fieldwork, mentors, application, and learning and reflection. However, the East Meets West Program differs these four elements in a number of important ways. First, the fieldwork in the East Meets West Program is in the dual language immersion setting where although the teachers faced more challenges in instruction, they had an opportunity observe and work with the two groups of children for their learning; second, the mentors in the East Meets West Program were not just the professors of the course, but also included the local school teachers and Chinese teachers. These teachers had the first-hand experiences in classroom teaching and their feedback to the graduate students' teaching was more meaningful and practical. Last, application in this study not just having the graduate students apply their learning in classroom teaching, but also working with their colleagues in developing and presenting the lessons to children, observing and providing feedback to each other's learning. The model of the East Meets West Program added on Moss (2012) approaches and can be summarized as the six main elements: coursework with internationalization, fieldwork in a dual language immersion setting, mentors from local and international teachers, application of learning international perspectives, collaboration among peers, and learning and reflection.

### **Collaboration with Colleagues and Lesson Study**

It is interesting to note that this study found the strong associations between feedback from the colleagues on their group lessons and discussing mathematics teaching with their colleagues, between feedback from the colleagues on their group lessons and willingness to observe their colleagues' lessons if there is an opportunity; between willingness to be observed by their colleagues and discussion about their lessons and willingness to have the lesson study activity at their school or district (see Table 4).

Collaboration with colleagues can improve understanding and increase teachers' ability to grow (Ball, 1996). The teachers from this study felt working together for planning and teaching mathematics lessons was beneficial to them as classroom teachers. Walker (2013) supported that when given the time to collaborate with colleagues, it benefits to teachers. Professional development should provide more opportunities for classroom teachers to get together to collaborate and discuss about mathematics teaching and learning.

The teachers in this study expressed their willingness to observe other teachers' lessons if there is an opportunity. What is surprising is that the teachers also expressed their willingness to be observed. Williams (1989) has summed up some of the problems of traditional classroom observations. One of the problems is that the teachers did not like to be observed. However, in this study, the classroom teachers enjoyed learning from each other by observing each other's teaching. This finding further support the idea of nonevaluative observation within the context of professional development that is often welcomed by teachers (Richards, 1998).

Another important finding was that the classroom teachers like to have the lesson study activity at their school or district. Lesson study has received more attention in the United States in recent years (Lewis, Perry, & Murata, 2006; Stigler & Hiebert, 1999). It empowers teachers and improves classroom teaching by engaging classroom teachers in a problem-solving process (Stigler & Hiebert, 1999). In this study, the classroom teachers really experienced the benefits of the lesson study in the East Meets West Program and expressed a desire to have similar lesson studies in their schools and districts. With the current needs in implementing the common core state standards, the lesson study is a powerful way to support classroom teachers in a learning community of practice (Robinson & Leikin, 2012).

Overall, the East Meets West Program has provided our graduate students higher level fieldwork experiences on how to teach and learn mathematics differently, especially on how to help students access learning in a dual language setting. It also broadened our students' views with regard to the diversity of ways different cultures and educational systems teach and learn mathematics.

### **Conclusion**

This study set out to determine the impact of the integration of global experiences on in-service teachers' international perspectives in mathematics classroom teaching. The findings of this study suggest that the internationalization of mathematics education is a very important approach in urban teaching and learning. International perspectives will lead classroom teachers to develop a deep understanding of mathematics teaching and learning from different viewpoints, and also leads teachers to collaborate and learn from each other's experiences and perspectives, which provide better choices for classroom teachers in developing effective teaching strategies to support their student learning and help them achieve better learning outcomes. The findings of this study enhance our understanding of classroom teachers' views in collaboration and observation. The five components of the East Meets West Program provide additional evidence with respect to how to internationalization of mathematics education in urban areas, and they will serve as a base for future studies on internationalization of teaching education.



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**SECTION II: BOOK REVIEWS**

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**We Got Next: Urban Education and the Next Generation of Black Teachers**

Lynette Mawhinney

New York: Peter Lang, 2014. 135 pp.

