The Role of Communal Practices in the Generation of Capital and Emotional Energy among Urban African American Students in Science Classrooms

GALE SEILER
McGill University

ROWHEA ELMESKY
Washington University in St. Louis

One of the intractable aspects of the so-called achievement gap between Black and White students lies in our failure to identify viable ways to increase science achievement and participation among African American students living in our inner cities. However, there has been little research that attempts to understand how the social and cultural experiences of these African American students affect what happens in science classrooms. Using lenses from cultural sociology, the research presented in this paper begins to describe the nature of communalism as a cultural disposition and a component of their repertoires of practice. While recognizing the complex and contradictory nature of culture, we argue that communalism is common among African American experiences and has particular significance in interactions among urban teens, and that it permeates urban classrooms as well. By focusing on a pair of African American male students, we answer important questions of how communal practices afford the generation of social and symbolic capital along with positive emotional energy, as shared goals are addressed and science participation and understanding are enhanced. In addition, we offer suggestions on how teachers can employ an understanding of the role of communalism, capital, and emotional energy in improving science teaching and learning in their classrooms.
In 2001, universities in the United States awarded nearly 2,000 doctoral degrees to graduates in fields such as astronomy, environmental science, petroleum engineering, and plant genetics; African Americans received none of these. This is not surprising considering that, according to the National Assessment of Educational Progress (National Center for Educational Statistics, 2000), the average science scores of thirteen-year-old African American students are lower than the average scores of nine-year-old White students. Such data illustrate both the lack of an African American presence in science and technology professions and the systemic failure of schools to insure the science learning of African American students (Key, 2003). Moreover, this persistent gap in academic achievement in science, along with the lack of access to science careers, indicates that poor science preparation of African American students holds severe consequences for their life trajectories and supports Tate’s assertion that “[u]rban science education is a civil rights issue” (2001, p. 1015).

Many reasons have been offered for the failure of most schools, particularly urban schools, to adequately prepare and engage African American students in science. However, most attempts to alter this pattern have relied on an increasing emphasis on standardized science curricula and testing. These explanations and reform efforts largely fail to acknowledge the relationship between the social, cultural, economic, and historical positions of the students, and how these factors influence classroom interactions and access to learning inside of school (Seiler, 2001). In addressing this gap in our understanding, we draw on both psychological and sociological theories in our study of urban science teaching and learning, since we believe that these perspectives afford new insights into important social and cultural aspects of participation in school science.

COMMUNALISM AS A CULTURAL DISPOSITION

We inform our search for deeper understandings of past and present failures in educating African American youth in science with the theoretical work of Boykin and his colleagues. This literature enumerates dimensions of African American culture emerging from roots in West Africa and molded by the experiences of slavery and oppression in the United States. Like Gutiérrez and Rogoff (2003), we suggest these dimensions as “proclivities of people with certain histories of engagement with specific cultural activities” (p. 19) and not as static traits ascribed to groups of people. Within this article, we focus on one of these dimensions, communalism, which can be described as “a commitment to social connected-
ness which includes an awareness that social bonds and responsibilities transcend individual privileges” (Boykin, 1986, p. 61). Studies conducted by Boykin and others indicate a strong positive relationship between the academic performance of African American students and learning contexts that are communally oriented rather than contexts promoting competition and individualism (e.g., Boykin, Coleman, Lilja, & Tyler, 2004). Our work extends the construct of communalism into an inner-city neighborhood high school in Philadelphia (City High), as we study student participation in science activities. Specifically, in this paper, we focus on understanding how communalism, even when engaged in ways that do not appear to be useful to learning, actually contributes to the accumulation of capital (Bourdieu, 1986, 1992) and the generation of positive emotional energy in the classroom (Collins, 2004), and thus, may enhance motivation and engagement and allow access to the construction of science understanding. Moreover, we provide evidence for Tobin’s assertion in which he writes, “What seems salient to the teaching and learning of science is that the development of solidarity, as a form of symbolic capital, is a critical step in the development of science fluency in a class” (2005, p. 29).

CONTEXT OF THE STUDY

City High is located in West Philadelphia near the University of Pennsylvania; however, the high school is a world away from the university in many respects. This large inner-city, comprehensive neighborhood high school serves a student population that is 87% low income. In a school district that is 64% African American and 19% White, City High’s student body is 98% African American. The Pennsylvania System of School Assessment (PSSA) is used to determine the level of individual student performance as well as the degree to which schools enable students to attain proficiency of the standards. On the eleventh-grade assessment in 2001 (the year of this study), 77% of the students at City High were below basic level in math, and 64% were below basic level in reading. Performance data such as these, along with low graduation and college attendance rates, are regularly used to support the correlation of high poverty rates and lower levels of family education with lower student achievement (Kober, 2001). However, the data should also urge us to question what can be done differently in classrooms, particularly science classes, to interrupt this cycle.

The racial and economic segregation at City High and within the surrounding community is salient in understanding the lack of academic achievement of its students. It is not a coincidence that the African
American students who experience the greatest achievement gap are those living in conditions of poverty. Since mainstream experiences have been largely unavailable to them, the primary social fields in which they participate are structured to afford dispositions that position them to be "at odds with larger mainstream ideals" (Allen & Boykin, 1992, p. 589). This is particularly true in the field of school and is perhaps most pronounced in science classrooms where logic, objectivity, independent thought, and competition are highly valued (Lemke, 1990), and communal support and social bonds are often considered inappropriate.

COMMUNALISM AS A RESOURCE FOR SCIENCE LEARNING

In this article, we focus much of our analysis around Shakeem, an African American student from City High, who worked with us as a student researcher for three years, and his interactions with peers both inside and outside of school. Specifically, we provide vignettes that illuminate the communal bond between Shakeem and another African American male student, Cedric, by exploring the crucial role that their connectedness plays in the social life of school and, specifically, in their interactions within their ninth-grade biology course. In the following section, we commence with an example illustrating how Cedric’s communal support of Shakeem contributes to the goal of learning in their science classroom. In doing so, we confront common notions (that are predominantly deficit perspectives) regarding how low-achieving, inner-city African American male high school students would likely engage in science class, and begin to highlight how little mainstream society understands and appreciates the strong communal bond that exists between some youth in these settings.

