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Moving Beyond the Boat without a Paddle: Reality Pedagogy, Black Youth, and Urban Science Education

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Much of the research that focuses on the academic success of Black youth in urban science education does not consider the provision of tools that educators can use in becoming more effective. This article discusses this issue, and introduces an approach to pedagogy—reality pedagogy—which includes five distinct types of practices (the 5 C's) which teachers can implement in their classrooms to facilitate effective science instruction. I describe the 5 C's of reality pedagogy; discuss ways they can be implemented; and show how they can both support the effectiveness of urban science teachers and the agency of Black youth in their classrooms.

Keywords: *Urban Science Education, Reality Pedagogy, 5 C's*

In an age where there has been much growth in the social and political attainment of people of color, it is customary to begin an article that focuses on the teaching and learning of youth of color by rehashing decades of research that discusses the challenges of urban Black youth in achieving educational parity with their counterparts from other socioeconomic, racial, and ethnic backgrounds (Ferguson, 2007; Haycock, 2001; Jones, 1984). This is the case partly because of the perplexing persistence of achievement gaps, particularly in science and mathematics, despite Black achievement in other areas and much theorizing about the academic needs of Black youth (Haycock, 2001; Oakes, 1990; Seymour & Hewitt, 1997; Wright, Standen, & Patel, 2010).

As researchers express their concerns about the achievement gaps between Black students and their counterparts from other racial and ethnic backgrounds (Burton & Jones, 1982; Murphy, 2009; Norman, Ault, Bentz, & Meskimen, 2001), they persistently report the low achievement of Black youth (National Assessment of Educational Progress, 2006, 2009). One resounding theme in the academic research on Black youth in science education is that, despite the best efforts to close achievement gaps, they still exist across the educational landscape. Furthermore, researchers continue to spend an inordinate amount of time and effort describing and discussing the fact that such gaps still exist. The gaps in student success in disciplines like science has become a part of the tradition of academic research aimed toward meeting the academic needs of youth (Cohen, Garcia, Purdie-Vaughns, Apfel & Brzustoski, 2009). Research on Black youth in education even as it functions to provide conclusions that support the success of Black youth in academic settings, does not get affirmed unless it rehashes, recreates, and reestablishes conclusions about the inabilities of urban youth of color to do well in school (Emdin, 2006). While I agree that a particular focus on Black youth in urban classrooms is necessary (Atwater, 2000; Barton, 2001; Johnson, 2009), the tradition of re-describing achievement gaps in order to validate one's work is counterproductive to necessary efforts like providing tangible tools to support the effectiveness of the teachers of Black youth. By focusing explicitly on achievement gaps, researchers place too much emphasis on deficits within students and do not pay enough attention to deficits within teachers, educational systems, and approaches to pedagogy—the main contributors to the academic underperformance of Black youth (Murnane & Steele, 2007). When we focus too closely on achievement gaps, we are inadvertently accepting and supporting the existence of an anti-science and even an anti-school mindset in urban youth. Instead, it should be obvious—especially to education researchers and practitioners—that everyone is scientifically minded and that it is the environments' (school and society) ineffectiveness in fostering this inherent interest that disfigures urban Black youth's passion for the sciences.

ON EFFECTIVENESS

Research in education has indicated that teachers who are qualified (certified via licensure) are not necessarily effective educators (Darling-Hammond, 1996; Laczko-Kerr & Berliner, 2002). In science education, effectively teaching the subject requires much more than the possession of content knowledge (Czerniak & Chiarelott, 1990; Kind, 2009). Effective teaching in science classrooms requires both a deep understanding of the subject matter and a profound understanding of the cultural backgrounds of one's students, particularly in urban settings (Fusco, 2001; Lee & Fradd, 1998). Unfortunately, many urban science teachers are lacking in both content and cultural expertise (Proweller & Mitchener, 2004). Even when teachers do have sufficient content knowledge, many still lack the tools necessary to address the cultural divides that render them ineffective in teaching science (Emdin, 2010; LaVan, 2004; Tobin, 1990).