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*We Got Next: Urban Education and the Next Generation of Black Teachers* is a research report that collates the life histories of ten pre-service teachers from a Historically Black Institution (HBCU) seeking certification. Interview data were collected over a seven-year period. The author reports cases from a pool of pre-service teachers who were once her students. Borrowing research traditions from cultural anthropology and sociology, Mawhinney documents her subjects' experiences in a way that demonstrates relationship, research intimacy and connection. Each participant's journey toward certification is described in historical context from childhood to college and through early careers. Circumstances on the culturally rich HBCU campus add complexity to the report.<sup>1</sup> Individual accounts provide sources of laughter about familiar college-life struggle yet the collective voice and tone of the text is raw causing the reader to take pause. As each subject responds to and negotiates the challenges of what seems like insurmountable programs of evaluation and complicated "home" economics, the reader is left wondering why it is so hard to become a teacher while also wondering who really is "next" among this generation of future teachers.

Deeply embedded within this seeming metanarrative about Black and Brown pre-service teachers' challenges with pre-professional testing is a counter-narrative about family, care, high expectations and capital— social and cultural. Emergent from the text are general themes about teaching, learning, teachers and learners. Details about a care ethic, reflective praxis and the transformational tendencies of teachers are revealed by thick descriptions of subjects' lives over the course of the 16+ years they have themselves been students. Although the subjects are not yet certified teachers, their identities as educators are clear. Serving as community mentors, tutors and classroom aides, these men and women possess dispositions consistent with high standards of teacher professionalism: flexibility, a natural penchant for culturally relevant teaching and intrinsic pedagogical content knowledge. Shaken by persistent failure, Mawhinney describes how a lack of confidence is perhaps the major factor influencing both exit from the field (in at least three cases reported) and persistence to certification (for at least two who eventually become teachers).

Using life history as both a method and theoretical framework for her research, Mawhinney leaves many of the long interviews grammatically untouched only adding updates as emphasis and context for each passage. Life history methods oppose hegemony. While somewhat distracting, "life history work is interested in the way people actually do<sup>2</sup> narrate their lives, not in the way they *should*" (Goodson, 2001, p. 138). Using life history as a framework for this volume provides a clarion call to every level of educational leadership to think about certification barriers especially within communities of color. All education stakeholders would be wise to consider the reasons why eight out of ten students who start the journey to become teachers never complete the process. Reminiscent of Ladson-Billings' (1994/2009) *The Dreamkeepers: Successful Teachers of African American Children*, Mawhinney provides rich

accounts of the lives of her subjects. The success narratives of teachers are, however, limited in *We Got Next*. Mawhinney challenges social justice pedagogues to contemplate what is happening in the sixteen-year cycle of learning that inhibits people from achieving career goals. Citing two not-so-surprising conclusions, Mawhinney describes a commonly held understanding about standardized testing and communities of color: general anxiety remains a paralyzing “roadblock” on the road to certification. She also describes an often-overlooked relationship between pre-service teachers’ own K-12 education and their ability to achieve certification.

This volume may rightfully be used as a magnifying glass into the challenges urban systems face. However, Mawhinney challenges the reader not to get lost in the very familiar story about low-performing schools and general community dysfunction. At times, the subjects’ naive optimism and idealism read as trite and ill-informed. At other times, it reads as inspired and purposeful. A general strength of the volume, the subjects’ life histories create pictures for the reader that invite the reader to care about the struggles and victories of each subject. The need to be sociologically responsible to students is highlighted as one subject openly declares “to beckon respect and warrant love” (Mawhinney, 2014, p. 117) as a goal. The only subject to graduate from the traditional program and roll seamlessly into a career as a certified teacher identifies elements of culturally relevant pedagogy (rich classroom discourse/constructive classroom “noise,” professional learning communities between colleagues, parent engagement, student enrollment in multicultural programs, international learning programs) as a solution to issues of school disenfranchisement in communities of color.

While *We Got Next* does not answer questions about how to attract teachers to the classroom, it is an invitation to dialogue about the multiple and varied roadblocks that exist for the next generation of teachers.