BUILDING UNDERSTANDING OF NERVE IMPULSES

During a unit on the nervous system, the students in the biology class were learning how neurotransmitters carry a nerve impulse across the synapse (the gap between two adjacent neurons), but Shakeem was absent on that day. The subsequent class began with an opening drill activity that asked the students, “Explain how an impulse gets from one neuron to the next.” Cedric had understood this material well when it was taught on the previous day, and our analyses reveal that he became a key resource for his “boy” Shakeem’s understanding of the neurological process. Following his own quick completion of the drill, Cedric asked, “You got it, Shakeem?” and then stated, “Look man. I ain’t gonna tell you the answer, but I can help you.” As he uttered these statements, Cedric
pulled up a chair next to Shakeem, sat, and pointed to a diagram of neurons on a paper on the table. From then on, both Cedric and Shakeem's eyes were focused on the paper, and their heads were near each other as they leaned over the table. In the conversation that unfolded, Cedric proceeded to explain the path of the impulse, repeatedly referring and gesturing toward the circles in the diagram that represented the neurotransmitter molecules (e.g., "Look right here," and "These little things right here are the neurotransmitters."). Additionally, Cedric responded to Shakeem's questions (e.g., "That's them little dots, right?") and provided affirmation when Shakeem was correct. Moreover, Cedric corrected Shakeem's pronunciation of the word "synapse" and addressed his misconception that the impulse jumps across the synapse (Shakeem: "That's the sypax." Cedric: "Synapse. Yeah. So it goes through [emphasis ours] the synapse to the receptors. See how this fits? It goes right into the receptor.").

We view Cedric's instruction to have been quite effective, since it was Shakeem who later volunteered to answer the drill question for the entire class at the chalkboard, and in doing so, he demonstrated an accurate understanding of the role of neurotransmitters in carrying an impulse. Salient here is that both Shakeem and Cedric's nonverbal (e.g., bodily positioning; gesturing to diagrams) and discursive practices (e.g., asking and answering questions; emphasizing Shakeem's correct pronunciation of the science canon; and addressing his misconceptions) indicate that they shared the goal of ensuring Shakeem's understanding of the function of neurotransmitters. The boys were not inclined to believe that Shakeem could not answer the drill just because he had been absent; neither did Cedric simply supply Shakeem with the correct answer; Cedric even made a point to say he wouldn't give him the answer. If viewed in isolation, some individuals might simply reduce Cedric and Shakeem's exchanges to one student randomly helping another classmate. However, we contend otherwise, and in the remainder of this article we support this vignette with additional data to argue that Cedric and Shakeem's social relationship, as manifested in their classroom interactions, demonstrates one of the many faces of a unique, deep, and purposeful communalism that is common among some African American urban youth.

A SOCIAL AND HISTORICAL APPROACH TO CULTURE

The extent to which a distinct culture is shared by African Americans and the degree to which such culture represents retentions from African heritage are topics of frequent debate. We take seriously the caution of Gutiérrez & Rogoff (2003) not to view a disposition such as communal-
ism among African Americans as a static trait ascribed to group membership. By focusing on communalism among African Americans, we are suggesting neither that only African Americans demonstrate this disposition, nor that all African Americans exhibit this disposition to the same degree. To suggest so would be to essentialize culture and to fail to recognize complexity within cultures and subcultures (Sewell, 1999). However, as theorized by Sewell, cultural systems of meanings and associated practices do exist throughout societies, even if only thinly coherent and marked by contradictions. For example, the concept that "I am because we are" represents a common generative theme in Black philosophy and in understanding African American social and historical experiences. This belief stands in contrast to Descartes' well-known adage, "I think; therefore I am." Instead, the focus is "more on collective structures than on individual decision-making" (Hord and Lee, 1995, p. 8). Moreover, the saying "I am because we are" has existed as a central belief of many African groups, and has been forged under influences of racial oppression and marginalization experienced, both historically and currently, by African Americans in the United States. The historical presence and evolution of this theme has led to the expression of communalism in ways that are different in magnitude and form when compared with communal practices in other cultural groups, and this is demonstrated profoundly among the most segregated African Americans, that is, those living in poverty. In fact, our socio-historical approach supports others' findings indicating that many of the students growing up in the inner city and attending schools like City High have both a cultural history (Boykin, 1986; Hale-Benson, 1986) and lived experiences (Anderson, 1999) through which they have come to embody particular communal dispositions. Therefore, while we acknowledge that there is heterogeneity across all cultural attributes and that contradictions certainly exist within every culture and subculture, we believe there is sufficient coherence in the way communalism is expressed and the role it plays in the lives of economically disadvantaged inner-city African American youth to warrant the study of its implications for their academic success.

IS THERE A PLACE FOR COMMUNALISM IN SCIENCE CLASS?

The ideology that underscores most schools and curricula is not neutral (Nieto, 2004), and school science in many ways opposes central aspects of culture held by many African Americans in communities of economic disadvantage (Lemke, 1990; Barton, 1998). We argue that a commitment to social connections is often perceived in opposition to the interaction patterns and academic goals most common to science classrooms. For
example, according to Lemke (1990), a frequent activity structure in science lessons is teacher-led questioning, which by nature inhibits student-to-student interactions and promotes competitive pursuits to individually develop a "correct" response for the teacher. With teacher-led questioning, students receive individual recognition for their answers, valuing separateness and competition over collaboration and community. Thus, in-school science interactions most often truncate the expression of a core African American cultural dimension, namely communalism, and contribute to the perpetuation of the status quo in which most African American students remain unsuccessful in science classes and marginalized in society.

We consider the role of cultural dispositions such as communalism to have salience to all areas of schooling; in fact, we expect that classes in history, mathematics, English, and other subjects are impacted in similar ways. However, we contend that the disposition of communalism has particular significance in science for several reasons. The lack of achievement of African American students in science has dire consequences for their success in school and in life, given that science courses often serve as gatekeepers and maintainers of the status quo. Since participation in a science community is a social process (Lemke, 1990), the appearance and usage of communal orientations in science classrooms should be welcomed and cultivated in efforts to improve students' science learning. These two points considered, we argue that if we can find ways to meld the social nature of science with the communal aspects of African American urban youth culture, we can create opportunities for African American youth to learn science that are currently missing in our schools. Thus, in the remainder of this article, we present analyses of communal dispositions appearing during interactions within a biology classroom as well as in fields outside of school. In doing so, we seek to elucidate both the failure of schools to enable these students to be academically successful and the role that communalism could play in affording greater success in science.

STUDYING CULTURAL DISPOSITIONS ACROSS MICRO-, Meso-, AND MACRO- LEVELS

At the macro-level, we are concerned with the reproductive nature of schooling and the persistent academic failure of many African American students. While recognizing the complexity of the issues connected with this lack of achievement, we attempt to understand it by studying the link between school performance and students' cultural orientations. Most other studies examining cultural mismatch have attempted to under-
stand the gap by studying its instantiations at the meso-level, that is, by analyzing events in real time through ethnographic study of classrooms and schools (e.g., Ferguson, 2001; MacLeod, 1987); through analysis of verbal interactions (e.g., Heath, 1983; Michaels, 1981); or through the use of designed tasks and conditions that are congruent with cultural themes (e.g., Boykin et al., 2004). We remain cognizant of the macro societal concerns that drive our research, as we employ different lenses for moving across levels to study cultural dispositions at the micro-, as well as the meso-level.

