Crossfire on the Streets and into the Classroom: Meso/Micro Understandings of Weak Cultural Boundaries, Strategies of Action and a Sense of the Game in an Inner-City Chemistry Classroom

Rowhea Elmesky

Abstract: As this nation shifts towards an educational focus of “teaching for social justice,” this critical ethnography illuminates the importance of considering overlapping fields to help understand what is occurring within inner-city neighborhood classrooms. While prior attention has focused on the apparent deficiencies of urban schools, such discussions do not take into account the complex sociocultural issues associated with a classroom field. In this paper, I provide descriptive narratives of the unfolding day by day events occurring within urban neighborhoods, as well as common practices, shared strategies of action and a “sense of the game” embodied within urban youth as they enter the workplace and a chemistry classroom of a comprehensive neighborhood high school in Philadelphia. Moreover, by identifying and interpreting the patterns of coherence as well as the contradictions of what is occurring on both the meso and micro levels across these various fields, I offer alternative understandings of practices typically labeled as disrespectful, acting out, and violent. More importantly, the implications of being able to understand porous boundaries in the classroom are addressed in terms of the accessibility of science to urban youth and their development of scientific literacy.

Keywords: Cultural sociology, strategies of action, inner-city science classrooms

On the Streets of Philadelphia

When Randy arrived to work on August 12, 2002, I had a feeling that something was very wrong. He was visibly disturbed. His sarcastic humor, normally prevalent in any interaction, was nonexistent as he withdrew from the research activities of the day and he responded little when I attempted to start work-related conversations. After nearly an hour and a half, he finally looked me squarely in the eyes and asked, “What is the dumbest thing someone could do?” As I struggled to reply, he responded with an answer I would never have guessed, “Shootin’ yourself in the head!” “My man shot hiself yesterday.” (Rowhea, journal entry, 8/02)

This is our garden. An’ it got people’s names on it. See the nice flowers and stuff—tomatoes. Too bad you don’t see the tomatoes, but the little kids be throwin’ them. But look at the nice paintins on the wall. This is good. This is something good in our neighborhood. See the paintins on the wall,

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2. University of Pennsylvania, relmesky@gse.upenn.edu.
3. “My man” refers to a close friend.
Rowhea Elmesky

flowers, all that stuff. … They got somethin’ you can sit around in. Hey got a little shack, right here. Over here, we’re about to go in a few minutes, we’re about to go over by playground for little kids. I’m just showin’ you this because this is something good in our neighborhood that we need. (Randy, 8/28/01)

*When I was little right, I used to live in um Southwest like an’ um it was on Rider Street and one day we was outside playin’, and my sister she was skating, right? So we seen these dudes run down the street with a gun, an’ um this other dude is in front of ‘em, right? It’s three of ‘em chasing ‘em, and we all ran in the house, and the dude, they had um they had um they had shot him. Then they walked away and started laughin’, right? An’ my dad and my mom was real scared cuz they couldn’t find my little sister nowhere. An’ she was outside, she was right by them while he was shootin’ him. An’ they looked my little sister dead in the eye, and they just started laughin’. An’, she [May’s mother] ran over there and she pulled her in the house an’ stuff. Then all these cops came an’ stuff. He just bumped the man there. (May, 7/23/01)

* Randy: I seen the Habitat down the street. What is they doin’?
Cousin: They buildin’ playgrounds for the little kids.
Randy: An’ they buildin’ houses and stuff?
Cousin: They remodeling like abandoned houses on side streets. (8/28/01)

*Philadelphia is known for its remarkable murals. Decorating the walls of buildings in every part of the city, the murals share stories and serve as identifiers for neighborhoods. While many celebrate the successes and progression of a particular community, others mourn the death of youth lost to the street. They acknowledge that street violence occurs in the lives of urban youth and simultaneously emphasize the innumerable activities within the neighborhoods that are in stark contrast to such violence. In a paper focused on science classrooms and the teaching and learning that occurs therein, one may wonder about the significance of opening with narratives from fields other than the classroom. Yet, this research suggests that the mix of coherence and contradiction (Sewell, 1992)—of fear and laughter, of the illegal and the legal, of despair and hope for the future, and of brutal killing and commendable rebuilding—occurring outside of the classroom complicates the process of understanding what occurs in science classrooms in urban schools. More specifically, since my research over the past year and a half has shown that many of the experiences encountered by the youth on the streets of large inner cities like Philadelphia tend to involve some aspect of confrontation, violence, or a threat of personal safety, this article focuses on cultural symbols and practices associated the inner-city “street” field, including but not limited to the accessibility of guns, the occurrence of murder and aggressive activities such as “rolling” or “catching” a body, impact the youth who live there. Moreover, in this paper I discuss how such aspects of the street affect student practices on both the unconscious and conscious levels and inevitably seep into other cultural fields, such as the school and the work place, in the form of what have been described as, confrontational strategies of action (Elmesky, 4. In this article, I use the concept of “field” in the tradition of Swartz (1997) who draws upon Bourdieu (1977) to refer to sites where culture is produced and enacted and the structures that influence the practices of individuals therein.
2001). By utilizing the term “confrontation,” I caution against misinterpretation or miscue so that these strategies do not become perceived negatively. Whereas confrontation is normally perceived as a conscious, intentional challenge to another individual, my use of this term exhorts an unconscious tendency for these strategies to emerge within fields in which actual conflicts arise or playful interactions mimicking actual conflicts occur.

**Sociocultural Theoretical Framework**

In this article I draw upon sociocultural theory to comprehend what occurs in urban science classrooms in a neighborhood Philadelphia school. As articulated by Seiler (2002), individuals exist as part of numerous cultures simultaneously; interacting in subcultures nested within subcultures whose weak boundaries are evasive, blurred, and indistinct. In the course of everyday interactions within various overlapping cultural fields, we incorporate a wide range of resources (Sewell, 1992) in the form of strategies of action (Swidler, 1986). Whereas, “strategies” have been customarily understood as deliberate and planned approaches for accomplishing specific goals, I here endorse the use of the term as “a general way of organizing action that might allow one to reach several different life goals” (Swidler, 1986, p. 277). While the author doesn’t make completely explicit the unconscious nature of strategies of action, I utilize this paper as a means of emphasizing the unconscious aspects of the concept of strategies. More specifically, I use the term to refer to attitudes, habits, rituals, language patterns, skills, values, ethics, morals, aspirations, beliefs, and goals; and I exhort that most of these social dispositions are taken for granted and unconscious or habitus (Bourdieu, 1992).