I suggest that ineffective urban science teachers (regardless of being qualified) must be supported in breaking from traditional practice in urban science education, and pushed toward more practical and innovative ways to improve the academic experiences of Black youth in classrooms (Goldston, 2009). I also argue, as Atwater (2000) does, that the effectiveness of urban science educators depends upon their nuanced understanding of students' culture and background as developed and expressed outside of the classroom.

For many scholars, science teacher effectiveness is connected to the performance of their students on science assessments and standardized exams. For others, it is related to students' active participation in science lessons/activities, meeting federal and state mandates/standards, and developing science learner identities in students (Davis & Smithey, 2009; Galton & Eggleston, 1979). I argue that each of these criteria for effectiveness are valuable and can be met, if teachers adopt approaches to reality pedagogy. Reality pedagogy builds upon culturally relevant and critical pedagogy, moving us beyond efforts to address the challenges within urban schools that focus on the academic deficiencies of youth to instead support both teachers and their students in improving their experiences in classrooms.

ON CULTURALLY RELEVANT PEDAGOGY

Culturally relevant pedagogy is an approach to teaching that considers the unique cultural backgrounds of youth. It awakens teachers to the possibilities that what they know about teaching in regards to content is enhanced when the unique cultural backgrounds of the youth they are teaching is considered (Howard, 2003; Ladson-Billings, 1995, Young, 2010). Teachers are only effective if they know how to deliver content in a way that resonates with their students and causes their students to take ownership of that content and explore it more deeply on their own. This view of pedagogy considers the deleterious effect that "culture free" curriculum, instruction, and evaluation have on youth who are embedded in a culture that is marginalized in a supposedly all inclusive school system. This brand of pedagogy advocates for a willingness to move beyond what is given (prescribed curriculum, "culture free" text, ideas for how to teach that are not reflective of youth culture) and into aspects of the students' lifeworlds that can be brought into the classroom.

Culturally relevant pedagogy is often used interchangeably with culturally responsive pedagogy, which focuses on teachers' acceptance of their specific cultural heritage and that of the school and curriculum as it relates to the culture of their students (Gay, 2000; Villegas & Lucas, 2001). In this approach to instruction, which is birthed from cultural pedagogy, the acknowledgement of the cultural differences that exist in classrooms among teacher, curriculum, school, and student, and the reconciliation with these differences through the validation of the culture of youth is the point from which teaching is enacted (Santamaria, 2009). In both approaches, the focus is the validation of youth culture and its consideration in teaching youth of diverse backgrounds.

ON CRITICAL PEDAGOGY

Critical pedagogy, like culturally relevant pedagogy, pushes beyond traditional approaches to Black youth education. It is an approach to instruction that moves beyond disseminating content by focusing on the social, political, and historical dimensions of teaching and learning (Kincheloe, 1998; Macrine, 2009). Critical pedagogues function to not only make sense of dimensions of teaching and learning that are not usually considered, but also to make students aware of how these dynamics directly impact what and how they learn. This approach to instruction is rooted in an aversion to oppression and in providing a voice for the marginalized (Apple & Carlson, 1998; Denzin, 2009). It encourages dissent and liberation for oppressed people as a significant aspect of teaching (Freire, 1998). It moves teachers from their normal/traditional position as innocuous information distributors to champions for youth and disseminators of the power to affect change within and beyond classrooms.

HINDRANCES TO CULTURALLY RELEVANT AND CRITICAL PEDAGOGY

Despite the potential of both culturally relevant and critical pedagogy to move beyond the tradition in research that I call for in the opening of this article, both of these approaches do not provide teachers with tangible tools that support them in becoming transformative pedagogues. For teachers who have made the tremendous leap to embrace the fact that there is much to learn about the culture of the youth they teach, there is not enough effort made to provide them with the tools to understand the complexities of Black youth realities. In other words, a true representation of youth experiences is not always present even among progressive educators that are fighting to teach with a consideration for Black youth culture.