The foundation of our research lies in video and audio recordings of teachers and students interacting in urban science classrooms and in student-produced film projects such as Shakeem’s video-ethnography described in a subsequent section. Important themes and events evidenced in the tapes are identified at the meso-level through the use of particular theoretical lenses of cultural dispositions (Boykin, 1986), the sociology of emotions (Collins, 2004), and the generation of capital (Bourdieu, 1986). The relevant vignettes (such as the previous one on nerve impulses) are studied more closely, leading to transcription and analysis at the micro-level. Micro-analysis entails viewing shorter videotape segments across a range of speeds, from slow motion to frame by frame. This type of analysis often reveals occurrences that are not easily identified at normal speed, such as peripheral events, fleeting actions, and subtle movements. We believe that this focus on the details of nonverbal as well as verbal interactions during times of cultural enactment and production provides a window into developing deeper understandings of real-time, meso-level classroom workings. Using meso- and micro-analysis, we show how discourse and nonverbal communication such as body movement, direction of gaze, and use of material resources illuminate instances where students unconsciously and consciously employ communal practices while doing or learning science. In the next sections, we traverse these levels of analysis to disclose evidence of the generation of capital and positive emotional energy connected with communalism.

COMMUALISM GENERATING POSITIVE EMOTIONAL ENERGY AROUND SCIENCE

The communal interaction between Cedric and Shakeem in the nerve impulse vignette is not an anomaly. Rather, extensive data sources collected in their biology classroom revealed that Cedric and Shakeem often worked together in class, and when they did, their “tight” relationship was usually evident. In the following vignette, the idea of “taking up for
someone," which is a common theme and important occurrence among inner-city African American youth (Anderson, 1999), unfolds in the classroom and provides an additional example of communalism emerging in science classrooms in ways that may not appear to be directly, but are ultimately, linked to goals of science learning.

STD RESEARCH AND REPRESENTATION

In the biology class, pairs of students were asked to research a sexually transmitted disease (STD) of their choice and then to design a poster conveying information regarding the condition. Cedric and Shakeem worked together on this project and invested significant effort in the design of their poster. For example, they included drawings, whereas other students did not. When the co-teachers hung the posters around the room so that students could circulate, read the posters, and gather information (e.g. symptoms, cause, and treatment of the STDs) in order to complete a handout, Cedric and Shakeem's poster was placed near the back of the room. Initially, Cedric did not even see their poster, and when he did, he took the location of their poster to be a sign of disrespect for their efforts and questioned Mr. Ryan, one of the co-teachers, about the location of their poster. A portion of the discourse that ensued is transcribed below along with a description of the movements of the participants. It begins as Cedric is seated at a lab table, and Shakeem and Mr. Ryan are close by and to Cedric's left.

<table>
<thead>
<tr>
<th>Line</th>
<th>Action</th>
<th>Discourse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cedric is seated. Turns his head and looks to his left, where Mr. Ryan is standing.</td>
<td>Cedric: Why you didn't hang ours up?</td>
</tr>
<tr>
<td>2</td>
<td>Cedric stands up. Takes one step forward and stands with his left hand in his pocket.</td>
<td>Cedric: It was too explicit?</td>
</tr>
<tr>
<td>3</td>
<td>Shakeem stands up to Cedric's left.</td>
<td>Shakeem: I'll fix that up.</td>
</tr>
<tr>
<td>4</td>
<td>Cedric is standing. Lifts his chin to raise his head as he speaks. Mr. Ryan approaches Cedric.</td>
<td>Cedric: Ya know you gonna put ours all the way in the back so can't nobody see it. A'ight [all right].</td>
</tr>
<tr>
<td>5</td>
<td>Mr. Ryan speaks quietly to Cedric.</td>
<td>Mr. Ryan: They're separated so that people can go to different posters and write down the stuff in their tables.</td>
</tr>
</tbody>
</table>
Shakeem walks very quickly between Cedric and Mr. Ryan.

As Mr. Ryan steps forward, Shakeem moves behind him.

Shakeem puts his hand on Mr. Ryan’s shoulders as he moves around him.

Shakeem walks quickly to the back of the room and removes their poster from where it was taped to the wall.

Shakeem carries poster to front of room.

Shakeem tapes poster to overhead screen and moves screen to the left, so it is more centered in the front of the room.

Shakeem turns toward the class and makes eye contact with Cedric.

Shakeem walks away from the screen back toward Cedric who is still standing.

Shakeem: I got a way to separate it.

Shakeem: Cause you all hatin’.

Shakeem: Excuse me.

Shakeem: I’m gonna show you separated.

Shakeem: There it is C.

Cedric: Yeah, that’s what I’m talkin’ bout.

We have found that the expression of communalism can generate high levels of positive emotional energy and promote the building of bonds among peers, as it does between Shakeem and Cedric in this vignette. Positive emotional energy refers to an emotional state of feeling empowered, confident, strong, elated, and possessing initiative toward action (Collins, 2004). Successful interactions are those that generate positive emotional energy and are recognizable by synchrony and fluidity as the actors anticipate and react “just in time” to the dispositional enactment of culture (Tobin, 2005). That the interaction between Shakeem and Cedric was successful will be demonstrated in the subsequent analysis.

