

COLLECTIVE AGENCY AS A MEANS OF ENSURING EQUAL ACCESS AND OPPORTUNITY IN SCIENCE EDUCATION

Brian Williams
Georgia State University

Vexation: *Efforts by researchers and reformers to reduce the race gap in science education focus largely on national and business interests while ignoring students, parents, and communities. Consequently, these efforts do little to prepare students to better themselves or their communities. Furthermore, by contributing to opaque educational policies that privilege the current power base, the system ignores the needs and desires of the larger community.*

The race gap in United States has been a steady and persistent piece of the nation's history. Much of the work aimed at understanding and disrupting the race gap has been slowed, misdirected, or wholly derailed by distractions related to: deficit perspectives about children of color, business models of schooling, and misguided educational policies such as No Child Left Behind. Racial disparities are not random. They are the product of social processes involving, at their core, educators, parents, and students interacting with school structures, policies, and practices. All of these exist within a social system that remains stratified by race and social class. It is because of the failure to recognize these processes that many efforts aimed at eliminating racial disparities in education have been unsuccessful.

The *National Science Education Standards* provided a strategy for improving the way that science is taught in schools, including the value of diversity and equity in science. Still a significant disparity persists between the schooling experiences of most students of color and their White peers, a gap particularly apparent in science. Furthermore, much of the work aimed at *reducing* (as opposed to *eliminating*) the gap focuses on the benefits for stakeholders other than the students and their communities (e.g., the scientific workforce or the business community). Some have claimed that economic viability and global competitiveness require access to a highly skilled workforce and that such needs represent a reason for reducing the race gap in science. Arguments such as these lead to another important question. If the collective technological future and economic potential were not in jeopardy, would there still be a need to improve the access of people of color to quality educational experiences, particularly in science? Researchers such as Robert Moses and William Tate encourage the educational community to recognize that the problem of the race gap is related to civil rights and argue that, despite national needs, re-shaping the educational system must ensure that *all students* have access to the power associated with scientific knowledge.

Venture: *The science education community must disrupt oppressive and unjust reforms aimed at privileging a few at the expense of the many. Unfortunately, educators who exercise individual agency can only be marginally effective in their efforts to confront these systemic issues. In order to effect large-scale change, educators must engage in collective agency that includes parents, students, and the larger community. What is needed is a dedicated forum for these individuals to share ideas, develop strategies, and engage in movement building aimed at connecting the needs and desires of the community to the current reform agenda in science education.*

From 2001 to 2005, a team of researcher-activists from the University of North Carolina at Charlotte (UNCC) developed and implemented a project focused on enhancing parent involvement in their children's education. Because it focused on higher-level math and science course enrollments, the action-research project was named the Math/ Science Equity Program (MSEP). MSEP was built around community meetings designed to enhance the involvement of Black parents in their children's mathematics and science course placement and academic track. The intervention linked improved parental knowledge about the operations of the educational system, parents' educational rights, mathematics and science concepts, and the course selection process to greater parental involvement. Informed, assertive Black parents were expected to confront unjust practices in the school system, to organize and promote strategies for directing or re-directing the trajectory of schooling in their communities, and to exercise their collective will by engaging in movements that connect the needs of the community to the priorities of the school. The research-activists responsible for developing MSEP hoped that the program would assist in closing the race gap in mathematics and science.

As a member of the educational community in Atlanta, Georgia, I am witnessing many of the same issues that contributed to the race gap in science education in Charlotte. In particular is a school system guided by the mantra of *that which is tested is taught* a policy that denies access for many students of color and poor students to science at the elementary level and limits their access to a quality science education at the secondary level. I believe that MSEP can be adapted to serve the communities in the Atlanta area and would benefit from the lessons learned in Charlotte. For example, we learned that efforts by projects like MSEP must be shared by

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multiple grassroots community organizations in large, race- and class-embattled communities. MSEP was not able to accomplish this within the time constraints of the Charlotte funded period. Because Atlanta is home to a variety of grassroots programs such as Quality Education as a Civil Right, the Young Peoples Project, and Communities In Schools, a forum is needed for connecting these organizations, integrating the voices of parents and students, and focusing on the problems related to the race gap in science education. I believe that MSEP could provide this forum.

Despite MSEP's considerable successes, the project team faced significant barriers in Charlotte. Before the program can be conducted in Atlanta, two key questions must be answered.

A Scholarship of Service: How do researchers design studies that serve the communities being studied, attract funding agencies, and contribute to the research community's body of knowledge?

MSEP was designed, funded, and implemented as a quasi-experimental research program. The program designated certain schools as treatment sites and purposely avoided and was often denied access to parents from schools designated as control sites. During the program, parents involved in the community meetings were asked to complete informed consent, pre-workshop assessments, post-workshop assessments, and session evaluation. Some parents were invited to participate in follow-up interviews. While important to the research, these protocols alienated parents and redoubled disconnects between the program and the community; the community did not maintain a favorable image of the academy.

Research-driven collaborations and partnerships among universities, communities, and schools are necessary to advance knowledge and educational opportunities for all. However, interpersonal and political issues related to power dynamics, trust, and identity processes offer challenges within these collaborations. In Charlotte, historical and contemporary educational inequalities related to race, social class, and the specifics of the political economy were key aspects of the contexts. To be effective, a program such as MSEP has to serve the needs of the academy and the larger community. Unfortunately, this is a difficult balance to find.

Confronting the Myth of Rugged Individualism: How do programs like MSEP facilitate the development of community movements in an educational context based, largely, on the idea of rugged individualism?

MSEP rested on the belief that a collective of informed and engaged parents could affect the educational trajectory of their individual children, specifically, and the larger educational community, in general. The development of such a community movement challenges the accepted conventions of public education. In today's school system, individual families attempt to navigate the complex system of courses, standards, academic tracks, and tests in isolation from other members of the community. This is particularly true of families from poor communities and families of color. Schools systems legitimate the family's adherence to this notion of rugged individualism by creating limited opportunities for quality schooling experiences. Consequently, parents voluntarily participate in unjust, inequitable, and oppressive systems of education because (a) their privileged status ensures that they and their children are served by the school, (b) they are ill informed of the opportunities to which they and their children do not currently have access, or (c) they believe they have no other options.

In order for MSEP to be successful, it must confront the myth of rugged individualism. From the foundational research for MSEP, we learned that White parents and parents from affluent communities utilize extensive networks to secure quality educational experience for their children. Their actions challenge the idea of rugged individualism. The success of MSEP depends on the ability of Black and poor families to exercise this same type of collective agency. Unfortunately, MSEP's attempt to develop these networks was never successful in Charlotte. If the program is to be implemented successfully in a new city, this problem must be addressed.