### Notes

1. Many HBCUs are struggling to maintain education departments despite their historical value as places of preparation for teachers and preachers according to “The Development of HBCUS” (Available online at <http://education.stateuniversity.com/pages/2046/Historically-Black-Colleges-Universities.html>). Also see “Renewed interest in HBCUs” at [http://www.mercurynews.com/bay-area-news/ci\\_27739451/renewed-interest-historically-black-colleges-and-universities](http://www.mercurynews.com/bay-area-news/ci_27739451/renewed-interest-historically-black-colleges-and-universities)
2. Emphasis added

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**50 Myths and Lies that Threaten America's Public Schools: The Real Crisis In Education**

David C. Berliner, Gene V. Glass, and Associates  
New York: Teachers College Press, 2014. 260 pp.

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Is there a crisis in American education? Regardless of one's opinion, fallacies and falsehoods abound concerning the real status of American public schools. While educating students should take precedence a student-focused message has largely been brushed aside by many and for several reasons. One timely resource that explores a broad array of untruths related to educational topics is David C. Berliner, et al, *50 myths and lies that threaten America's public schools: The real crisis in education*. The book's intent is to supplant mainstream myths and lies commonly heard by parents, citizens, and critics of education with truths about public education that have largely been fictionalized by political and economic factors. The 19 authors challenge these prevalent myths by disclosing ill-informed beliefs with current evidenced-based data. It supports public education by uncovering the misconceptions about American schooling held by many special interest groups and private corporations who may profit from these widespread myths.

The book is an excellent resource for PreK-16 educators, education faculty, school administrators, school board directors, legislators, parents, and others interested in the realities about American schools. The volume is arranged into six sections spanning across informative topics such as charter schools, class size, character education, grade retention, immersion programs, school choice, school uniforms, and teacher unions. Each section includes a major theme where several myths are described in short essay format with historical, logical, and persuasive arguments designed by the authors to provide "enough citations for everyone" (p.4). For example, Myth 12, "Teachers in schools that serve the poor are not very talented" addresses the complexities of teacher quality in schools serving mostly poor students having teachers with less access to resources than more affluent schools. It clarifies the facts and disparities between educating upper and lower class students and that most teachers serving the poor are "actually more talented and committed and dedicated and of higher quality than their suburban peers" (p. 65) countering the myth that teachers in urban schools are unskilled. Another example, Myth 32, "American K-12 education is being dumbed down" questions how public education is rated, given that students today have more access to college than ever before, despite the "quality of their education, or their parental and societal obstacles" (p. 153-4).

An excellent companion to this book is the in-depth historical research-based analysis of educational falsities, Diane Ravitch's, (2013) *Reign of Error: The hoax of the privatization movement and the danger to America's public schools*. It covers many relevant and similar themes including the achievement gap, high school and college graduation rates, poverty, charter schools, and standardized test scores. Furthermore, Ravitch describes the inherent dangers of privatization for schools and offers recommendations for school reform.

*50 Myths and Lies* sparks a debate on a number of issues based on many mainstream myths regarding education, but the work is not all-inclusive. Other myths that could be explored

include on-line learning and technology increasing student motivation, the Common Core State Standards as achievement gap reducer, and English-only instruction works best in culturally and linguistically diverse communities.

Further, while the book points out many myths that could be associated with urban schooling these myths are applicable to other educational settings. Likewise, the authors' intention of presenting evidence-based data to support their claims could be viewed as too sharply focused or buried in broad strokes.

All together, however, the book does an excellent job of separating fact from fiction. It is a resource well written to challenge one's beliefs about the mythical failures that have plagued and persisted American public education. It dispels untruths and identifies the promoters of such myths based on history, current events, and research data. The book offers a well-argued defense for public education based on realities not illogical and unfounded thinking.

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**Schooling for Resilience: Improving the Life Trajectory of Black and Latino Boys**

Edward Fergus, Pedro Noguera, and Margary Martin  
Cambridge, MA: Harvard Education Press, 2014. 285 pp.