The interaction between Mr. Ryan and the two students did not appear to generate negative emotional energy. Although Cedric initially challenged Mr. Ryan’s placement of their poster and intimated disrespect from it, there is no evidence of negative feelings escalating between them. Mr. Ryan spoke quietly to them; Shakeem was polite in moving past him; and Mr. Ryan moved out of his way and did not reprimand him for re-positioning the poster. Having been at City High for almost a full school year, Mr. Ryan understood and at times deferred to the students’ need to get their “props” or “juice” and to gain social and symbolic capital.
When viewed through this lens of the sociology of emotions (Collins, 2004), the poster vignette is representative of a successful interaction between Cedric and Shakeem since it contains four necessary ingredients: 1) two or more individuals are situated within the same physical space; 2) boundaries exist separating those involved in the interaction from others; 3) individuals have a shared focus upon an object or activity and become increasingly aware of each other’s focus of attention; and 4) they share a common emotional experience or mood. As we look at the poster vignette, it is evident that the first criterion is met since Shakeem and Cedric were next to each other in the same area in the classroom as the interaction began and ended. Even when Shakeem walked to the front of the room to re-position their poster, he maintained eye contact, and hence a connection, with Cedric. After moving the poster, Shakeem immediately walked back toward Cedric, thus reestablishing physical proximity. Although other students were nearby, they did not enter into the interaction in any manner, thus separating Shakeem and Cedric from the rest of the class during the episode (criterion 2). Throughout the vignette, Shakeem and Cedric’s focus (criterion 3) was locked on the poster and the goal of gaining a more respectful position for it. The word “poster” was never used, but they both understand what it was they were talking about. With remarkable spontaneity in lines 1–6, Shakeem was immediately aware of Cedric’s concern, and shared his goal regarding a position of respect for the poster. Without any oral communication, Shakeem “knew” exactly what Cedric was “talkin’ ‘bout” and what could be done about it. In fact, it seemed to be understood that Shakeem would respond as he did (line 3, “I’ll fix that up”) where “that” was understood by both students. In addition, they shared an emotional mood of feeling disrespected (criterion 4), captured in Shakeem’s statement to Mr. Ryan “Cause you all hatin’.” In the final two lines (“There it is, C” and the response, “Yeah, that’s what I’m talkin’ ’bout.”), the use of “it” and “that” further indicates their shared understanding of the goal and a mutual feeling of accomplishment (criterion 4). This closing discourse, along with their exchange of eye contact once the goal was accomplished, indicate that their interaction was successful and, therefore, that positive emotional energy was generated between Cedric and Shakeem.

Awareness of another’s focus (criterion 3) and sharing an emotional orientation (criterion 4) is crucial in determining the outcomes of interactions and whether or not positive emotional energy is generated among individuals. Collins (2004) provides this explanation, “As individuals become more aware of what each other is doing and feeling, and more aware of each other’s awareness, they experience their shared emotion more intensely, as it comes to dominate their awareness” (p. 48).
Thus, during successful interactions, such as this one, the generation of positive emotional energy is contingent upon alignment among participants in ways that are often subtly communicated between them.

Collins' notion of a successful interaction is helpful in understanding both the impetus for and outcome of communal action, since another significant attribute of successful interactions is that they routinely occur in chains where individuals with positive interaction histories frequently continue to experience successful interactions (Collins, 2004). Thus, the successful nature of the nerve impulse and poster events both illuminate Cedric and Shakeem's positive interaction history and increase the likelihood that Cedric will reciprocate by "having Shakeem's back" in the future and that Shakeem will "have Cedric's back" again. In fact, our analyses seem to show that when actors share dispositions to communalism and have a history of positive interactions, there exists a strong possibility that their interaction will be synchronous, based on shared understandings, and produce further positive emotional energy. Since, as Collins (2004) suggests, emotional energy that is generated in interactions can be carried individually and collectively and can provide fuel for subsequent interactions, we argue that communalism (in its generation of positive emotional energy) holds vast potential for engaging students both in school and in science.

COMMUNALISM GENERATING RESOURCES FOR SCIENCE ENGAGEMENT

Capital can be understood as material or symbolic resources that are embodied and can be utilized towards the meeting of one's objectives or gaining some form of profit. Bourdieu (1986) describes social interactions as being mediated by the accumulation, exchange, and appropriation of different forms of capital, including economic, cultural, social, and symbolic capital. All of these forms of capital are negotiated in science classrooms at City High and in the surrounding neighborhoods, and we use a metaphor of currency in looking for evidence of when and how capital is gained, lost, or exchanged from one form into another. Bourdieu has defined cultural capital to include "long-lasting dispositions of the mind and body" (p.243), and we conceptualize an embodied cultural disposition such as communalism as a form of cultural capital that has the potential to be converted into other capital. That is, communal practices can be generative of additional resources in the form of other types of capital. Below, we engage in further analysis of the poster vignette, from the perspective of capital. We illustrate the role of communal practices (cultural capital) in generating and maintaining the strong
bond between Shakeem and Cedric (social capital) as well as in protecting their investment in the science poster and its symbolic role in the class (symbolic capital).

COLLECTIVE GOALS: SOCIAL CAPITAL AND SYMBOLIC CAPITAL

At times in classrooms at City High, great individual energy is devoted to getting one's "props" or "juice." However, in this vignette, Shakeem did not appear to be attempting to gain respect in the form of symbolic or social capital for himself, as he would sometimes do. This is supported by micro-analysis of the video footage, as he did not try to call attention to himself or to make eye contact with others in the class (line 9, Shakeem walked quickly and purposefully to the back of the room). It is also evident on the videotape that other classmates did not appear to react to the interaction with Mr. Ryan or the relocation of the poster. Instead it seems that Shakeem was most attuned with addressing Cedric's concern (line 3, "I'll fix that up"). As illustrated in the previous section, their shared understanding of the unspoken goal is communicated indirectly and this allows Cedric and Shakeem to reciprocally build social capital, as well as act in ways that establish their poster in a position worthy of their hard work (symbolic capital). Had Cedric not responded affirmatively to Shakeem's actions (line 13, "Yeah, that's what I'm talkin' 'bout"), Shakeem's efforts could have gone unappreciated and an exchange of capital may not have occurred between them. The actions that unfolded allowed Shakeem and Cedric to solidify the connectedness between them, as well as to acknowledge the placement of their social bond over any individual goal, such as gaining individual recognition from classmates. The relocation of the poster to a spot in the front and center of the room provided symbolic capital for the student pair, honoring their investment in the production of the poster. Thus, their individual enactment of communalism served to fortify their collective goal (social capital) of garnering recognition and respect (symbolic capital), emphasizing how communal orientations value relationship over the individual. Such opportunities to garner social and symbolic capital in the classroom can alter the ways in which youth participate in school and contribute to the generation of new goals and the acquisition of cultural capital in the form of science understandings.

It is also important to note that the efforts of Shakeem and Cedric to get their "props" and strengthen their communal bond was done in a way that did not diminish the other students' efforts. Neither Shakeem nor Cedric indicated a belief that their poster was better than the other posters, nor did they move another poster to a position of lesser recogni-
tion. Instead, Shakeem creatively used the projection screen as a place to mount their poster, since other areas at the front of the room were already occupied by student work. In this way, they were also agential, using an extant resource (the screen) in a new way. Further, the interaction did not appear to interfere with the learning of the other students in the class. The entire sequence took less than 30 seconds, and none of the other students appeared to look in the direction of Shakeem, Cedric and Mr. Ryan nor react to, or enter into, the exchange in any way. Instead they continued with what they were doing.

