Urban Teachers Immersed in Complexity in a Context that Assumes Simplicity

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Abstract

PreK-12 teachers in an urban school district enrolled in a course designed to examine the complexities of teaching in urban schools. This course was part of a grant aimed at increasing math and science achievement of their students. Teachers critically examined local and national policies and conditions that added to the complexities of their students' lives. They examined school and district systemic practices that also created complex environments in which to teach. This qualitative study describes their understandings and the often simplistic view of education that contradicted what they were learning about.

There are many explanations for students' low academic achievement in science mathematics in urban schools. At the very least, these include 1) the complexities of students' lives, 2) the complexities of science and math teaching and learning, and 3) educators' beliefs about students and concomitant disenfranchising, systemic educational practices.

Effective change must account for these complexities. With the advent of the "standards movement" and the subsequent No Child Left Behind (NCLB) legislation (U.S. Department of Education, N.D.), educators have seen the definition of their work become increasingly simplified through the rhetoric of "scientifically-based research." Oversimplifying the issues and the solutions to urban students' low achievement results in misconceptions about both (Spiro, Coulson, Feltovich, & Anderson, 1994), further harming these students (Shealey, 2006). Teachers are increasingly expected to follow "teacher-proof" programs and teach to multiple-choice tests that ignore the complexities of students' lives (McCarty, 2004).

Students' socio-historical-cultural contexts explain some of the complexities of school achievement. Students' understandings and background experiences that impact their knowledge construction are culturally situated (Martin, 2000; Ogbu, 1992).

Culturally relevant pedagogy (Ladson-Billings, 1995a; 1997) overcomes many of the barriers to learning for disenfranchised students. It focuses on academic excellence while supporting students' cultural and experiential backgrounds and may integrate the community's funds of knowledge (Moll, 1993; Moll & González, 2004).

When students experience low-level, uninteresting, unmotivating curriculum, they rarely learn or care about mathematics or science (Mehan, Villanueva, Hubbard, & Lintz, 1996; Tobin, Seiler, & Walls, 1999).

Science and math teaching are also part of the relevant complexity of achievement. Effective teachers must have content knowledge as well as pedagogical content knowledge (Shulman, 1986). Pedagogy must reflect the ways in which people actually engage in the discipline being learned. In science education, this pedagogy is *inquiry* (National Research Council, 2000); in math, it is "problem-solving."

Further complexities are explained by educators' beliefs about students' abilities which influence their practices. Likewise, their beliefs are influenced by school policies and procedures. The pervasive, systemic practice of instructional grouping based on students' perceived abilities is part of a simplistic view of schooling – scores on tests become reified as descriptors of children (Sirotnik, 1994). The consequences are stratification of children that reflect race and class (Meier, England, & Stewart, 1989). Students in the low tracks usually stay there throughout their education as they learn less than their peers (Oakes, 1995). Teachers have lower expectations of them and have low efficacy in their ability to make a difference (Lloyd & Edwards, 2004; Weinstein, 1996). Such educational practices are institutionalized into a " 'deep grammar' of schooling" (Lankshear & Knobel, 2003, p. 30) through a banking model (Freire, 1993) of education.

In contrast, the research literature provides many examples of teachers and schools that base their practices on the assumption that all students can meet high expectations. They heterogeneously group students, develop engaging lessons that connect to students' experiences, demonstrate respect for students, and provide extra support when needed (Ladson-Billings, 1997; Moll, 1993).

Purposes of the Study

The purposes of this qualitative research were 1) to describe urban teachers' understandings of their low-performing students' lives outside of school and how these interact with their lives in school; and 2) to describe their beliefs about and actions toward their students to affect equitable educational opportunities for them.

Context of the Study

The Project

In an effort to increase students' mathematics and science achievement, a Midwestern urban school district embarked on a five-year National Science Foundation funded partnership with a local university. This district has more students of color than any other school district in the state. It also has more students receiving free or reduced lunch and who are English language learners (ELL's) than any of the other school districts in the city.