The particular vantage point of Black youth is unique, complex, and expressed differently within different social settings (Emdin, 2011). While an appreciation and value for Black youth culture can be developed, a full understanding of its complexities is an ever-evolving and continual process. It can be indescribable in its most concrete forms and indiscernible in its most abstract. For example, when one is describing the ways that urban Black youth communicate, there is only so much that can be said or written to capture all that is simultaneously happening. Likewise, there are certain unique practices that only those embedded in youth culture can identify and relate to. For these reasons, when we propose cultural relevance or critical pedagogy to teachers and do not provide them with tools to develop a true picture of the realities of Black youth culture/experiences, it is equivalent to providing them with a boat without a paddle. They enter the waters of theory, swim in the seas of cultural relevance, but make no progress in providing the youth they advocate for a means to new possibilities in the classroom. This article focuses on an approach to pedagogy that supports teachers in knowing the culture of particular students and understanding the specific ways that these students experience teaching and learning in the classroom. While this approach to pedagogy may be implemented in any classroom, this focus is on science. Science, as a discipline, is historically slanted toward a Eurocentric ontology (Aikenhead 1994; Seiler, 2001). Urban school science is taught in a way that is almost diametrically opposed to the ways that urban youth make sense of the world (Emdin, 2010). The historical and cultural backdrop to science positions it as an inhibitor to knowing/including Black youth. Developing tools in this field to counter the existent tradition is not only helpful for teachers, but necessary for creating new possibilities in science for Black youth.

REALITY PEDAGOGY

Reality pedagogy, like culturally relevant pedagogy, is an outgrowth of my research in urban classrooms and focuses on the cultural understandings of students within a particular social space, like the science classroom (Emdin, 2009). At the same time, like critical pedagogy, it functions to develop students' consciousness about the sociopolitical factors that affect their teaching and learning. Reality pedagogy meets its goals with a set of five tangible tools that students and

teachers engage in together to improve science teaching and learning. It focuses explicitly on understanding the realities of youth within a particular classroom and supports the teacher in utilizing an understanding of these realities as an anchor for instruction delivery. From culturally relevant pedagogy, reality pedagogy gleans a focus on students' communities and the use of an understanding of these communities in improving teacher effectiveness. Culturally relevant pedagogy extends by immersing the teacher so deeply in the culture of the specific students through actual engagement with the students, that it becomes second nature to find ways to develop students' interest in, and natural affinity for, science.

From critical pedagogy, reality pedagogy picks up a focus on providing students and teachers with opportunities to discuss in school the inequities students experience both within and beyond the classroom. It aligns to the major themes of critical pedagogy by moving teachers to engage in dialogues with Black youth about the ways they have been denied full participation in society and the science classroom. The teachers are given an opportunity to engage in what Oliver (2000) refers to as bearing witness to the students, which allows teachers to identify with and make connections to the experiences of oppressed youth despite the fact that teachers may not have experienced the same things as their students.

THE FIVE C'S OF REALITY PEDAGOGY: COGENERATIVE DIALOGUES, COTEACHING, COSMOPOLITANISM, CONTEXT, AND CONTENT

In order to enact reality pedagogy, there are five steps that teachers and students must engage in together. These steps support teaching and learning and transform the experiences of both teachers and students. In these five steps both the theoretical and practical components of this pedagogical approach converge to affect change in classrooms and support the effectiveness of teachers.

The author outlines these steps not to provide a recipe for teacher effectiveness or a script for the best way to teach Black youth, but as a set of tools that, if implemented, can transform existent teaching practices. These are not steps that must be enacted in any particular order or be used to assess teachers for effectiveness or relevance. However, they are approaches to teaching that, if implemented consistently, have the potential to positively transform the education of marginalized youth.

Cogenerative Dialogues

The first of the five C's of reality pedagogy is the cogenerative dialogue (cogens). These dialogues are structured to emulate the ways that many urban Black youth communicate when they are engaged in an aspect of urban (hip-hop) culture called the cypher. Cogens take structures from the cypher and then enhance them by nesting the dialogues in what is happening in the classroom.