The theoretical lens of capital is useful in understanding how communal practices become both resources for student participation in science activities and a means for accessing additional resources that afford science learning. In the poster vignette, Shakeem “taking up” for Cedric provides insight into ways to sustain student engagement in inner-city science classrooms where students often withdraw from classroom participation if they feel disrespected. Shakeem and Cedric’s efforts in producing their poster were not well recognized, in the placement that Mr. Ryan selected, until Shakeem “took up” their cause and situated the poster in a central location. Shakeem’s use of communalism averted Cedric’s feeling disrespected by the teacher and increased the probability that both would engage as fully in future science activities. Likewise, in the nerve impulse example, Cedric’s communal practices strengthened his relationship with Shakeem (built or maintained social capital), supported Shakeem’s engagement in the science classroom, and directly afforded Shakeem’s learning as he became more proficient in understanding the diagram, the science canon, and the concept of a neurotransmitter. Evidently, communalism as a form of cultural capital can impact the ways in which some students, like Shakeem and Cedric, can participate in science and build new science understandings.

“I GOTCHUR BACK:” SOCIAL CAPITAL INSTEAD OF ECONOMIC CAPITAL

A socio-historical approach enables us to recognize that dispositions are not traits located in individuals (Gutiérrez and Rogoff, 2003), but rather practices that are employed situationally. We have found that communal ways of being are particularly salient in the cases of students who lack economic capital that can be exchanged for position and respect in relation to peers in science class. In a school where nearly all of the students qualify for free lunch, Shakeem is recognizable as truly poor. Lacking even the same level of economic capital as many of his peers, our data show that Shakeem often makes use of communalism as a means for building
other forms of capital. Unlike many of the students at City High, Shakeem does not wear the trappings of a hip urban Black male teenager. He has neither tattoos nor braids and cannot afford the latest Nike sneakers or Hilfiger jeans. He is very aware of the inadequacy of his appearance and is often reminded of it by other students. In an environment where teenagers have sneakers and baseball caps in matched sets and won’t wear sneakers that have begun to look the slightest bit worn, Shakeem describes his own shoes this way, “Man, my sneaks is dog. They soft on the top and stuff.”

Shakeem has learned to ignore the sarcasm directed by some peers towards the signs of his poverty, yet this economic reality has also necessitated that Shakeem find other ways to “get by” or establish and maintain symbolic capital that is not material in nature, yet is valued both in school and on the street. In school, Shakeem relies on a strong social bond with Cedric. The bond between Cedric and Shakeem is a complicated and important one. Shakeem explained that Cedric has money, clothes, and girls—everything that Shakeem wants but does not have. Thus being “tight” with Cedric gains Shakeem considerable respect or symbolic and social capital among the other students.

I’m like, yeah, I’m with Cedric. Wachu gonna say now? Cedric got my back. He gonna defend me if you say somethin’ to me, because he got that. I can’t go defendin’ somebody that look worse than me cause I look a mess my damn self. So when I was in school I was always on Cedric’s wing. (Interview)

Shakeem was often the target of insults and attempts by other students to gain respect and social capital by disrespecting him, an easy target. For example, the lack of money to pay for laundry more than once a week, combined with a limited number of shirts, made it difficult for Shakeem to go to the chalkboard to display work in their biology class without coming under fire. Cedric would employ his significant capital and often “take up for” Shakeem when Shakeem was verbally assaulted by other students. In one particular exchange, a powerful female student was criticizing Shakeem’s appearance. Cedric countered her actions by directly saying, “Chill. Chill. Can you leave him alone?” and then “Can y’all just shut up?” Thus, Shakeem’s connection with Cedric allowed him to increase his status among his peers and enabled him to continue his work at the chalkboard in science class.

We have chosen to devote time and space to illuminating the challenges that are experienced by Shakeem in school related to his economic impoverishment in order to emphasize that the communal prac-
tices observed between Cedric and Shakeem extend beyond (but do impact) science participation and are not incidental in nature. Considering the challenges that may face students due to a lack of economic capital, the capacity for students to gain symbolic capital and to maintain or strengthen social relationships through the completion of science assignments should not be underestimated. We believe that such opportunities provide avenues to continually engage and motivate African American students in doing science since the energy generated and the accrual of social and symbolic capital by students during successful interactions can propel subsequent classroom interactions in a positive direction. The following final vignette reveals one more example in the chain of successful interactions between Shakeem and Cedric—generating additional positive emotional energy and capital, this time more closely tied to the doing of science.

DOING DISSECTIONS: COMMUNAL WORK IN SCIENCE

The previous vignettes allow us to understand the role of communalism in gaining social and symbolic capital and in generating positive emotional energy in ways that promote the engagement and investment of students in science activities. In this section, we present an instance, occurring on a different day, in which we found that Shakeem and Cedric's disposition for communalism contributed to their capacity to engage and learn as they carried out a sheep brain dissection. However, this final vignette differs from the nerve impulse example where Shakeem's learning was the goal and from the poster example where maintaining respect emerged as the primary goal. Instead, in this vignette, the valuation of Shakeem and Cedric's science skills, which were demonstrated by their successful extraction of the brain from the cranium, represented the central objective to be met and communal practices were accessed and appropriated toward that end.

On many prior occasions, the class had requested dissection activities (Seiler, 2002). When the co-teachers were finally able to accommodate the students' requests and obtain the sheep skulls for them to dissect, what emerged was laden with richly communal practices as the students fastidiously followed the directions on their handouts and carried out precise removal and dissection of the brains. In understanding the students' high engagement level during dissections in terms of the generation of capital and positive emotional energy, it is important to recognize that this was the first time in many years that dissections had been done in a biology class at City High. This traditional scientific practice had been considered too dangerous to be allowed, and the students were con-
sidered too irresponsible to have access to scalpels. After the students repeatedly requested it, the co-teachers went to great lengths to gain administrative consent for the dissection activities. Upon acquiring approval, they communicated the momentous nature of this occasion, informing the students of their expectation that they would "behave properly" with the dissection equipment and the specimens. Shakeem and Cedric rose to the occasion and worked in a more focused manner than on other occasions in the class (Seiler, 2002); for example, there were far fewer instances of off-topic talk, and less behavior that could be viewed as "resistance" (Seiler, Tobin, & Sokolic, 2003) or the "urban shuffle" during dissections. Numerous visitors (teachers, administrators, security personnel, and an electrician who was doing work in the building) dropped in to see the dissections, and Shakeem and Cedric eagerly showed them what they were doing and offered demonstrations of the parts of the brain to anyone who would look and listen. They availed themselves of this opportunity to demonstrate their expertise of anatomical understandings and gain respect (social and symbolic capital) from an array of guests and their own classmates; in the process, they reaffirmed the social bonds between them and advanced their learning of science.