Metaphorically, culture can be described as a “toolkit” (Swidler, 1986) of symbols, the associated meanings, and practices (Sewell, 1999). Individuals develop strategies of action as part of this larger toolkit by simply “being” within social and cultural spaces with others. Indeed, field provides “cultural components that are used to construct strategies of action” (Swidler, 1986, p. 273); yet, in accordance with the notion of weak cultural boundaries, an individual’s cultural toolkit and strategies of action are not exclusively tied to one field versus another. Depending upon the field—the governing ideological rule system and the accessible material and human resources—various forms of strategies of action are internally constructed within individuals, and the associated meanings transcend any particular field and help to define the “local possibilities of action” (Sewell, 1999) of an individual. However, an individual’s agency—his/her power to act or ability to change his/her position in social space—is not “determined” by the strategies of action in his/her toolkit. Agency exists dialectically in relation to the structure of a particular field. Thus, one cannot discuss strategies of action without discussing the agency they afford, how they are structured by as well as how they structure any particular field in which an individual participates. In other words, while structures such as schema/ideology as well as physical and spatial aspects of an environment affect the types of resources an
individual holds within his/her toolkit, in turn, the strategies of action that an individual embodies “structures” the field in which he/she interacts. Thus, “human practice, in all social contexts or institutional spheres, is structured simultaneously both by meanings and by other aspects of the environment in which they occur…” (Sewell, 1999, p. 48). With such sociocultural understandings, it is necessary to emphasize that this article does not advocate that an individual’s strategies of action can be linked to race, ethnicity or socioeconomic status; rather they are linked to the structure of the field(s) in which the strategies are learned and unconsciously embodied. In trying to understand how to improve the learning of urban students, there is a pressing need for understanding the strategies of action that students bring with them to learning environments and more importantly, how these strategies afford student agency during the teaching/learning process.

**Practice and Structural Resonance**

Within a sociocultural framework, “practice” is understood as patterns of actions, which are both conscious and unconscious. Moreover, “to engage in cultural practice means to utilize existing cultural symbols to accomplish some end” (Sewell, 1999, p. 47). When different fields share common human or material resources, rule systems, or ideology, “structural resonances” arise and particular practices, including unconscious dispositions, appear across fields. For example, although unconscious dispositions may be primarily associated with a particular field or fields, if a particular aspect of a different field resonates with the field(s) where the dispositions are most commonly enacted, then similar cultural practices can emerge. Seiler (2002, p. 30) elaborates, “Social interactions are influenced by aspects of the larger social world, that is, by assumptions, expectations, dispositions, and language patterns from our life experiences. … They provide a sense of the game, of how to act and respond.” Thus, when youth enter a science classroom, they are attuned to those aspects of the structure that tend to resonate with internalized cultural strategies, causing teachers to address the strong authority of habit, normality and common sense that informs students’ practices.

Inner-city street activities range broadly in type, from murder, rolling bodies or drug traffic to sidewalk barbecues, street ball, or neighborhood rejuvenation/beautification projects. By understanding the structure of different cultural environments in which students interact and the associated strategies of action within their cultural toolkits, teachers can become better equipped with the skills for helping their students learn science in a manner that will encourage social transformation. It is through studying the dialectical relationships between field, structure, and strategies of action that the deeper meanings surface.

In this paper I show how one particular cultural tool (the confrontational strategy of action) is enacted within the fields of the inner-city neighborhood and the urban

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5. The metaphor of resonance was developed by Ken Tobin and Wolff-Michael Roth during the course of theoretical discussions in Spring 2002.
science classroom. My choice to focus on this particular strategy is connected predominantly to the fact that the engagement of physical and verbal confrontational strategies within the school field are often interpreted by the dominant school culture and mainstream society as threatening, disrespectful, disruptive or resistant. This study indicates that confrontational strategies of action must be understood within a context of field and structure and cannot be labeled along a continuum of “productive” to “destructive” for learning environments. Moreover, I urge educators to delve deeper into understanding why particular strategies such as confrontational ones appear within schools and in science classrooms, and to begin to look for ways in which youth sometimes utilize such mannerisms agentically in the process of building a science identity and becoming scientifically literate citizens.

**Methodology**

In this paper I share findings from a longitudinal study focused upon urban African American students, coming from economically disadvantaged homes, who attend a comprehensive neighborhood high school in Philadelphia. While the study has involved students in many science classrooms, the majority of the particular findings presented here result from close interactions with four youth (Randy, Shakeem, Ivory and May) who were hired as student researchers and participated in a variety of roles (e.g., learners, researchers, teacher educators, curriculum developers) across social fields, including the workplace, neighborhood, home, and the science classroom. These student researchers were video and audio taped within their science classes during their ninth (spring 2001) and tenth grades (fall 2001), to better understand the cultural practices they enacted in the classroom. They also participated in a variety of activities associated with both learning physics and conducting ethnographic research for ten weeks in the summer of 2001 at the University of Pennsylvania, and, in summer 2002, they partook in a follow up ten week research session to provide further insight into understanding their lives in and out of school. During both summer research programs, Randy, Shakeem, May and Ivory helped illuminate the complexity of social field interactions and the patterns of coherence and stark contradictions that emerge within the diverse social spaces that urban teenagers such as themselves inhabit.

**Data Sources**

Initially, during the first summer at the University of Pennsylvania, the student researchers were primarily involved in data production and collection. During the subsequent summer, in order to involve the youth more intimately in the analysis process, they were provided with experiences focused on creating shared understandings of a sociocultural theoretical framework. How they made sense of this new lens affected the interpretation of data and significantly altered the quality of the research process in a positive manner. Their work included but was not limited to journal writing, transcribing, writing and performing raps connected to science, life
and theory, conducting internet research, engaging in micro-video editing activities utilizing software such as iMovie, developing ethnographic PowerPoint presentations, designing interview questions and conducting self and peer interviews, and producing a science-related movie entitled Sound in the City. In this article, I draw on a variety of data sources, including (a) raw video footage from Philadelphia neighborhoods, including interviews with neighborhood members; (b) audio taped, informal and formal conversations that occurred throughout research sessions in the University of Pennsylvania work setting; (c) travels through the streets of Philadelphia with youth as tour guides; and (d) video footage of the tenth grade chemistry course in which the four main student researchers were enrolled.

Data Analysis and Interpretation
In trying to understand the weak boundaries of culture and the ways in which cultural practices associated with one field can appear in another, this article provides data analyses and interpretations that span across both the micro and meso levels. While meso refers to the unfolding everyday events, the micro signifies a sharper level of detail that requires different tools and methodological procedures than those that capture the day-in/day-out practices. In order for the complexity of patterned actions to be better understood, narrative, interview transcripts, and descriptive ethnographic field notes were utilized in conjunction with micro-level analyses of videotape footage. According to Roth (2001, p. 28), “If the individual social actors are attuned to different attentional fields … the analyst will (have to) be attuned to these different fields in a similar way. The analyst, therefore, has to find, from the documentary records, what is salient to the individuals he or she studies.” Thus, being able to identify cultural resources commonly engaged across different cultural fields and being able to recognize aspects of a field’s structure that create resonance such that a student responds in a particular manner becomes more discernible when the lens of analysis reaches the micro level.