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The research on academic performance challenges among boys of color often identifies achievement gaps, learning disabilities, poverty, limited parental involvement, and disengagement as underlying causes. Single-sex public schools were established to respond to these problems, and although such schools have nearly doubled over the years, evaluations of their effectiveness are limited. Academic and social indicators suggest that Black and Latino students are the most at risk of societal marginalization. In *Schooling for Resilience: Improving the Life Trajectory of Black and Latino Boys* (2014), Fergus, Noguera, and Martin discuss the extent to which educators have developed evidence-based curricula and educational programming to prepare Black and Latino boys for life beyond high school.

As a former lead teacher in an urban public school district, I was able to reflect upon my applied practices and feel that this book is an excellent classroom resource. Educators can benefit from the experiences and effective engagement strategies of school founders, staff, and students in realizing transformation in the lives of students of color. The book also provides practical classroom strategies for teachers and explains the need for protective, safe, and trusting environments that help staff combat the prevalent issues that Black and Latino boys face.

The book contains seven chapters and two appendices: Appendix 1 provides a detailed description of the 6<sup>th</sup>–12<sup>th</sup> grades in seven single-sex schools and Appendix 2 presents the study's survey instrument. Each chapter touches on a recurring theme that emphasizes the need for schools to strongly consider the extent to which race, gender, social, and cultural factors affect social behaviors and academic performance among students of color. The authors encourage single-sex school leaders to act based on evidence that provides "a clear understanding about the nature of the problems to be solved" (p. 3). Chapter 1 provides a brief historical narrative of the evolution of single-sex schools. This chapter also clarifies the complex decisions that school leaders make while framing and directing the missions of their single-sex schools within "structuralist and culturalist" (p. 16) perspectives. Expounding upon school leaders' deep convictions about the mitigation of adverse cycles among boys of color, the authors describe the ways in which these single-sex schools carry out their leaders' visions (Chapter 2) and emphasize the importance of reframing masculine identity (p. 32). The authors guide readers to connect theory and practice. The text's strength is its construction, leading readers through the establishment and development of single-sex schools and the theoretical concepts that govern these events to a well-designed and detailed narration that provides examples of pedagogical experiences. This structure allows teachers to build tacit knowledge and decide what best fits their classroom practices. In these chapters, the authors consider the ways in which gender and race contribute to school performance among Black and Latino boys and provide information that supports such schools' credibility (for those who seek evidence before implementation).



In the third and fourth chapters, the authors describe effective instructional techniques and methods for creating positive school climates. Teachers who have sought to successfully prepare Black and Latino boys for college share these techniques. Interestingly, the authors note that integrating a *culturally relevant* curriculum did not improve student learning (p. 73) and that inequities existed in the learning materials because fewer Latino role models were included.

With these issues in mind, the authors use Chapter 5 to review multiple strategies that schools have used to meet students' socioemotional needs (e.g., maintaining positive peer support to build a strong community). In Chapter 6, they discuss the influence that these factors have on academic outcomes. Research indicates that developing strong peer support among Black students helps strengthen academic resilience (Darensbourg & Blake, 2012). Results have shown that students enrolled in single-sex schools have minimal GPA growth but do not show declines (Fergus, Noguera, & Martin, 2014). Additionally, developing bonds proves to be one of the staff's most difficult tasks (p. 129).

Chapter 7 discusses the need to create *protective*, safe, and trusting environments that help staff members combat the issues that Black and Latino boys face. Trust and care are important in meeting students' socioemotional and academic needs, and researchers have demonstrated that stronger engagement occurs as a result (Hoy, 2012; Leithwood & Mascall, 2008; Tschannen-Moran, 2014). Finally, the authors compare the experiences and perceptions of staff from the single-sex schools in the study with those of staff from traditional schools. Providing additional details concerning these comparisons would be beneficial to teacher educators in traditional schools who serve large populations of Black and Latino boys.

Ultimately, this book is a valuable resource for teachers and administrators who are committed to providing effective strategic educational programs for Black and Latino males. This text would serve as a useful guide for those of us seeking educational reform that leads to successful post-secondary outcomes for students of color. Beyond the research findings, the authors' compilation of vignettes and strategies offers practical implications that are helpful for teachers, school administrators, and districts.

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