Shakeem and Cedric were self-chosen partners in dissecting the sheep's brain; as shown below, they worked in tandem, efficiently collaborating to extract the brain from the cranium according to their own design (using mainly the scalpel), although this approach countered the advice of Ms. Jen, a co-teacher who approached their table and watched them.

<table>
<thead>
<tr>
<th>Line</th>
<th>Discourse</th>
</tr>
</thead>
</table>
| 1    | Cedric: Lemme lift it up, then you do like (silence, 5 seconds, as they work on dissection)  
      | Cedric: Like this. You should go like that. |
| 3    | Shakeem: Like this?  
      | Cedric: No, across there. |
| 5    | Shakeem: Like this?  
      | Cedric: Yeah. |
| 7    | Ms. Jen: I would take the forceps and [the scissors].  
      | Shakeem: [We got it, we got it right here.] |
As the pair worked, their discourse and actions resembled that of a surgical team working in unison to carefully remove the fragile brain from its bony cranial case and illustrated the communal nature of their approach to the activity. For instance, although not apparent in this short segment transcription, throughout the dissection, the pair shared equipment as they passed the scalpel and forceps between them. In addition, Cedric and Shakeem's conversation was marked by flow and smoothness as both offered suggestions on what to do (e.g., line 3, "You should go like that.") and line 15, "Right there.") and responded to the other's directions (e.g., lines 4–6, "No. Across there.") "Like this?" and "Yeah."). Their comments were complementary, helpful, and guiding, and they did not interrupt or talk over each other. No tension or competition appeared to exist as Cedric and Shakeem focused on the shared goal of extracting the brain. Similar to the poster vignette, there were no evident attempts by either student to garner individual respect in the form of social capital, as they seemed to privilege both the bonds between them and their shared goal of successfully accomplishing the dissection, rather than the attention of their peers. When they had removed the brain,
Shakeem’s claim “We got it, we got it right here.” illustrates their orientation to group duty, an aspect of communalism in which “one’s obligation to one’s social group is more important than individual rights and privilege” (Boykin & Bailey, 2000, p. 4). Furthermore, we maintain that this interaction was shaped by the social bonds that Cedric and Shakeem previously experienced in biology class (e.g., in the nerve impulse and poster excerpts) and in other times and places in and out of school. As one in a chain of successful interactions (Collins, 2004), it likely contributed to the probability that the young men would continue to experience social connectedness in the future.

As shown above, the speech of Cedric and Shakeem is synchronous and non-overlapping, an indicator of positive emotional energy and a successful interaction, rather than interrupting or contradictory. This contrasts with the overlapping speech patterns that occurred with Ms. Jen. She repeatedly suggested that Cedric and Shakeem should use the scissors rather than the scalpel, and she and the students often spoke over each other. In lines 10 and 11, she interrupts Shakeem, causing him to start over again in line 13. Throughout the interaction, Ms. Jen’s statements were expert-like and directive, indicating her position of authority as teacher and biologist (line 14, “It’s obviously still attached to something.” and line 9, “Take, I guarantee, take the forceps and the scissors.”). Many of her statements were given as direct orders (line 16, “Don’t pull too hard.”). This differs markedly from Cedric and Shakeem’s statements to each other (line 12, “Hey, why don’t you cut that off?”), illustrating their equal status and the communal nature of their approach to the task.

At times, communal practices may be viewed as interfering with or at least not enhancing science learning. As such, they are often shut down; instead of creating a context more harmonious with the students’ cultural dispositions, student culture is breached and the potential for communalism to motivate and engage students and promote science learning may not be realized. Although in this case, no confrontation erupted between the student pair and Ms. Jen, the transcript indicates her persistence in offering suggestions and criticism of their work, which could have derailed (or at least distracted) their efforts to accomplish their collective goal and generated negative emotional energy. For example, throughout the period when Shakeem and Cedric worked to remove the brain from the cranium, Ms. Jen directed them to “take the forceps” three times, and “It’s easier to use the scissors. You’ll have more precision that way.” Yet Shakeem, with Cedric’s support, persisted in using the scalpel instead of the scissors. Working together and using their own approach, they successfully removed the brain and proudly held it in their hands as a sign of their accomplishment—symbolic capital made
possible through the use of their communal disposition and social bonds. Ms. Jen reviewed this video segment at a later time and was surprised at her persistent attempts to direct Shakeem and Cedric to do the dissection her way. She commented that she sounded like a "control freak" and in her subsequent years of teaching she has grown to allow her students to be more self-directed in their learning, especially during science investigations, as Shakeem and Cedric were on this occasion.

FROM HOMES AND NEIGHBORHOODS INTO THE SCIENCE CLASSROOM

Throughout our analysis, we have argued that Shakeem and Cedric's in-school practices are representative of communal ways of being. At this point, a reader may understand and be able to recognize communalism, yet have questions as to why communal interactions of students like Shakeem and Cedric have significance that is different from practices of White middle- or upper-class students attending suburban schools, for example. In answering this question, we draw upon additional sociocultural theory to understand that cultural dispositions (such as communalism) originate from interactions and experiences within multiple settings outside of school. Drawing upon Sewell's (1999) theorizations regarding culture, we understand social fields to have porous or weak boundaries, thus communalism and the meanings associated with communal practices may originate in street and home contexts, where youth rely on strong bonds in families, neighborhoods, and among one's "squad" of "boys" or "homies." Therefore, communal ways originating outside of school can penetrate classroom walls since they are part of the repertoire of embodied resources and can be elicited at any moment and in any field.

MOVING BEYOND STEREOTYPICAL REPRESENTATIONS

Dill and Boykin's (2000) analyses using psychological measures illustrate that communal attitudes and practices are fostered among low-income African American children's families, and that these children prefer classroom activities reflecting these communal themes. Our understandings of communal relationships and practices in spaces outside of science classrooms have emerged predominantly through our work with African American student researchers who live in Philadelphia neighborhoods (e.g., Elmesky & Tobin, 2005; Seiler, 2002). The work of the student researchers has been invaluable since most opportunities to observe or vicariously experience communalism among economically disadvantaged
African American teens are limited to portrayals in written and visual media. For example, from television shows and movies we may be familiar with gestures such as elaborate handshakes and touching fists and bodies by Black sports and music figures. However, we may lack understandings of what these practices symbolize in terms of connectedness and shared understandings among African American youth, leading most individuals to minimize the cultural and social significance of practices such as these in the lives of economically disadvantaged African American youth. Hence, the following section allows the reader to follow Shakeem into his life outside of school to further illustrate the ways in which poverty shapes the lived experiences of students at City High, thus allowing us to situate our interpretations of science classroom interactions within broader understandings of communalism in the lifeworld of students such as Shakeem.