In performing micro-level analyses, the student researchers and I engaged in video editing activities utilizing software such as iMovie, Adobe Premiere and Movie Maker. I observed videotape footage at various speeds (i.e., from frame by frame to double speed) from the chemistry classroom, the university workplace and inner-city Philadelphia neighborhoods to begin to identify strategies of action that students employed in any of the contexts. This type of detailed analysis provided me with insight into the patterns of thin coherence and contradictions dialectically existing, and informed me as to what questions to later ask as part of a design in which analysis, interpretation and data resource identification and acquisition were recursively interconnected. Analyses of such data sources reveal that weak cultural boundaries as confrontational resources, rooted within fields such as the street, can manifest themselves within a science classroom.
Confrontational Strategies of Action Outside of the Classroom

“After a fight, we’re gonna catch a body. Lay a nigga in a hotel lobby.” As I watched the evening news and listened to the report of a sixteen-year-old boy who lay in a hospital bed with a fractured skull from being beaten with a baseball bat by at least five of his peers, the above line to a rap that Shakeem once explained to me, replayed over and over in my mind. While working with student researchers over two summers, I was introduced to a group ritual common to some of the inner-Philadelphia neighborhoods. In the case of “catching a body” or “rolling on someone,” the status of the victim is challenged while simultaneously raising the standing of those within the attacking group of peers. According to Shakeem, catching a body involves randomly selecting an individual and beating him/her up for no particular reason. “Alright, it’s like somebody hit you and then just if a lot of people jump me. Jump on me and beat me up.” In an interview, Natalie further explained:

It’s hard to say a reason. Sometimes they do it [rolling on someone] out of fun, like not out— it’s just to find something to do — out of fun. It’s just something to do, I mean ‘GP’ — general purpose … just out of ‘GP.’ Other times they do it cuz they don’t like them or cuz they offended one of their associates or friends or um … it could be any reason in the world—because their shirt is orange— it’s just because.

Natalie, now a senior in high school, vividly recalled her days of getting rolled on during her sixth grade year, when she was attacked, on average, twice a week. “I was constantly getting rolled on, but I came out on top. … Cuz I’m a strong willed person. I’m a strong— I refused to get rolled on and end up at the bottom of the pile.” Since the objective of this group confrontation is to force one individual to the ground to get “stomped,” Natalie explained how she learned how to fight—or develop strategies of action to prevent herself from being dragged down. “Yeah cuz no one ever taught me how to fight. I learned from getting rolled on. It, it came natural, cuz I got ‘snuck’ one day, an’ you know, I just started swingin’.” More specifically, Natalie learned that if she was able to pull one of her assailants down with her as she was being forced to the ground, it would provide her with an opportunity to get up while the group momentarily switched focus to assist their associate off the ground.

Whether male or female, in many of the neighborhoods, the occurrence of these beatings appear common, and can be described as an integral part of the system of practices ingrained within the culture of inner-city Philadelphia neighborhoods. Thus, within the inner-city street field, image—many times, a confrontational image—is extremely salient. Anderson (1999) has coined this as “code of the street.”

the code revolves around the presentation of self. Its basic requirement is the display of a certain predisposition to violence. A person’s public bearing must send the unmistakable, if sometimes subtle, message that one is capable of violence, and possibly mayhem, when the situation requires it, that one can take care of oneself. (Anderson, 1999, p. 72)

6. Line from *Fiesta* by R. Kelly and JZ.
Moreover, it is the search for and maintenance of respect that drives the majority of practices or serves as the motivating outcome (Engeström, 1993). One must have an acute, embodied understanding of the consequences of others’ perceptions of him/her and be willing to, not only, present a tough front, through practices such as catching a body but also, be willing to defend such a stance, if one becomes the attacked rather than the attacker. “Given its value and its practical implications, respect is fought for and held and challenged as much as honor was in the age of chivalry” (Anderson, 1999, p. 67).

Randy’s peers also made several passing references to the activity of catching a body during his ethnography. For instance, a boy known as “Hot Sauce” could be heard saying excitedly, “About to catch a body!” Randy first ignored and then protested to such comments, saying, “Never. Ain’t catchin’ a body!” Yet, Hot Sauce continued pressing the issue, “Come on man, let’s put that sh*t on tape! I’m bangin’ the sh*t out of somebody with this …” Although, they did not actually catch a body on tape, part of Randy’s video ethnography included a section where he and some other boys created their own “Blair Witch” movie, which in many ways resembles the types of confrontations that youth have described. Taped at night in an abandoned lot, Randy held the camera and imitated a terrified individual who, along with two friends, was hiding from an attacker.

“Shh. I hear some someone.” Randy’s voice shook with fear. “Ya’ll hear that yo? Ya’ll hear that walking? Ya’ll hear it? Ya’ll see that?” An ‘attacker’ appeared from behind an empty trailer and began to pursue one of the boys. As the attacker grabbed hold of Tyrone, Randy’s voice heightened in pitch and became increasingly emotional. “Oh my God! Ahhh!! Oh sh*t! Ah! Oh my God!” Randy pretended to start crying, “Ummm. Huh huh huh.” As he watched them wrestle back and forth, Randy could be heard saying, “Ah, he killin’! He killin’! Oh! Ah!” Finally, the attacker picked up a plastic piece of pipe tubing, about a meter in length, and struck the fence right behind Tyrone’s head. Pretending to be hit, Tyrone crumpled to the ground and the perpetrator ran away. In a panic, Randy squealed, “He comin’ comin’—he comin’ for me!” A few moments later, the perpetrator attacked the second boy, Alex. He forced Alex to the ground, and, again, utilizing the tubing, proceeded to strike loud fake blows (to the ground beside Alex). After being “struck” several times, the young man lay motionless in the dirt. Suddenly, Tyrone reappeared, with his own plastic tube in hand and tried to protect Alex, yet the attacker turned his attention back to Tyrone, cornered him against the fence and “struck” him repeatedly. Randy brought over the camera to take a close up shot of him. Tyrone sat in a daze, head hung over in mock imitation of someone who had been beaten badly. “I got the victims who got beat up,” Randy said. “Let’s put the light on.” Randy turned on the video camera light and shone it onto the boy leaning limply against the wooden fence with his eyes closed. “What happened? What happened?” Randy asked. “I don’t know,” Tyrone responded, “I saw some ugly boi come out of nowhere. That’s how it is around the Drill Block.”