The main approach to effective change was a three-pronged focus on PreK-12 teacher development: 1) increasing teachers' knowledge of science and/or math content, 2) increasing teachers' knowledge of effective science and/or math pedagogy, and 3) addressing teachers' beliefs about the teaching and learning of science and/or math. The third focus was especially relevant to the research reported here since effective change requires more than knowledge about content and methods (Haberman, 1995) and will only occur if professional development addresses teachers' existing beliefs (Tobin, 2001). This perspective of teacher change views teachers as decision makers who understand theory, research, content, and methods as a *complex*

set of interactions (Fenstermacher, 1994) rather than as consumers of methods or programs, a more *simplistic* view.

The Course: "Contemporary Issues in Urban Education"

One professional development choice available to the teachers was a "university path" of 18 hours of graduate coursework in science and/or mathematics, action research, and pedagogy resulting in a Certificate in Instruction in Urban Schools. All of these teachers began with a graduate course in urban education: "Contemporary Issues in Urban Education." I taught this once a year. This research describes teachers' understandings who were enrolled in three sections I taught over a three-year period.

I developed this course to contextualize teachers' science and math teaching to the complexities of their urban school context and the lives of their students, moving beyond the simplistic view that their low-achieving students had deficits (Hilliard, 1997). I encouraged teachers to reflect on their beliefs and educational practices in critical (Kincheloe, 1999) ways. Educational contexts, state policies, and funding impact the work of educators (Haberman, 1995; Placier & Hamilton, 1994). Thus, the course included a study of urbanization and its effects on the education system (Anyon, 1997; Kozol, 1991). We applied this concept locally through articles from the city's newspaper and invited speakers who discussed the history of the city and school district.

We interrogated systemic, disenfranchising educational practices, including the pervasiveness of educators' low expectations of poor children and children of color (Diamond, Randolph, & Spilland, 2004; Irvine, 1999), the importance and impact of students' cultures (Ladson-Billings, 1995b; Moll, 1993; Nieto, 1996; Ogbu, 1992), the effects of tracking (Oakes, 1995), and marginalized students' perspectives of their education (Michie, 1999; Wilson & Corbett, 2001).

Additionally, teachers read one of four novels with urban students as main characters, viewed Spike Lee's film *Do the Right Thing* (1989), and read professional literature about successful science or math instruction in urban classrooms.

We met face-to-face for about two-thirds of the semester. About one-third of the class meetings were "virtual" discussions through an on-line discussion board. In these conversations, everyone in the class could read and respond to everyone else's posting. My guidelines directed teachers to discuss the salient points of particular readings, connect the main issues to their students and their teaching, and share their personal responses.

During these three years, their school district was developing criterion referenced tests that aligned with state and district standards across grade and curricular areas, resulting in less teacher flexibility to design motivating learning opportunities that connected to students' lives. The implementation of NCLB, with its high-stakes testing, further elevated these and standardized measures of assessment.

Methods

Participants and Data Sources

The participants were 47 teachers from this urban school district who enrolled in one of three sections of the course I taught over three consecutive years. Thirty-five were elementary teachers; twelve were secondary math and science teachers. (See Table 1.)

Table 1: Participants' Teaching Responsibilities

Teaching Responsibility:	**Elem.**	**Mid. Sch.**	**High Sch.**
- Generalist	34		
- Science	1	6	2
- Math		2	2

My data consisted of the written texts of on-line discussions in which teachers responded to the readings, speakers, and film previously described. They contemplated the ethical question (Freire, 1998), "What is the right thing?"

Data Analysis

I used systematic qualitative methodology and inductive analysis to identify the teachers' understandings of their students' lives, their communities, and the impact of outside forces on the children's lives. I also looked for teachers' descriptions of their roles and responsibilities. Understanding their points of view is a phenomenological approach (Bogdan & Biklen, 1992) to the data. I employed the constant comparative method (Bogdan & Biklen, 1992; Glaser & Strauss, 1967), reading and re-reading the data, inductively developing themes and embedded categories from these data. I gave samples of this data and a list of my themes and categories to a graduate student in education. Her grouping matched mine. She suggested some changes in the wording of the categories for clarification, which I made.

Findings

Theme 1: Teachers seeing students in a context outside of school

In general, teachers described unsuccessful students as human beings in the midst of situations that were not in their control.

a) Teachers described their students' lives outside of school. They also wrote about how they did or did not learn about their students' lives.