Cogens occur with the goal of reaching collective decisions about the rules, roles, and responsibilities that govern students' lives (Roth, Tobin, & Zimmerman, 2002) and lend themselves to discussions with students about the inhibitors to their engagement in the classroom. Beginning with four to six students and a teacher (during lunch, before or after school) and focusing on a science class that they all are a part of, teachers and students engage in a critical deconstruction of what happened in the classroom. Then, they decide upon at least one thing that the group can do to improve teaching and learning when they return to the classroom. In these dialogues, a small group of students are given the opportunity to reflect on their classroom experiences, critique the instruction, discuss the inhibitors to their classroom learning, and, most importantly, provide teachers with an insight into what can work well in the classroom from the students' perspective.

Because of the unique way that they are structured—based on the cypher that many Black youth engage in community and private settings—these dialogues provide an opportunity for teachers, who may not be from the same ethnic or racial backgrounds as students, to engage with their students in ways that allow for the expression of the students' unique standpoints. Cogens provide an opportunity for teachers to hear an analysis of their instruction not provided in the

traditional classroom. Teachers engage in discussions about ways to address both social (related to the ways the teacher interacts with students) and structural (institutional and environmental) inhibitors to effective teaching as articulated by the students they teach.

Cyphers, which are a complex form of group communication that hip-hop youth engage in, lend themselves to the structure of cogens and are the model for how cogens are structured. In cyphers, rappers exchange with each other, following a set of simple yet structured rules of engagement. First, all participants are positioned in a circle with equal space among participants. Second, there are equal opportunities for rappers/participants in the cypher to perform. Third, there is a consistent effort to reference the collective experiences of all participants as the dialogue/exchange continues. Like the cypher, participants in cogens are positioned in a circle, have equal turns at talk, interact with no voices being privileged over others, and work together to create a plan of action for improving their shared experiences in the classroom.

When cogens are in place and students are sharing their thoughts about the classroom, the teacher hears conversations that can shift teaching practices in ways that reflect student standpoints and insight into the inner-workings of the classroom. This helps the teacher to be more effective. This process allows the teacher to be culturally relevant by teaching based on students' thoughts and ideas instead of teachers' conceptions or assumptions about their students' culture.

Some conditions for these dialogues that will assist the teacher in properly implementing them are as follows:

- Students are selected and invited to participate in the dialogues by their teacher based on their being from different demographics in the classroom (e.g., high-achieving and low-achieving students or engaged and disengaged students).
- Students are informed that participation in cogens is voluntary and rotational. Individual students participate in no more than three cogen meetings per quarter, semester, or academic year depending upon class size and duration. Students can always opt out. If they choose to opt out, they are asked to invite a peer to join the dialogues in their place or a teacher-selected substitute is chosen.
- All participants in the dialogues have equal turns at talk.
- All talk is respectful of other participants. All participants are asked to listen attentively and allow their peers to complete their thoughts before responding. The phrase "one mic" is repeated when this rule is violated by any member of the group, so that students can self-manage each other and maintain a fruitful dialogue.
- A plan of action (a practical thing the teacher and students can do) for addressing an issue raised in dialogues must be generated from the conversation.
- Topics of the next dialogue should be based on the results of the previous cogenerated action and how successfully or unsuccessfully it was implemented in the classroom.
- All participants collectively share responsibility for enacting all agreements arising from the dialogues.

Coteaching

The second component of reality pedagogy is coteaching. This practice usually involves a veteran and novice teacher in a classroom. The newer teacher is learning how to teach by observing or assisting the expert teacher, or where general education and special education students have two teachers in an inclusive classroom (Cook & Friend, 1995; Hang & Rabren, 2009). In reality pedagogy, coteaching as it is traditionally known is deconstructed. In this iteration of coteaching, a role reversal of sorts occurs and the student is declared the expert at pedagogy (the person who knows most about how to deliver information to other students) while the teacher becomes the novice who is learning how to teach.