Watching particular clips of the physical contact between the youth in slow motion, one could believe that what was occurring was actual rather than acted. In real time, the audio track added to the authenticity of the game as the boys let out groans and screams and Randy’s frightened voice varied in pitch with intermittent panting.

7. Meaning “boy.”
8. Pseudonym for neighborhood nickname.
and shaking, although spontaneous laughs and an exaggerated verbal track confirmed the playful nature of the interactions. While more indicative of individual confrontation rather than a group activity like catching a body, Randy’s video production of “Blair Witch” signifies that strategies of action do not necessarily have to exist on an exclusively unconscious level. In the vignette analyzed, Randy, Tyrone and Alex demonstrated shared understandings of the rules of the game and enacted strategies of action that might have been utilized in an actual conflict; yet, it is through their play, I suggest, that a deeper, innate sense of confrontational practices and appropriate responses were also being learned. In order to interact in a manner that allowed the game to progress smoothly, these young men possessed a natural feel for confrontational strategies of action that arises simply from “being” within structured fields with components that resonate with such strategies. Over time, as the strategies are practiced within a field whose structure affords such patterned actions, they become increasingly integrated in an individual’s life and enable his/her “sense of the game” (Bourdieu, 1990). Thus, by creating their own “Blair Witch” re-enactment, the youth continue to learn the strategies of action associated with being confrontational and responding to confrontation and thereby become proficient within the street field in an increasingly unconscious manner. Then, when youth find themselves in actual situations of attack, as in Natalie’s case, some of their strategies of action, such as the understanding that one must remain standing or at least always be on top of someone else while being rolled on, emerge thoughtlessly as they have become as natural as drawing a breath, walking with a shuffle or speaking with an accent.

**Confrontational Strategies in the University of Pennsylvania Workplace**

During a physics lab situated within the University of Pennsylvania, an interaction transpired between Shakeem and Randy involving a meter stick that provides an additional example of what happens when individuals share common confrontational strategies. In a situation where the object of student interactions should have been to learn physical science, the strategies of action that were actually engaged during the interaction are very similar to those that could be employed on a neighborhood street. Moreover, what transpired with Randy was harmonious, like a dance well rehearsed. Similar to the shared understandings exhibited by the young men in Randy’s ethnography, each boy played his role with utmost ease—keeping the interaction moderately intense so that no one was in danger of being degraded nor felt seriously threatened.

The game began when Randy bent at the waist to pick up the fallen weight hanger so as to attach it to the end of the string. His back was toward Shakeem who sat behind him on a stool, holding the long wooden stick.

Shakeem: (Hit Randy lightly on the back with the stick) How you touch this?
Randy: I ain’t touch it.
Shakeem: (Hit him again) I said stop lyin’.
Randy: I ain’t lyin’.
Shakeem: (Hit him again) Why you lyin’ more?
Randy: I’m not lyin’ more.

As Shakeem and Randy interacted, each sentence exchanged between them was short and accompanied by a quick hit/tap on the back. When Randy had finished hanging the weight, he stood, looking downwards, and turned towards Shakeem. Viewed frame by frame, what occurred next indicated Randy’s anticipation for Shakeem’s next blow. Before Shakeem moved the stick again, Randy had already started to bring his own hand upward. Thus, as Shakeem tried to bring down the meter stick on his arm, Randy easily intercepted the last blow. For half of a second, both of the boys were face to face as they each held the meter stick with one hand. Then it was almost as if Shakeem loosened his grip and allowed Randy to take away the stick. As Randy moved to stand behind him, Shakeem looked over his shoulder in expectation of the hits Randy proceeded to administer (not maliciously) to Shakeem’s upper back. In slow motion, Shakeem’s reaction was comically perfect in that as the wood made contact with him, he arched his back and made facial expressions equipped with wide-mouthed movements indicating feelings of pain. Randy wore a small grin as he hit him, yet after three times, Randy paused with the stick held high in the air. He was waiting, and sure enough, within milliseconds, Shakeem gave him a verbal symbol to end the game, “Arright. Chill, R.” Shakeem didn’t even turn around, nor did they exchange words; rather, Randy maneuvered the meter stick pretending that he would hit Shakeem a fourth time, and then brought the stick around to almost touch Shakeem’s right hand, and held it there until he took it back.

Similar to the sound effects heard during “Blair Witch,” Shakeem’s exaggerated facial expressions were significant in adding to the reality of the play that was occurring. In addition, care was taken in both situations not to generate actual harm to those involved. For example, Randy engaged lighthearted tapping of Shakeem, rather than maliciously beating him with the meter stick; the attacker in the “Blair Witch” video had struck the ground and fence with the plastic tube rather than the victim. However, in the case of Randy and Shakeem, there was strict adherence to rules that ensured the maintenance of respect of all those involved, while, in the “Blair Witch” scenario, there was a marked difference in terms of power relations. In the meter stick interaction, Shakeem tapped Randy three times, and Randy returned the blows exactly three times. In addition, just as Shakeem had attempted to strike Randy a fourth time, when Shakeem told Randy to “chill” Randy pretended to go for a fourth hit before bringing the meter stick around to Shakeem’s hand. A final manner in which Randy and Shakeem’s interaction remained balanced appeared in Randy’s nonverbal understanding that the meter stick should be returned to Shakeem. In contrast, during the “Blair Witch” saga, the attacker received the opportunity to be victorious and maintain an upper hand over the others involved. The boys who were attacked seemed to understand their weaker roles and consequently fought back marginally. In fact, at one point when the perpetrator momentarily let go of Tyrone to reach down for the plastic tube, Tyrone stood and waited for him to return, without attempting to run away.
Despite the difference in rules of the “Blair Witch” and meter stick games, these interactions clearly signify a level of unconscious embodiment of confrontational strategies, weak cultural boundaries across fields and, finally, how similar resources within different fields (plastic tubing and a meter stick) elicit structural resonance with individuals who share similar strategies. Whereas, another individual may look at a meter stick and engage strategies of action associated with measurement, a meter stick may remind another individual of a tool that can be utilized for striking others and, therefore, he/she might engage confrontational strategies of action in association with that resource.

Thus far, I have discussed predominantly physically aggressive group practices (both harmful as well as entertaining) that occur within the inner-city street field and an informal learning/research environment field. However, in the section below, it will become more and more evident that the proliferation of confrontational strategies exists across additional fields including formal public school classrooms. There, too, confrontational strategies of action that involve physical aggression or intimidation, both playful and otherwise, are engaged.

