

The Renewed Call for Little Black Children to Matter More in the Discourse on Race and Culturally-Connected Science Teaching

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*This short essay was written during this time of: rising coronavirus cases, particularly among Blacks and other minorities, increased racial tension, and the call for justice and fairness in all systems within the **United States of America**. As a **highly concerned** educator, I am here renewing the call for more equality and the addressing of the needs of Black People, specifically focusing my attention on Little Black Boys and Girls (our children/our students) within the American K–12 educational system.*

Within the past three weeks, we have seen the numerous protests across the world and specifically across the various U.S. states, protests which call for *social justice*, *equality*, and *fairness* for Blacks within American systems. When analyzing data from the criminal justice system, health care system, economic strata, and the K–12 school system, data suggest that Blacks continue to be placed at a disadvantage when compared to other racial and ethnic groups. The bleak and alarming statistics in respect to Black people are that Blacks are:

- the most likely to be arrested or killed by a police officer,
- the most likely to die of health crisis, such as the coronavirus,
- the most likely group to experience high rates of poverty and poor schooling.

Thus, given the aforementioned, it has led to my focus on little Black children within the American school system.

So, this short essay stresses the necessary first step in levelling the learning playing field to be the promotion of more culturally-connected and culturally-sensitive teaching and learning processes for Black students. The essay uses a combination of empirical and theoretical peer-reviewed articles and reflects upon two important key research pieces labelled “*The ‘Black Girl Turn’ in Research on Gender, Race, and Science Education: Toward Exploring and Understanding the Early Experiences of Black Females in Science*,” and “*Cultural-Ethnic Differences, Parental Involvement Differences, and Educational Achievement of African Heritage Students: Towards Employing a Culturally Sensitive Curriculum in K-12 Classrooms, A Literature Review*.” Moreover, reasons for Blacks being seemingly “segregated” and not fully included in the science teaching and learning processes are highlighted as are strategies that educators can use in their teaching in order to create more culturally-connected science classrooms.

The Reasons for Blacks Being Seemingly “Segregated” and “Denied Full Access and Inclusion” in the Science Teaching and Learning Processes

The reasons for Blacks being seemingly “segregated” and “denied full access and inclusion” in the science teaching and learning processes might be due to *historical* and *cultural* factors.

Historical-Biological Reasoning

The historical exclusion of Blacks and minorities from science and the legitimizing of it were all considered linked to historical-biological beginnings (Norman, 1998; Pinder, 2008; Pinder & Blackwell, 2013). Historical-biological findings, such as published studies on the *race and brain-size debate* were popularized by researcher Philip Rushton and his colleagues. These studies favored and legitimized the role and place of the White male in science and disallowed Blacks from taking up a place within the science arena—in the science classroom as active participants (science students) and as deliverers of science knowledge (science instructors). Rushton (1997) cited the research work of Robert Bennett Bean in his report. Bean (1906 as cited by Rushton 1997, and Pinder, 2008; Pinder & Blackwell, 2013), a Virginia physician, published a study; in which, he found that Blacks had less convoluted brains than Whites. He also reportedly found that Whites had a larger genu to splenium ratio (front to back part of corpus callosum), which to him seemed to imply that Whites had more activity in their frontal lobes than Blacks. The frontal lobe being considered the site of intelligence. Thus, these early craniometrical and skull research data findings at the time led to the placement of European women, Black males, and Black females in lower hierarchies than the White male. So, European males were placed at the top of the skull size continuum; whereas, Black males and Black females were placed at the lower points of the skull size continuum and this led to the favoring of the White or European male role or place in science (Pinder & Blackwell, 2013).

Black Students’ Inability to Learn and Master Two Incompatible Cultures

From the 1960’s, arguments have been made that some Black students may underperform in their schooling because of their inability to master two dissimilar cultures—their inherited African culture (African American culture is derived from African culture) and the European culture of the new world that their forefathers were brought to as slaves in 1619. Socio-cultural researchers contend that some Black students may underperform in relations to some of their White peers because of their inability to master two incompatible cultures and their rejection of the sharply different European culture that appears to be the dominant culture of the American K–12 school system (Boykin, 1986; Ogbu & Simons, 1998; Ogbu, 2003; Pinder, 2013). Woodson (1933 as cited by Wiggan, 2007, & Pinder, 2013) argued that Black students may feel alienated and underperform in schools because their own experiences have been ignored in the formal academic

discourse in favor of the singular focus on the experiences and lived world views of the dominant group.

Culturally-Biased Curriculums, Textbooks, and Media

Pinder and Blackwell (2013) stated that cultural factors, such as schools' culturally-biased curriculums and textbooks that are steeped in negative cultural norms and stereotypes are possible cultural factors that may explain why some Black children might not connect to the science teaching and learning processes. Additionally, Gray (2013) feels that "the preponderance of imageries in textbooks and media perpetuate the notion of scientists as predominantly male and White (p. 77)." Similarly, Sadker et al. (1989) reported that some minorities are less likely to be studied in history, read about in literature, and additionally, math and science problems are more likely to have underlying hints of White male stereotypical terms and illustrations. According to Gray (2013), critics of the traditional science curriculum have held several negative positions:

- some see science as being presented as a series of discrete, random facts that students are forced to memorize,
- some see it as one in which the contributions of women, people of color, and non-Westerners are excluded,
- and, others see science as being presented and taught from a deeply European and Westernized perspective.

Strategies Educators Should Employ In their teaching in Order To Promote Racially and Culturally-Connected Science Teaching

It is felt that popular images portrayed by television, print ads, and films of Blacks as entertainers, athletes, and thugs might lead to Black students unconsciously developing an affinity to these representations of Black success rather than developing an affinity to representations of success portrayed by scientists, mathematicians, and engineers (Gray, 2013). In beginning to address the cultural-disconnection of Black students in the science process, Gray feels that several things need to happen: 1) educators need to first examine and reflect on ways to counter the negative images and stereotypes of Black people, and (2) educators need to actively seek to dispel the notion that being Black and being a scientist are incompatible thoughts.

Similarly, Pinder (2013) expressed a need for culturally-sensitive curriculums to be utilized that truly serve the needs of students of African descent. Thus, it is felt that rather than employing a *one-curriculum fits all approach* in teaching, teachers and administrators need to realize that in order for ethnically diverse students to do well, the standard curriculum has to be revamped to be more inclusive. To this end, Pinder and Blackwell (2013) and Pinder (2013) offer several critical strategies for teachers to use to eliminate racial and culturally-biased teaching:

- learn about students' culture through: observations of students' behavior in the classrooms and on the playgrounds
- ask students questions about their cultural practices and preferences
- talk to parents about their cultural practices and preferences
- study published research on student groups
- and lastly, study the history of slavery and the adaptation of descendants of slaves.

About the Author

Dr. Patrice Juliet Pinder, Ed.D., is a University Professor (Full Professor) and Ph.D. advisor. Her research interests are in: *STEM Education, migration studies, education theory, and equity and social justice in education*. She is a self-described “STEM Educator, Professor, and Research Scientist without Borders.”

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