This process, of allowing the student to be the teacher, moves beyond a superficial rendering of traditional teaching. Instead, the student is given all the responsibilities of the teacher and allowed to teach in a way that he or she feels is relevant to other students in the classroom who share the same cultural background. This process involves giving the student who will be teaching access to the teaching materials, like lesson plans, teacher manuals of textbooks, web resources,

and other materials used to prepare the lesson. The student-teacher is then given the opportunity to both prepare and teach the lesson while the teacher physically and symbolically is positioned to learn from the student. When coteaching in this form is enacted, the teacher observes the lesson, takes notes on the ways that the student enacts pedagogy, documents the specific examples the student uses, records the way the student interacts with peers, and learns how to teach in ways that reflect the realities of student experiences.

For Black youth in particular, empowerment to engage in the classroom in new ways makes their teachers more effective by providing them with opportunities to see good teaching (from the students). It also provides a counter-narrative to the pedagogy of poverty that inscribes an anti-school and anti-science identity on otherwise scientifically minded youth.

Research indicates that exposure to professions is a chief way to introduce youth to future professions (McGee & Keller, 2007). Therefore, by allowing Black youth to teach science classes, they are able to see themselves as scientists and teachers, opening up new career trajectories.

Coteaching, under reality pedagogy, also allows the student to teach peers in a one-on-one form. In this process, students are matched up based on their strengths or weaknesses with the content. The goal is to harness strengths (by allowing students to teach what they know well) and address content deficiencies (by allowing students to teach their peers who need help with content knowledge on specific topics). Unlike the in traditional classroom, This process welcomes vulnerability in the classroom. It focuses on youth who feel responsible for each other's learning and the collective success of all students within the classroom. Coteaching in reality pedagogy can be supported through the following steps:

Before Class

- Three to four students who have been engaged in cogens are invited to be initial coteachers and use a cogen session to coplan a lesson with the teacher.
- Student-teachers are given a homework assignment to enhance the lesson that was begun in the cogen and provided with the tools to develop the lesson (textbooks, etc.)
- The teacher performs a quick review of the lesson plan to ensure that content is reflected accurately immediately prior to the students' teaching of the lesson.

During Class

- One or more of the students from the cogen are allowed to teach the lesson with support from their peers.
- The teacher sits in a student's seat in a place that is prominent in the classroom and in the view of the student-teacher(s).
- The teacher takes notes on the student's teaching, focusing on modes of interaction, use of analogy/metaphor, and types of phrases used to support learners who are struggling with content.
- The teacher pays close attention to parts of the lesson where the content delivered and guides the instruction (by raising a hand as a traditional student would) only when there are issues with the content.

After Class

- The teacher engages in a cogen with student-teachers where they can reflect on the lesson taught and the teacher can ask questions about the nuances of the lesson based on his/her notes.
- The teacher delivers the same lesson students to another class using techniques from the student's lesson.
- The teacher and student-teachers discuss the content delivered in front of the class and students disclose their understanding of the subject.
- Students are matched to each other based on their disclosures of content expertise and partnered to teach each other.

- The teacher facilitates one-on-one teaching sessions, takes notes on student teaching, and utilizes the feedback received as part of a pedagogical toolkit for future instruction.

Cosmopolitanism

The third step of reality pedagogy, and another approach to support the effectiveness of teachers of Black youth, is cosmopolitanism. Cosmopolitanism is a philosophical construct that, when described in reality pedagogy, becomes a tangible approach to transforming human roles in social settings. This construct has been used in the field of education as a way to teach diverse populations but has not been presented in a way that is tangible for classroom use. Cosmopolitanism is often presented as a way of knowing and being that embraces a belief in human responsibility for each other and of the value of the individual differences (Appiah, 2006). In essence, all human beings are responsible for each other in some way and an appreciation for the unique roles that we each play for the maintenance of each other's livelihoods and happiness gives our lives meaning. The owning and sharing of a cosmopolitan ethos is important for the teacher to develop and even more necessary for students to feel when within a classroom (Todd, 2008).