**Confrontational Strategies of Action within a Neighborhood Philadelphia High School**

In Carambo’s classroom, it did not take long to acquire a feel for the confrontational strategies of action that some students brought with them as they walk through the doors. On any particular day, it was not uncommon to see two students roughhousing — taking pop punches at one another and giving firm shoves into the other’s shoulder. In a video vignette captured on December 10, 2001, for example, as I stood in the doorway watching the youth come to chemistry class, Jason and Shakeem began to play fight — Shakeem having the upper hand, pushed Jason well across the room with two handed jabs to his shoulders. Jason took a few shots back at Shakeem but covered little ground.

Confrontational interactions within the chemistry classroom signify cultural practices that “belong” to a different field yet find a way into the classroom and affect group dynamics and peer interactions at particular nodes of the classroom learning environment. When cultural practices are enacted within two different fields, there are structural commonalities that help to set up resonances between some aspect of the field and the cultural toolkit of a particular individual or individuals. The fact that the student population of City High is coming from similar neighborhoods throughout Philadelphia indicates that the human resources are common across fields. The youth are accustomed to particular cultural symbols and practices and know how to interact in similar manners. For example, there are noticeable dress symbols with particular meanings within the street field that accompany youth as they enter classroom doorways. When Shakeem walked into class on December 10th, his face was hidden under a dark cap and hood. For Shakeem, looking “gangster” is an important part of his identity and is important to building or maintaining respect among his peers. Even
with the strictly enforced uniform at City High, many of the youth, like Shakeem, continue bringing with them particular symbols that may contribute to setting up resonances that cause others and themselves to draw upon resources common to a field such as the street. When resonance occurs and students engage in physical play in classrooms, it often elicits a disciplinary response, as it is easily misinterpreted by those without a sense of the game and can sometimes accelerate to dangerous interactions when limits are crossed and disrespect is evoked on one or more sides. Understanding the intricate details of how the youth interact is an important strategy for teachers to acquire and become therein proficient. Moreover learning to recognize how, when and why such confrontational strategies appear during the actual teaching and learning of science in addition to transition times is necessary as students’ cultural toolkits are considered key to the building of their scientific literacy and to overturning social reproductive cycles.

Physical Confrontational Play between Student and Teacher
When Shakeem interacted with Alan, the chemistry student teacher, he often challenged him both verbally and physically. On many occasions, in the midst of a class activity, I observed Shakeem pretend to punch Alan. Although I was well aware of Shakeem’s tendencies to “play,” I often internally cringed as I watched him engage the student teacher in such interactions—worried that his “playing” would be misinterpreted and become another reason to send him out of class. One such physical confrontational interaction with Alan, described below, was captured on videotape as chemistry class was about to begin. Although Shakeem also engaged in confrontational play with Carambo, the supervising teacher, both videotape footage and my experiences in the classroom indicate that Shakeem engaged him in verbal rather than physical play. Thus, also featured in the vignette below, is the confrontational play between Shakeem and Carambo in the form of verbal communication that occurred within seconds of leaving Alan. While both interactions took less than 30 seconds and could have easily been missed by a bystander, frame by frame analysis reveals much in terms of weak cultural boundaries, confrontational strategies of action and the sense of the game for Shakeem, Alan, and Carambo.

12:30:06
It was January 8, 2002. On the left side of the chemistry classroom, at the edge of the video camera’s capturing span, Shakeem was making his way to the front of the classroom to speak with Carambo. Alan was walking around to help students settle down and answer any questions they had.

12:30:08
As Shakeem and Alan’s paths were about to cross, the student teacher paused to help a student seated on his left.

12:30:10
As Shakeem passed Alan, he put up his right hand in a tightly closed fist and pretended to cuff Alan’s right shoulder. Evident upon frame-by-frame observation, Alan’s upper body shifted to the left, away from Shakeem. Having successfully instigated a slight flinch from Alan, Shakeem continued on his way. Yet, Alan had a few surprises of his own.
Alan slid past Shakeem and from behind his back, grabbed hold of Shakeem’s left hand causing him to twist half way backwards.

Having succeeded in catching him off guard, Alan let go and then extended his right hand gesturing for a handshake with Shakeem.

Shakeem responded and the two continue on their pathways in opposite directions.

In the background, Carambo could be heard saying, “Alright. Sit down please. Let’s do it.”

Moments later, Shakeem arrived to the front left corner of the classroom and paused while looking intensely at Carambo. Leaning casually against the blackboard at the front center of the room, Carambo returned Shakeem’s eye contact.

Shakeem raised his voice in mock anger, loudly professing, “I’ll sit down! Damn it!” As he spoke, Shakeem jumped slightly, thrusting his upper body forward, and gestured wildly by arching his left arm as he upwardly extended it in the direction towards Carambo.

Carambo’s face broke into a huge grin. His response was inaudible to the camera. Shakeem turned around and made his way back to his seat.

Contrary to many of Shakeem’s other teachers, Carambo had a good grasp for ways of responding to Shakeem’s efforts to engage him in confrontational play. In debriefing with Carambo, his conscious decision to ignore these types of confrontational strategies was clear as was his intent of extinguishing their presence from the classroom. He wrote, “Ignoring it ensured that it would not happen again given that what he wanted was to see me wince or react.” Moreover, Carambo had an acute “sense of the game” as to when Shakeem’s strategies of action were not harmful and how to diffuse a potentially volatile situation. In contrast, Alan, as a new teacher, was still learning how to react to Shakeem’s confrontational attitudes. Whereas Carambo didn’t move a muscle as Shakeem’s voice rose in accompaniment of wildly “angry” nonverbal gestures, Alan flinched slightly before coming back around and pulling Shakeem’s left hand to catch him off guard. In both interactions, Carambo and Alan maintained their ground with Shakeem. However, while Alan responded to Shakeem with a counter confrontation followed by a gesture (handshake) to ensure mutual respect was maintained, Carambo’s response communicated courage, understanding and an unwillingness to engage in that type of confrontational play—thus communicating his strong belief that such physical confrontational strategies of action do not have a place in science classrooms.

When Confrontational Strategies of Action Manifest Verbally

When youth participate in a wide variety of activities in their neighborhoods, the embodied confrontational strategies that emerge are many times verbal in addition to or instead of physical. Similar to what occurs with physical strategies, verbal confrontational strategies appear in situations of real conflict as well as during leisure
time when peers are socializing or entertaining. In fact, rapping is one of the most common activities that social groups indulge within inner-city neighborhoods. Oral tradition as a cultural disposition is “a preference for oral modes of communication in which both speaking and listening are treated as performances and in which oral virtuosity—the ability to use alliterative, metaphorically colorful, graphic forms of spoken language—is emphasized and cultivated” (Boykin, 1986, p. 61). Rap, a form of oral tradition, has become a medium in which youth can entertain others as well as build respect. In Shakeem’s video ethnography, he records several examples of youth socializing through rap. In one section, he features “Lil’ Kyle,” whom he describes as his “son,” rapping. Even at a very young age, it is evident that Lil’ Kyle has learned the importance of portraying a confrontational front and does so with language.

