

Contributing to the Educational Debt: The Pandemic Has Affected Some Student Populations Disproportionally

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During her AERA Presidential Address, Ladson-Billings (2006) used an analogy to compare the achievement gap to the national deficit. The achievement gap is usually presented as a snapshot in time, identifying differences in measures including test scores, dropout rates, and enrollment in advanced placement courses. These data have consistently shown gaps between White students and students of color, particularly Black, Latinx, and Indigenous populations. Although there have been years in which the gaps have narrowed, notably in the 1980s, the narrowing has not continued as a persistent trend (Lee, 2002).

After years of research, causes of the gap remain complex and difficult to untangle, but race, ethnicity, and socio-economic levels continue to serve as predictors for K-12 achievement (Lee, 2002). In 2019, Asian (93 percent) and White students (89 percent) had the highest graduation rates, while Black (80 percent) and American Indian/Alaska Native[1] (74 percent) students had the lowest (US Department of Education, 2020). Standardized test scores in science and mathematics in 2019 show Asian and White students scoring higher than Black and American Indian/Alaska Native students (US Department of Education, 2020). Gender differences are less pronounced than in the past, but they are still evident in STEM fields. In 2015, a greater percentage of male students (26 percent) expected to have a STEM career than did female students (7 percent) (US Department of Education, 2020).

But Ladson-Billings' central thesis in her presidential address (2006) was not to simply remind us of the ongoing achievement gap, but instead to extend the budget analogy to the educational debt, whereby in the same way that we view the deficit as a single year manifestation of a deeper national debt condition, we analogously view annual data about the achievement gap as a single year manifestation of a historical educational debt. In financial terms, we realize that even when the President balances the budget and has no operating deficit, the national debt still influences the programs and progress that can be made. Currently, the national debt exceeds 28 trillion dollars, with an average interest bill of approximately 800,000,000 dollars per day (Peterson Foundation, 2020). Just as a short-term fix of the deficit is not a solution for the massive national debt, there does not exist a short-term fix through which to overcome a history of inequality. To understand why it is so difficult to close the achievement gap, we must consider the systemic racism and the pattern of discrimination that have created this deep educational debt.

Historical policies that excluded enslaved people from education, created segregated schools, and supported boarding schools in which American Indians were expected to assimilate have yielded an educational system in which we still have de facto segregation,

funding disparities among urban, rural, and suburban school districts (Ladson-Billings, 2006), and fewer high-quality resources at schools with greater numbers of minority students (Parsons, 2014).

I would argue that the educational, economic, and health situations during the previous 16 months, March 2020-June 2021, have contributed to both the achievement gap and the long-term educational debt. This year has highlighted and deepened inequities that will have long-lasting implications. For example, my own neighborhood is a microcosm of the consequences of the pandemic. I live in a neighborhood with a diverse population, including Black (13%), White (14%), and Latinx (52%) neighbors. Immigrants from southeast Asia, Africa, and Latin America make up 40% of the population (City Data, 2020). I have a neighbor whose five grandchildren have spent this year at her house because her daughters are essential workers. Figuring out how to get the children logged onto the variety of platforms using various devices for their online schooling was too burdensome and, after the first month, she stopped trying. Another neighbor, a nurse, left her younger children in the care of her 16-year old daughter. The older sister was adept at helping her younger siblings with their schooling, but she rarely had time to pay attention to her own classes, even though she logged on to maintain a positive attendance record. On the other side of the street, a neighbor and her partner were both able to work from home. They connected with some other families from their children's charter school and hired a recent graduate from my university to tutor their "pod" of children five mornings a week.

The sheer numbers of students affected make this educational emergency unlike any past educational disruption (Bozkurt et al., 2020), but even smaller scale interruptions, such as Hurricane Katrina, resulted in long term consequences for education (Hill & Hannaway, 2006). The COVID-19 pandemic has created an interruption of instruction for more than 1.6 billion students globally, nearly 90% of all enrolled students around the world (UNICEF Data, 2020), but it has not affected all students equally. Often the differing impacts fall along patterns of race and socio-economic status. For example, access to resources such as high-speed internet and a quiet place to study made a critical difference this year. Most students (95% in 2019) in the United States have access to the internet, but this still means that 1 out of 20 students do not have access. Furthermore, of the fortunate 95%, nearly one-fifth of those children whose parents did not finish high school must rely on a smartphone, often shared, for internet access (U.S. Department of Education, 2020).

Students have experienced trauma this year that will not be resolved simply by a physical return to school buildings. But so too, have teachers. We must recognize that teachers need support as they prepare for an even wider range of background experiences than usual. Furthermore, novice and student teachers who have only had minimal experience with in-person instruction will need mentoring. Many K-5 teachers placed science instruction on hold and will need guidance and encouragement to bring it back into the curriculum. As science

educators, we cannot assume things will go back to normal next year. Perhaps this provides us an opportunity, given the educational debt and the pandemic's contribution to it, to set our goal to do better than a return to the status quo.

[1] This terminology is being used to remain consistent with the Department of Education terminology.

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