In the urban classroom, cosmopolitanism begins with the teacher identifying the nontraditional roles and responsibilities of the student role of learner but that support the smooth operation of the classroom. In the science classroom in particular, these roles and responsibilities should align with those that are carried out by professionals in science. For example, in the traditional science lab, there are principal investigators, research scientists, laboratory assistants, and field researchers who each have distinct roles to play in the proper functioning of the lab. All are held responsible and are appreciated for the roles they play. Likewise, in the ideal classroom for students who have been marginalized from school and science, it is necessary for these youth to feel like they are a part of a unit that cannot function properly unless the student is present in class. In the cosmopolitan classroom, there is a familial structure that allows students to become invested in the daily operation of the classroom, which, in turn, allows the teacher to be more effective in the delivery of content.

Within the classroom, there are roles that students can hold that can ensure that students develop a connection to the classroom and a desire to learn within it. Simple roles include: the greeter of visitors, who welcomes the school administration or other guests to the classroom; the equipment distributor, who hands out lab materials to students; technology manager, who ensures that computers and smart-boards are appropriately running; and even comedian, who is a designated person to provide comic relief in a class. The following steps can be taken to ensure a cosmopolitan classroom:

- The teacher identifies the roles and responsibilities for tasks that make the class run smoothly.
- Students are invited to select roles that they want to take on and teachers compare these roles to roles in the science lab.
- The first weeks of school are dedicated to explicitly discussing the roles of students, their relationship to the smooth functioning of the class, and the effect of these responsibilities on how the rest of the class learns.

Roles may be alternated at significant points in the school year (e.g., holidays, semester breaks), and students who opt out of cogens have priority in choosing roles.

Context

The fourth C, Context, describes a set of practices that revolves around bringing artifacts into the classroom. These artifacts have some significance in the physical spaces (contexts) that students inhabit outside of the classroom and traditionally may have little to no value within the classroom.

These artifacts serve as anchors for classroom instruction and the connector between student lifeworlds outside of the classroom and the world within the classroom. Artifacts can be rocks or plants from a local park brought into the biology classroom, which have more significance than pictures from a book or Internet. Pictures of street signs, store fronts, building facades, graffiti art, and other parts of the students' communities can be used to explain concepts in geography or chemistry, like weathering. When students can physically see and examine artifacts both in the classrooms and in their home communities, the divides between the school world and their real lives are broken down. The use of artifacts from students' lifeworlds, that reflect their communities and honors their Blackness instead of animations and text from places far removed from students' lives enhances classroom lessons and makes teachers more relevant and effective.

For teachers, finding artifacts from the contexts where youth are embedded will require their physical movement. This facilitates immersion in, or at least awareness of (via physical presence in), the complexities of student backgrounds. It almost forces the teacher to look at the lesson and the way it is prepared through the lens of its significance to the student.

Using this approach to instruction, the complex connection between the teacher and the learner are revealed when students start making connections to artifacts on their own and begin looking at other pieces of their lifeworlds through a science lens. Furthermore, it allows the teacher to display an effort to make science relevant for students that students can both appreciate and admire.

Focusing on context in the classroom can be expanded to include homework assignments/projects which students search for and collect artifacts from their lifeworlds that can used for their co-teaching sessions. Context allows students to see the significance of their out-of-school life worlds to the content being delivered in the classroom, extending the connections between school and community. Furthermore, it encourages student creativity in making connections in and out of school worlds.

Content

The final step in reality pedagogy that will be discussed is Content. Content refers to the academic work/science topics that the teacher is responsible for covering within the curriculum. In reality pedagogy, it involves teachers' willingness to both expose and embrace the limitations in their content knowledge within the classroom. This process involves the creation of spaces within the classroom for the revision of the topics where the teacher is not expert and where the student and teacher can explore that content together. This process is enacted with the embracing of the finiteness of the teacher's knowledge and a validation of questions from students around these topics as points for further research. In the classroom, this process can be identified by statements from the teacher, such as "I don't know," "That's a good question," and "Let's research it later." This process expands students' perceptions about the nature of science—that science is a completed body of knowledge—and teachers—as someone who has all the answers.