Yo at night, start the fights, when I bring out the dog and start the fight. My dogs fight anything that break. Hangin’ on a post thang. Bang, bang. What’s up man? I’m shootin’ heat. Gimme a dog you can’t step into my realm; it’s a waste of time. Holler.

An older boy, comparable in age to Shakeem also rapped on tape, but not without a significant amount of prodding from Shakeem. Shakeem was successful in getting “Cas” to rap primarily due to his engagement of verbal confrontational strategies that included calling him a degrading label as well as threatening physical harm. “We got this ’ho’ down here. Yo rap, man before I…Yo rap, dog!” When Cas finally did rap, his lyrics could be considered confrontational, as well—yet several levels higher than those written by Lil’ Kyle. While in the first case, a dog symbolized strength, the second rap drew upon the symbol of a gun to evoke the same type of response.

Yo, I’m that hot nigga Cas, controlin’ the strip. Pop shots at you niggas with the glock on my hip. Let the gage fall, many won’t walk the wall. I’m the motha f***er gonna leave niggas dead on the floor.

Through rapping, and particularly freestyle rapping where lyrics are created “in the moment” as the performer speaks, youth become adeptly proficient in utilizing language to demand respect or intimidate. Succinctly summarized by Ivory, she explained, “It’s [rap] just the way you pronounce it—the way you say it.” Similar to confrontational games, rapping has both unconscious and conscious aspects to consider. While the understanding that raps should contain confrontational lyrics represents an unconscious strategy of action that emerges even with the young, my findings also show that youth consciously work hard to become increasing skilled in this verbal strategy of action by writing and practicing self-authored lyrics as well as memorizing and repeating phrases from popular rap music. During my work with the student researchers I learned, for example, that Shakeem spent time identifying descriptive, metaphoric rap lyrics that could cleverly enhance an individual’s image. One phrase which we discussed stated, “Cool, calm, just like my mom with a couple of valium inside her palm. It’s Mr. Mischief with a trick up his sleeve, roll up on you like Christopher Reeve.” Whereas an individual with different strategies may have
missed this intelligent yet intimidating analogy of an individual who is able to approach someone as silently as a sedated or quadriplegic individual, Shakeem was internally attuned to recognizing this type of speech on a consistent basis.

When actual conflict arises within a field, verbal strategies described by the youth as “popping fly”\(^9\)—or having the ability to quickly utter curt and sarcastic responses—become central to consider. What elapses is the thoughtless tendency, at any moment, for one’s “quick tongue” to add fuel to an already tense situation, although in the next moment, this same strategy can help to dissipate an argument by allowing an individual to maintain respect without necessarily engaging in a physical show of strength. The following vignette described by Natalie provides an example of how one’s tongue can act as such a double bladed sword as she engages verbal confrontational strategies to enter into a conflict and then again in order to protect her physical wellbeing, without the loss of respect.

Then the next year, it was a different girl but the same situation. She was always poppin’ fly I was like aight, “ya’ll think I’m playin’ with ya’ll.” When we was at recess one day, and me an’ my best friend an’ some other girls that I hung with were playin’ rope an’ the girl jumped in the rope. An, I was, “Man, I can’t stand these females.” Like that. An’ she walked to the other side of the school yard an’ when she came back, she was like, “Yeah, which one of ya’ll “B’s” said this that an’ that?” An’ I said, “Yeah me, but I’m not a “B.” She pulled out this box cutter. She said, “I’m gonna cut your throat.” I said, “Do what you gotta do, but make sure I don’t get up. You better make sure you kill me if you’re gonna cut my throat!”

Natalie’s response to the female who was threatening her safety was sufficient for diffusing the situation. Verbally, she was able to maneuver her way out of a situation she herself had created just minutes earlier by countering the girl’s threat with her own threat. By insisting that the girl kill her, Natalie was insinuating that anything less than her death would ensure her attacker’s demise.

On a lesser level of intensity, “popping fly” strategies also appear within close interactions between friends. While working with the student researchers at Penn, many confrontational conversations occurred between Randy and Ivory whom had known each other for years. In the following conversation regarding a list of conceptual facts about sound, Ivory has a terse remark for every statement made by Randy.

Randy: Yo, Ivory you gave me one of your things [facts], man.
Ivory: I gave you what?
Randy: #27 with the air thing—
Ivory: I didn't give you #27, I gave you #10. What is you talking about?
Randy: What is you talking about?
Ivory: Cuz you wrong.
Randy: No, you wrong.
Ivory: Always think you right... You don't have to do every one on there, stupo! You just do what you know — what you think you can do. You're learning, ok?

\(^9\) Used to mean, “A smart mouth.”
**In the High School Chemistry Laboratory**

Randy: I’m about to get a fire goin’ on,
David: What is you doin’?
Randy: I’m about to get a fire. You know why? You know why, Wheezy? Cuz I’m crazy. I’m about to get the fire goin’ on. It gonna come all the way up here. Turn the gas, turn all these gases on, and then. Hold on, just watch, watch this. Stay right there. (walked away from the camera to get a lighter). See look, turn all your gas on. You got the fire (gestured to the lighter, sparks fly). Yeah, you see that fire? I’m gonna blow all this up. Ya’ll gonna die cuz I’m workin’ with—naw, I ain’t gonna say it. I’m workin’ with—I’m workin’ with Osama bin Laden. (Laughs in a sinister manner.)

In addition to the fields of the neighborhood and workplace, the short excerpt above demonstrates that confrontational strategies also appear within learning environments in a verbal form. In the lab, Randy turned the activity of lighting a Bunsen burner into a fear-provoking activity through his verbal threats to “blow up” everything. However, evident in his exaggerated, comical facial expressions that are meant to allude to a man on the brink of psychotic behavior, Randy was “playing” as he engaged in the activity of learning science. He had a clear understanding of the procedure for lighting this scientific tool and did so with confidence and ease. While the interaction between Carambo and Shakeem and the vignette of Natalie indicate that verbal confrontational strategies of action can accompany youth across fields, Randy’s confrontational dialogue with the camera demonstrates how such strategies can impact science learning. Underneath the sinister laughing, the insane facial expressions and the threatening language, Randy draws upon both embodied strategies related to following laboratory procedures and using scientific tools and embodied verbal confrontational strategies to engage in the activity of doing science. Video footage of Randy’s interactions in the first portion of the lab indicates that he was not engaged in science learning and was, instead, drawing artwork upon his lab apron and assisting his lab partner in minimal ways. However, by being able to utilize a combination of tools in his cultural kit, Randy was able to further develop his scientific identity without losing face in front of his peers and to move forward through the remainder of the lab.