**LEARNING FROM SHAKEEM’S VIDEO-ETHNOGRAPHY**

During his three summers of employment as a student researcher in this study, Shakeem had the opportunity to work as a video-ethnographer in his neighborhood, capturing salient aspects of his lifeworld and then creating an edited version of his footage to express themes that are central to his life and “who he is.” In creating his final ethnography project, Shakeem demonstrated the importance of and need for communal bonds in his lifeworld by inserting lyrics from a recording by Beanie Sigel (a Philadelphia recording artist) in one section of his video. The lyrics that Shakeem selected signify the value he (and the lyricist) places upon the collective and his willingness to overlook his own individual needs and safety (e.g., “[I] know what I want in my life, I want for my brother;” and “[I would] take a shot for my nigga; give me two to the ribs for my nigga.”). In addition, this segment of the video production opens with Shakeem’s own words, “I have many associates. I have a few friends. But only one nigga.” These words reveal the ways in which Shakeem conceptualizes the multiple types of relationships he holds with other youth in his life. Ranging from associates and friends to “my nigga,” Shakeem clearly indicates that his life requires making relationship distinctions and further indicates that “friendship,” as a mainstream concept, does not encapsulate the powerful meaning of one’s “nigga.”

The bonds expressed by Shakeem in his video-ethnography are better understood by considering the nature of living in economically disadvantaged neighborhoods that are marked by a lack of material resources, the prevalence of poverty, a shortage of employment opportunities, isolation from mainstream society, and racial segregation (Wilson, 1996). Crime
represents an additional challenge in such neighborhoods; for example, inner-city Philadelphia neighborhoods have murder rates that are seven times higher than surrounding suburban areas, and the group most affected is teenage African American males (Utt, 2000). Not surprisingly, Shakeem has already experienced life-threatening altercations. Therefore, although communal practices enacted in school may be useful for Shakeem to avoid ridicule during science class, on the streets, responsibility for another or having another's back is often necessary to ensure well-being and survival (Anderson, 1999).

Neighborhoods such as the one Shakeem calls home have been shaped by years of unjust political decisions that make it very difficult for youth to move into advantaged social and economic positions. Through a socio-historical approach, we understand that these conditions encourage networks of support where individuals come to trust and rely upon one another within a larger society that has often been dismissive of their needs. The distance of this lifeworld from White mainstream experiences is profound and contributes to the deepening of certain African American dispositions. Street culture interacts with historical aspects of African American culture to create a complicated subculture in impoverished Black inner-city neighborhoods that is distinctive from White mainstream culture and that of other minority populations. Life in these economically disadvantaged neighborhoods facilitates the development of distinct communal philosophies and practices, unlike communal practices in other cultures (Anderson, 1999). Whereas the notion of social connectedness may conjure up mainstream images of collaboration or working together to complete a task, communal orientations (captured in statements like "I gotchur back") are different in their urgency and more profound in their consequences. With the help of Shakeem and other students, we have come to better understand communalism as the enactment of culture, belonging to another field, yet appearing in the classroom. We view communalism as both a means for building solidarity that will shape student engagement in the science classroom and a necessary resource for building networks of support, including the insurance of one's physical safety on inner-city streets.

Schools such as City High have been ineffective in changing the life trajectories of their students and have failed to significantly alter their disadvantaged educational, social, and economic positions. Employing ethnography and micro-analysis, our research represents not just an attempt to understand certain sociocultural aspects of teaching and learning science in urban schools that serve economically and socially marginalized African American students, but to change what happens in those schools. Thus, in our conclusions, we hope to contribute to new
ideas of instructional practice in these contexts, especially since most teachers of inner-city African American students are White and middle class and do not have a “deep-seated understanding of African American experience, culture, and heritage and the ways that this understanding informs successful teaching of African American children” (Murrell, 2001, p. xxiii).

**RECONCEPTUALIZING SCIENCE TEACHING**

Our extensive work with African American high school students both in and outside of school suggests the need for school science to incorporate students’ ways of being and doing, many of which (like communalism) have been acquired outside school in communities and families. Such an expansive view of teaching, learning, and doing science is what Barton (1998) describes as reflexive science. In this approach, science teaching more closely approximates the collegial nature of science at its most advanced levels when “real scientists” actually “do science.” As shown through the vignettes in this paper, communalism emerges regularly among African American students in inner-city science classrooms and thus teachers have ample opportunity to employ this disposition in ways that promote successful interactions in science classrooms.

Readers might argue that inner-city students need to learn the “right way” to act in school and in society, and that we are doing them a disservice to suggest that the ways they embody should be included in school. However as Hale-Benson (1986) points out, the expectation that African American students “be fit into an educational process designed for Anglo-Saxon middle class children” (p.1) has generated a system of education that is not working for inner-city Black students. A socio-historical perspective leads to a vision where marginalized students participate in multiple ways where they both use their extant cultural resources and acquire additional ways of participating over time.

**THE ROLE OF TEACHERS**

Communalism, along with the other Afro-cultural dispositions described by Boykin (1986), are developed over time through socialization and emerge in social interactions in fields that are structured in particular ways. Understanding this, science teachers can create structures that resonate or “feel right” with the students’ ways. This role of structure (Sewell, 1999) was exemplified in the dissection activity in which communalism was generally valued by those in authority. In that example, the co-teachers organized the task to be carried out in pairs and anticipated and
appreciated the students’ cooperation in completing the task. In addition, the students were allowed to choose their partners; they were trusted to use dissection equipment; and it was an activity that the students had been requesting and were very excited about.

That the students were able to establish positive emotional energy and generate social and symbolic capital in both the poster and dissection vignettes was both in spite of, and due to, the co-teachers. In both vignettes, the teachers’ goals (to spread the posters out and to direct the use of the dissection tools) set up situations that appeared to counter Cedric and Shakeem’s goals related to both communal bonds and science learning. However, in the end, the students were able to act in ways that utilized and strengthened their social connections around science because of opportunities that were afforded by the teachers. Mr. Ryan and Ms. Jen had been at City High for nearly a full school year and, in instances such as these, appeared to be inclined to afford the development of class structures that resonated with the students’ disposition for communalism. For example, each teacher’s reaction (to the re-positioning of the poster and the disregarding of the directives to use the scissors and not the scalpel) appears to be congruent with an understanding developed over time of the role of capital and emotional energy in the class, and in particular with Shakeem and Cedric.