For Black youth, once the understanding that science or any other discipline being taught is but an infinite body of knowledge ripe for interrogation, the willingness to exchange within the classroom and support the teacher in the codiscovery of new knowledge begins. This reframing of who is a content expert also highlights science-informed professions not traditionally viewed as scientific, such as music engineers or graffiti artists, to discuss how science concepts relate to their work.

RECOMMENDATIONS FOR RESEARCH

Contemporary authors in urban science education, particularly those that address issues related to youth of color, argue that urban science education research is limited in scope and far removed from the cultural experiences of youth in classrooms (Johnson & Fargo, 2010; Roth, 2009; Seiler & Elmesky, 2007). I suggest that research in this academic vein focus on tangible teaching tools

for classroom teachers and are practiced in spaces beyond the traditional classroom. I suggest that research begins with the identification of teaching practices within urban communities that may be physically and culturally removed from classrooms but have the potential to transform formal teaching and learning.

I also suggest that future research in urban science education focus on the interrogation of systematic approaches to disseminating, implementing, and studying the effectiveness of these out-of-classroom and in-community tools. For example, traditional research on professional development of teachers or forms of assessment in classrooms can be rooted in a study of the applicability of youth culture based approaches to pedagogy and teaching techniques. This process, unlike traditional educational research, places the value on the utility of the research being produced with teachers within classrooms. Once this process occurs, theorizing of issues surrounding urban youth of color that we find in traditional research can begin. This work should be more connected to the realities of the urban youth experience than the usual academic rendering of the issues that plague urban education. With this approach, the theory developed or employed by researchers becomes much more than extraneous musings of academics who are far removed from youth realities. The theory becomes a spotlight that illuminates the practical and tangible aspects of the tool for instruction under scrutiny. In this type of research, the act of researching becomes a quest for more effective teaching strategies and educational theory becomes an outgrowth of (and support for) work “in the trenches” of urban communities and classrooms.

RECOMMENDATIONS FOR PRACTICE

Some suggestions for practitioners that go beyond the five C’s for reality pedagogy involve developing the appropriate mind-set for effective teaching. These recommendations, because of the practical nature of this article, are aligned the cultural tools teachers need to ensure that they are properly enacting reality pedagogy. For example, with the implementation of cogens and co-teaching, teachers must come to the classroom with a willingness to listen to students, and an acceptance that the teacher is the content expert while students are the content delivery experts. With the implementation of cosmopolitanism, content, and context, teachers must be willing to loosen existent classroom structures to allow students to enact behaviors that may not be usually accepted in classrooms. Educators must accept that when youth question existent structures, as this article suggests they do, they will be vocal and, in some instances, critique the teacher’s instruction. This must be permitted and welcomed in the classroom. Concurrently, teachers must be vulnerable enough to accept when there are gaps in their content expertise, be willing to confront their fears of youth and their communities, and accept the inherent value of urban youth to their own teaching and learning.

CONCLUSIONS

While the tools mentioned above have the potential to impact the teaching and learning of Black youth and provide theoretical and practical approaches to supporting the effectiveness of teachers, they must first be accepted into both teacher preparation programs and professional development offerings in schools, even as they are used to break from traditional practice in those spaces.

Because existent research in Black youth education is often hyper-theoretical despite its transformative qualities, it can be challenging for teachers to implement in classrooms. Therefore, discussions about societal inequities and achievement gaps often come at the expense of providing the tools for teaching effectively.

The work produced provides a set of practices that teachers can readily implement in their classrooms. These practices are conducive to both the needs of potential teachers who are clamoring for what to do once they are in classrooms and those in the classroom struggling for tools to become more effective. As teachers and researchers we must accept that there is much work to be done in transforming education for Black youth. Hopefully, through the practices

provided here, we move towards giving teachers the tools—the paddle—to move the boat that can connect urban youth to academic success in science and other disciplines.

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