**In the Large Lecture Class**

The power of understanding confrontational strategies of action lies in recognizing when they contribute to student’s understandings of science. While the above scenario provides a general feel for how confrontational strategies mix with the activity of science, in the following interchange between Carambo, Alan and students in the class, we observe how the subtleties of Ivory’s verbal confrontational strategies of action (hereon referred to as argument strategies) contribute as she tries to make sense of chemical bonding and polyatomic ions.

It was January 7, 2001 and as the semester was drawing to a close, the class was reviewing for the chemistry final. Carambo was discussing the definition of polyatomic ions and proceeded to provide an example, SO$_4^{2-}$. In order to explain the “negative two,” Carambo drew a diagram to represent SO$_4^{2-}$ with one sulfur molecule
in the center surrounded by four oxygen molecules, and then asked the students to help determine the number of valence shell electrons associated with sulfur and oxygen. After agreeing that both elements have six valence electrons, he drew six “x’s” around each “molecule” to represent the electrons. Next, he drew a circle to group the total number of electrons for each oxygen molecule—including those electrons being shared by the sulfur—and recorded the number (either 7 or 8) within the circle representing the oxygen molecules. While the students had learned about polyatomic ions and covalent bonding in past classes, some still seemed to struggle. In particular, several students wondered how sulfate would be able to obtain two electrons to become stable.

![Diagram of sulfate](image)

Figure 1. Diagram of sulfate drawn on the board by Carambo.

Carambo: So this whole group needs how many electrons to be happy?
Shakeem: Two
Ivory: Two.
Carambo: It needs two. And when you give it two, they’re gonna come. One’s gonna go right over here. (He drew in a symbolic “x” to indicate that one electron would be shared between one oxygen molecule with seven valence electrons and the sulfur.)
Shakeem: And one goes to the other…?
Carambo: and one’s gonna go right over here. (He drew in a symbolic “x” to indicate that a second electron would be shared between the second oxygen molecule with only seven valence electrons and the sulfur.)
Student: It’s gonna share.
Jason: And where does that negative two come from?
Carambo: Well, the two electrons—this whole group now has…
Shakeem: Do you need another sulfur or another oxygen?
Ivory: How you gonna get them two?
Shakeem: Another oxygen?
Carambo: Shhhhhhh.
Student: That whole group can’t go to SO₄, right?
Carambo: Shhhhhh. Shhhhhh. Ivory had the question that I want to ask. Where do these two [electrons] come from. Well, we’re just goin’ from somewhere else.
Ivory: (Very loudly) Oh. Now he going - OHHH!!

In this exchange, it was evident that several of the youth in the class were engaged and trying to make sense of how sulfate is able to acquire two electrons. Their speech patterns were quick, overlapped and of varying audibility. Jason first posed the question regarding the electrons. However, despite his advantage of sitting in the first seat of a central row directly in front of the blackboard, as compared to Ivory who sat in a back seat to the left side of the room, Ivory was successful in bringing more attention to herself. In fact, after Carambo quietened the class, he directed his attention to answering “Ivory’s” rather than “Jason’s” question. As the discussion transpired, there were many instances where both Carambo and Alan focused their conversations directly to Ivory, intent upon clarifying their teaching—regardless of other comments and questions from students in the class.

Carambo: Suppose I have magnesium—this is one of the things on your test—on your sheet. Magnesium and sulfate, right? What group is magnesium in? Mg. Two.
Ivory: Two. (Other students chimed in, “two.”)
Carambo: How many does it have to give up?
Ivory: Two.
Jason: Two.
Carambo: Two. So if I put Magnesium say right over here. (He wrote Mg next to the diagram of sulfate.)
Student: Umhmmm.
Carambo: Right? And I’m going to make its electrons little squiggly things. ... So what’s it want to do? It wants to give them up? Right? Right? So what do I do? Well one of them, is going to go right over here (drew a line to show the transfer of one electron from magnesium to the location between an oxygen and the sulfur) and the other one is going to go, say, right over here. (Drew another line to show the transfer of one electron from magnesium to the location between and oxygen and the sulfur.)
Ivory: (Sounding confused) No. But. But. No. (Carambo paused to look at her. He nodded his head once and then shook it “no.”)
Student: So it’s going to be MgSO₄?
Ivory: (Defiantly and loudly) Where’d that come from, though? You can’t do that! (Carambo appeared slightly taken aback, his eyes uneasily shifted in the direction of Alan although his mouth seemed to hide a tiny grin. Alan moved in from the sidelines and began to coteach.)
Alan: So Yeah. Magnesium and this [SO₄] can form a compound where everyone’s happy.

Ivory’s outburst of disagreement was charged and assertive, and presented in a manner that challenged what Carambo was teaching to the entire class. In her efforts to understand, she was drawing upon argument strategies of action. Picking up on Carambo’s nonverbal cues, Alan jumped in, began to reiterate what was already stated, and worked to eliminate Ivory’s verbal challenges.

Ivory: Why you get magnesium? Why you didn’t say?”
Alan: Right?

Carambo: We could mix in, um.

Alan: Right? Do you see what I’m saying? It’s a compound and it’s happy.

Ivory: So. So if you don’t have enough, you can get any other… (Ivory’s comments are muffled as she and Alan speak simultaneously.)

Alan: Magnesium is happy cuz it gave up its two and this is happy cuz it has two more. Right?

Ivory: Ok. What I’m sayin’—say if you put down SO₄ an’ some other element?

Alan: (He fully extended his arm with his hand wide open as if he were a policeman “stopping” the traffic and patted the air. Carambo, standing beside him, extended both arms outward with palms facing upward. His lips moved yet the words are inaudible to the microphone in his pocket.) Rrright. We’re gonna go do that next. What I’m saying is that magnesium forms a compound with this (SO₄), and everybody’s happy, right? (Alan again held out an extended arm with fingers wide spread. This time, he cocked his head downward as he looked at Ivory with an eyebrow raised in anticipation of a response to his question of: “Right?”)

Carambo: This is called Epsom salt. This is Epsom salt.

Ivory: I don’t know. …

Alan’s gestures and verbal responses to Ivory indicated an effort to push the chemistry review agenda. He was intent upon explaining how magnesium and sulfate could form a compound and continued to do so; whereas, Ivory remained fixated upon the origin of electrons, and tried to restate her issues. She wanted to know why Carambo and Alan chose magnesium to form a compound with sulfate and how magnesium has extra electrons to give up. When Carambo jumped back into the discussion, he began to elicit Ivory’s cooperation. His approach was not aggressive, in terms of voice volume or strong gesturing, yet he spoke over her protests and forged forward with his explanation.

Carambo: Nnnno no no! He’s [Alan] saying to look. In the ground, right? In the ground, there’s this stuff magnesium, right? Ok? This is magnesium.