Alternative approaches for the education of African American and other students of color, such as culturally relevant teaching (Ladson-Billings, 1995; Tate, 1995), describe efforts to account for differences between the students’ culture and the culture of school. However, little research has investigated, on a micro-level, why these approaches are effective, hence, they remain difficult to replicate. Ladson-Billings (1994) has studied successful teachers of African American students and describes a set of teaching styles and methods that are exhibited by those teachers and contribute to their ability to teach African American children. The meso-level evidence that she provides complements our micro-level argument of the centrality of emotional energy and capital in understanding what happens in inner-city African American classrooms. That is, we believe that many of the teacher strategies and dispositions that Ladson-Billings describes are effective because they afford the generation of positive emotional energy and provide opportunities for the exchange of capital.

**THE ROLE OF STUDENTS**

The tendency in education is to focus on changing student behavior and to neglect the need for changing the classroom system. This approach
fails to recognize the dynamic dialectic that exists between structure and agency (Sewell, 1992) and the possibility for change that lies in this relationship. Using their dispositional ways of being, students can structure the classroom themselves, as in Cedric’s unplanned yet effective assistance to Shakeem in understanding the function of neurotransmitters. Thus, marginalized African American students living in inner-city poverty might work, in conjunction with their teachers, to create an ethos built on communalism and other dispositions such as orality (Seiler, 2005) and verve and movement (Elmesky & Seiler, 2007). Such classrooms will look, feel, and sound different since White, mainstream dispositions will no longer be privileged in ways that disadvantage African American students. This is different from what has been called culturally congruent, responsive, or relevant pedagogy in which the emphasis is on teacher actions and their work to “include aspects of the students’ cultural environment in the organization and instruction of the classroom.” (Ladson-Billings, 1995, p. 467). In the culturally adaptive or resonant approach invoked here, the students themselves are agential as the classroom structures evolve and students can create and seize opportunities to express their ways of being, doing, and knowing within these new structures. In what may be a fleeting or an extended opportunity, students are able to generate positive emotional energy and exchange various forms of capital as they engage, learn, and draw upon other practices in the science classroom.

Against the backdrop of No Child Left Behind and high-stakes standardized testing, it might appear out of place and out of touch to raise questions about connecting science with students’ cultural dispositions and about paying attention to student capital and emotional energy in science classrooms. However, it is precisely because of this backdrop that we must investigate these types of questions, particularly in schools that serve African American students whose “miseducation” seems not to have been improved by recent reforms. Our work has convinced us that it is possible and necessary to both address science standards and construct classrooms that resonate with students’ interests and cultural dispositions in ways that create positive emotional energy and additional resources that can enhance science teaching and learning.

Our research points to the critical role of positive emotional energy and the exchange of capital in inner-city science classrooms, particularly in instances when African American students are taught by White teachers. Such teachers have tremendous opportunities to use the communalism (and other Afro-cultural dispositions) of their students as foundations through which to engage the students in science (Seiler, 2005). Recognizing that all culture is hybridized enables us to see that neither
“mainstream White culture” nor a “culture of science” exists in a form that is coherent and without contradiction (Hall, 1990); and within this hybridity, we can create a place for the further remixing of culture in school, in science, and in the social world. When hybridization is not valued, teachers often act in normative ways and react to micro-level gestures, movements, and discourse of African American students as problems to be shut down or dismissed and the oppressive structures become concretized. Reliance on teacher-led interactions and other mechanisms commonly used by science teachers to manage behavior (Lemke, 1990) counter the cultural tendencies of many African American students. In this way the micro- and meso-level unfolding of interactions and day-to-day events translates to macro-level failures. We suggest paying attention to the ways teachers read and respond to their students’ generative cultural dispositions, and enabling teachers to “read” the emotional energy of their classrooms and respond in ways that fashion chains of positive interactions.

The research in this paper is supported in part by the National Science Foundation under Grant No. REC-0107022. Any opinions, findings, and conclusions or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Notes

1 Pseudonyms are used for the high school and for all students and teachers.
2 Although standardized test scores present an incomplete picture of academic achievement, they have become the primary means of judging whether students and schools are progressing towards standards, and are frequently used as evidence of the persistence of the achievement gap between Black and White students, and for that reason we cite them here.
3 “Field” as described by Swartz (1997) refers to places where culture is enacted and often contested.
4 Student researchers played important roles in this on-going research at City High, both during the school year and in the summer. Their involvement was supported by grants and is described in more detail in Elmesky and Tobin (2005).
5 The biology course was an elective course that was designed to teach science concepts aligned with science education standards while addressing student interests; it is described more fully by Seiler (2002).
6 “Boy” is a term often used by the African American males at City High to denote a peer or friend with whom they have a particularly strong communal connection.
7 See Hale-Benson (1986) for a summary of these arguments.
8 We reject the argument that by describing and examining African American cultural dispositions, we further isolate African Americans from mainstream society and add to the deficit view with which they are often seen. We do not judge these embodied dispositions as inherently deficient in any manner; although we recognize that they are often judged so by society. Instead, we present them as cultural resources and strengths, and challenge educators to create space in mainstream and classroom culture for cultural expressions of those who are marginalized by the normative hegemony of schooling.
The biology course was taught by two co-teachers, Mr. Ryan and Ms. Jen.

“Props” and “juice” are terms used to denote respect received from peers.

Even individuals without a shared personal history can be drawn into successful interactions with each other. This often involves the recognition of shared understandings and emotionally charged symbols associated with membership in a certain group. In this way successful interactions may be associated with solidarity with a larger collective. Instances of identification with a collective are also very powerful for students at City High, as described in another paper (Elmesky & Seiler, 2007).

Students at City High routinely engaged in a variety of behaviors that postponed or avoided doing work in classes. These actions were so prevalent in this setting that we have come to call them the “urban shuffle” and we believe that they are linked with reproduction of the disadvantaged social and economic position of these students.

[ indicates overlapping speech.

References


GALE SEILER is an associate professor at McGill University in Montreal, Canada. She was a high school science teacher for sixteen years, teaching culturally diverse students in a variety of settings from Baltimore to South America. Her research examines how curricula and classrooms can be restructured to build on cultural practices and dispositions of urban, African American students, and the culturally specific ways in which African American students participate in school science. In addition, she is interested in the preparation of teachers both in and for urban schools, and in collaborative research with participants in local schools. Gale and Rowhea Elmesky contributed to and co-edited (along with Kenneth Tobin) a recent book entitled *Improving Urban Science Education: New Roles for Teachers, Students, and Researchers*.

ROWHEA ELMESKY is an assistant professor at Washington University in St. Louis. There, she continues a program of research on the teaching and learning of science in urban schools. Rowhea has her undergraduate degree in elementary education and graduate degrees in science education from Florida State University. Her main contributions to the science education field have been developing macro-, meso-, and micro-level understandings regarding the ways in which resources and schema from social fields outside of the classroom shape what occurs within, and the identification of students' cultural capital.