A few teachers chose to interact with the community. An elementary teacher explained, "I have worked on becoming a member of the community in which I teach. I frequent the grocery store and attend community events that my students participate in. … I think that I have become more of a person to the people I see in the community." A secondary teacher wrote, "[My interactions in this community] have added to my rapport with students and parents. I have had parents say to their children, 'You listen to [your teacher]; I know where she's coming from and I agree with her.' " A teacher who taught in a Latino neighborhood "attended community events … [and] even marched in the Cinco de Mayo parade."

In contrast, some teachers talked about the difficulty to getting to know their students. A first grade teacher showed her frustration at not being able to make connections with her students'

families when, “I know that I go out of my way to make contact with a parent. It becomes difficult to understand the lack of parental involvement in the education of a first grader.”

One elementary teacher thought that visiting a home might help her understand “why students come to school late, then get picked up late, aren’t fed enough, are so run down.” Another elementary teacher explained how she finally understood a problem student when she met his mother and siblings at a school event. “He could not enjoy the event because he was busy watching over them.”

Several teachers wrote about the foster children they had in their classes, wondering what kinds of circumstances led them to be in that situation.

b) A second category within this theme was about violence in the immediate communities of their students. I use the term “violence” to mean physical, environmental, and societal violence.

In general, teachers did not consider ways in which society impacted students until we started reading articles from the local and national media about issues such as health care. Teachers wrote with emotion. For example, in response to a local news article about lead contaminated yards, one teacher chastised the EPA’s intention to implement an experimental solution. She asks, “Didn’t the Nazis perform experimental procedures, too?” Another teacher responded, “You can bet if this were a problem in a wealthy neighborhood it would quickly and properly be resolved ...”

Sometimes teachers described students who had perpetrated violence. One high school teacher told of “the number of kids we have in classes who have had a probation officer, parole officer, or wear an ankle bracelet for house arrest.” Other students have been on the receiving end of physical violence: “There are two students in my room who have been placed in foster care because of physical abuse. There are also three siblings [in my school] who were taken from their father for sexual abuse.”

Our city has a relatively high rate of asthma deaths. A teacher told of a third grader who had transferred into her school. Her records indicated a pattern of absences. She said, “We as teachers sometimes are very critical of absences. I made the assumption that school was not important to her. [Later I learned that] it wasn’t in her control.” A high school teacher showed his concern for the high cost of asthma medication.

Our state is rated below most others in its services for mental health and drug abuse. Reading about this made teachers angry. An elementary teacher explained, “Many of my students have family members that continue to battle these issues. Many people don’t realize how much our children are exposed to drugs, violence, and mental illnesses. [Many want our test scores to rise.] However, what programs have been developed to assist families in the community?”

Theme 2: Teachers’ roles and responsibilities in their school contexts

In general, teachers described the importance of meeting their students’ needs at school and their frustrations with requirements that seemed to ignore who their students were.

a) One category in this theme describes teachers' awareness of their students and how their general needs impacted them in the classroom.

Sometimes parents were described as irresponsible, as when a parent sent their child to school hungry. "My frustration comes into play knowing that it is my responsibility to make sure that student has been fed." Teachers were also frustrated with parents of young children who, in their eyes, did not prepare them for school. Some teachers provided students with "…a stable, loving, learning environment."

Teachers referred to the necessity of teaching children about their asthma and following their doctor's directions. Some teachers have learned how to administer CPR and use an Epi-Pen for students' sudden asthma attacks. Since not all schools were air conditioned; those that were often had students with asthma transfer into their buildings. Some schools had problems with mold, exacerbating students' respiratory problems.

b) A second category focused on meeting students' academic needs. These related to cultural responsiveness and teacher expectations.

Teachers voiced concern about the low expectations that other educators had towards students of color and poor students. One teacher described that she "witnessed this first hand" as a substitute in this district. "One particular school was rule and worksheet driven with no higher level thought processes occurring."

One elementary teacher initially thought she was helping one of her English language learners when she lowered her expectations. But, she explained, the student was "very frustrated with" her. "Boy, did that shock me. … I will never do that again."

In contrast, many teachers gave examples of ways in which their school district was meeting these students' needs. They applauded the district for lowering class sizes in low-performing elementary schools, and for the grant that paid their tuition for this course and assisted in their professional development.

Many teachers, after reading about successful programs, wanted to know more. After reading about culturally relevant pedagogy (Ladson-Billings, 1995b), several wrote comments such as, "I found it refreshing to know that there was no formula for [effective] teaching." Another teacher remarked, "The article (Nieto, 1996) prompted me to re-think our multi-cultural lesson plans for next year." However, they rarely made specific connections to ways in which they, too, could meet students' needs based on these articles.