Ivory: (Interrupting) But, but you said if you could…

Carambo: (Talking over her). There is—Wait. Wait a minute.—There is sulfur in the ground, right? And there is oxygen in the ground. Right?

Ivory: Yeah.

Carambo: Right? These are elements in the ground. Right? These two things hook up together and they make this stuff called sulfate. It’s in the ground.

Ivory: Yeah.

Carambo: There’s magnesium.

Ivory: Yeah.

Carambo: It’s in the ground. The magnesium comes over, mixes up with this [SO₄] and you get Mg SO₄. Now, what is this stuff [Mg SO₄]? It’s what Shakeem said. It’s the stuff his grandma puts in the tub. It’s mag- it’s Epsom salt.

Ivory: But. But.


Ivory: Are you saying, if you gave us, if you gave me any other formula?? I think that if I don’t have enough [electrons], you sayin’ that I can get them—any other element …

Carambo: Wait. Wait. … Ivory and I are going to finish this because this is a good question. If I take sodium—Na, and I say I’m gonna to make some sodium sulfate …
Finally, following two minutes and thirty-seven seconds of discussion since Ivory first insisted that he “can’t do that!” Carambo began to address the essence of the difficulty encountered by Ivory through introducing a different element than magnesium. His statement that they need to “finish this” indicates the confrontational nature of the entire conversation and as an argument needs resolution, so too did this scientific debate.

While the actual conflict Ivory was experiencing in the chemistry classroom was not exceedingly complex, the type of interaction that emerged resembled that which I have found to occur in other fields. In essence, Ivory was “popping fly” through her tone, word choice, and sentence structure which automatically set up an oppositional stance to Carambo and Alan that communicated stark disagreement instead of a need for clarification. Based on microanalysis, there is a clear indication that Ivory’s embodiment of argument strategies for making sense was initially “upsetting” to the flow of the review, and both instructors undertook practices that included trying to quiet her, calmly resolve her frustration and keep order with the rest of the class. However, for Ivory, her persistent challenging of the review of polyatomic ions and the formation of compounds is an important part of how she is able to form understandings of chemistry concepts. Had she simply given in and allowed the teachers to continue without trying to make sense on her own, she would probably not have succeeded in passing the chemistry final. Moreover, I maintain that it was precisely her verbal style and her argumentative stance that allowed her to monopolize the attention of two instructors for a period exceeding a few seconds, as might typically be expected during a large class review session. Including a microanalysis of such an exchange within a chemistry classroom is important to provide images of how verbal confrontational strategies enter the classroom and how teachers may react. The analysis is also central to understanding the dialectic between agency, field and strategies of action as one’s agency can become truncated within a particular field whose structure does not acknowledge or accept particular strategies of action. By utilizing confrontational strategies in the form of argument to learn science rather than to rap or argue with peers, Ivory’s participation was agentic and important to the continuing development of her identity as a science learner. Moreover, Carambo played a significant role by acknowledging Ivory’s challenges to his teaching and engaging in the confrontation to a limited extent, although he still sought to maintain a calm classroom by “shhhhhing” and making remarks like “Wait” and “No.”

So What Does This Mean For Science Education?

Confrontational strategies of action, both verbal and physical, exist as part of a toolkit shaped within a structure that demands excellence, respect and sometimes survival of the fittest, and utilization of such strategies in turn reinforces the structure that exists. When youth spend the majority of their time within fields structured by ideology that values those who are strong physically and verbally or who are able to sufficiently convince others of that identity, it is not surprising that they unconsciously engage
these strategies within the classroom. Through this article, I traveled across social fields experienced by urban youth and shared the confrontational strategies of action that intrinsically accompany many of them. I began with physical confrontational practices such as catching a body, to emphasize the fundamental necessity of the unconscious embodiment of confrontational strategies to many youth’s daily survival—especially in terms of their personal safety. After providing images of actual conflicts that exist within field(s) that urban youth inhabit, it then became important to study the confrontational games in which youth participate as an example of how the refinement of confrontational strategies occurs and how a deeply innate sense of the game can further develop.

The shift into verbal confrontational strategies became a natural focus of the second portion of this paper as verbal strategies were often found to be utilized to ward off threat of physical harm. However, while the goal associated with usage of such skills in the field of the street appeared to be predominantly that of building or maintaining a respected image, verbal strategies are not limited to the purpose of intimidation. In fact, the final two vignettes in this paper demonstrate that the manner in which urban youth can and sometimes do engage verbal confrontational strategies they embody, including strategies that take the form of argument, to understand science concepts or perform scientific procedures in a science classroom.

In science classrooms, across the nation, what we want to see is that which was occurring in Carambo’s urban classroom—students mentally engaged, actively forming meanings of scientific concepts and challenging rather than absorbing information being given to them. With particular images of order and control, teachers can become derailed by students who engage confrontational strategies of action, such as argument, to learn science. Elevated voice tones accompanied by perceived confrontational gestures are practices whose meanings are not associated with learning in the dominant school culture and their use in the classrooms can set up structural resonances such that the teacher(s) may feel a need to breach them. Moreover, as these strategies appear in both academic (i.e. Randy in the lab and Ivory during the review) and nonacademic (i.e. Shakeem’s play with the teachers) temporal and spatial nodes within a learning environment, it is easy for teacher practices to be similarly stifling across scenarios as they draw upon their own strategies of action for diffusing conflict, unaware of whether actual danger exists. In fact, many urban schools focus great energy to eliminate behavior problems related to students’ use of confrontational strategies of action, and as a result, eliminate opportunities for students to engage in critical scientific thinking within the classroom.

In the vignette involving Ivory, her usage of argument strategies were specifically aligned with goals of understanding science concepts and performing well on her final. It is precisely in situations when teacher and student objectives align that I strongly advocate the necessity of recognizing that confrontational strategies are an asset to student learning, provide students with opportunities for agency and are instrumental to the demise of socially reproductive cycles. The first step toward this recognition is re-structuring urban science classrooms to include ideology that
welcomes students challenging and questioning so that our all of our youth have opportunities to utilize their adept and articulate verbal skills in agentic manners that advance the goal of succeeding in science. Phelan, Davidson, and Cao (1991, p. 224) wrote:

On any given school day, adolescents in this society move from one social context to another. Yet students' competence in moving between settings has tremendous implications for the quality of their lives and their chances of using the education system as a stepping stone to further education, productive work experiences, and a meaningful adult life.

If, as a nation, we truly believe that “all students deserve and must have the opportunity to become scientifically literate” (National Research Council, 1996, p. ix), greater efforts must be made to help students for whom confrontational strategies of action are an important part of their cultural toolkit to learn how to utilize such skills as a stairway to participating in mainstream society in socially transformative ways.

References