A teacher who teaches in a school with over 90% African American students, voiced his realization that he needs to connect his teaching to his students' cultures, but that he does not have much knowledge of it. A middle school teacher asks parents to write about their child so she could know them better. A teacher with several ELL students encourages them to use both English and their primary language in class.

c) Teachers discussed a third category within this theme, namely obstacles to the success of students who were not succeeding. These included, for example, the narrowing of teaching possibilities as the focus on testing increased, problems with parents, school funding, and cultural issues. Some of these were systemic obstacles in their district or school.

On occasion, teachers described themselves as obstacles. One teacher demonstrated her critical reflection when she wrote, "Sarcastically I think, well, someone has to be at the bottom 'cause that's the law of averages. Then less sarcastically I ask myself, what can I do? But instead of rolling up my sleeves and jumping in I continue to sit in my comfy chair as my successful building offers suggestions that are filled with air. I could be a politician and I am ashamed."

Several teachers described systemic educational practices as obstacles. One teacher described the superficial level of commitment to multiculturalism. "I … gave some thought to how the 'culturally relevant' lessons in our curriculum are so lacking in any substance. Reading a short story about a Latino, Mexican, or Native American scientist for 15 minutes … or mentioning Cinco de Mayo is not a lesson plan to be proud of."

Another teacher saw ELL students and teachers as marginalized: "It is … frustrating to see how little support our ESL teacher gets from other teachers. I get the impression … that the ESL kids are a burden to some teachers."

Discussion

The hegemonic practice of characterizing students by scores on "objective" measures of achievement often results in viewing low performing students as having deficits (Hilliard, 1997). This deficit model puts most of the responsibility for learning (and failing) on students or on inadequate teaching. An increased focus on the achievement gap through No Child Left Behind furthers this perspective, as do simplified solutions of supposedly "scientifically-based research" that leads to teacher-proof instructional fixes (Sleeter, 2004).

This study demonstrates urban teachers' understandings of their students and the cultural-historical-social-economic realities of their lives, the complexities of which cannot be ignored in efforts to improve academic achievement. The oversimplification of teaching and learning in the current NCLB context puts these teachers in the difficult position of resisting (Moll, 2004) the status quo as they became more aware of the actual complexities that impact their students' lives in and out of school.

Teacher educators and PreK-12 teachers must be wary of viewing the education of urban students from a simplistic perspective. That is likely to lead to misconceptions (Spiro, Coulson, Feltovich, & Anderson, 1994) about the students and effective educational practices. In actuality, "[t]*eaching is unforgivingly complex*" (italics in original) (Cochran-Smith, 2003). We must "promote self-reflections that result in changes of perspective" (Kincheloe, 1999, p. 72). In other words, we must encourage future and current teachers to abandon a positivist lens and promote in its place a critical lens.

Macedo and Bartolomé (1999) emphasize the obligation of teachers to develop "political clarity, … the process by which individuals achieve a deepening awareness of the sociopolitical

and economic realities that shape their lives and their capacity to transform them. … Thus, it invariably requires that educators struggle to link sociocultural structures and schooling" (p. 140-141).

I certainly observed this developing perspective in these teachers. Weinstein (1996) identifies three essential components of effective change: 1) confronting and changing the entrenched beliefs about students' differential needs that result in differential expectations and teaching, 2) attention and commitment to teaching practices that are effective with low-achieving students rather than the continued practice of repetition and slower-paced instruction; and 3) a process for change that effectively engages educators and the community. Through this course in urban education, the teachers moved toward accomplishing these goals.

However, the momentum of NCLB grew over the three years of this study. As that occurred, teachers felt increasing pressure to focus on reading and math. The math focus was not always math as problem-solving as promoted by the grant, but math as computation. Many elementary teachers had, prior to this project, taught very little science (Lloyd, 2001). The elementary teachers in this study increased their science instruction; all teachers, to varying degrees, improved their math and/or science teaching. However, I am not sure if this is still the case. In a current study examining the impact of NCLB, (Center on Education Policy, 2006), "71% of school districts [across the country] have reduced instructional time in at least one other subject to make more time for reading and mathematics" (p. vii).

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