Between paralysis and empowerment: Action in mathematics for social justice work

Lidia Gonzalez

CUNY York College

Follow this and additional works at: https://academicworks.cuny.edu/yc_pubs

Part of the Scholarship of Teaching and Learning Commons, and the Science and Mathematics Education Commons

How does access to this work benefit you? Let us know!

Recommended Citation

This Article is brought to you for free and open access by the York College at CUNY Academic Works. It has been accepted for inclusion in Publications and Research by an authorized administrator of CUNY Academic Works. For more information, please contact AcademicWorks@cuny.edu.
Honors Seminar in Critical Pedagogy

As a relatively new professor, I taught an undergraduate seminar as part of the honors program at what I will call Urban College. The honors program aims to engage students in research and exploration in various disciplines through interdisciplinary learning experiences. In addition to other requirements, honors students were required to take several semesters of an honors seminar. This was a course whose topic and instructor changed each semester and whose objectives included the exploration of advanced topics from an interdisciplinary perspective through the reading of original sources as well as analysis and synthesis through classroom discussions, written assignments, and presentations.

In the semester I taught the class, through readings and discussions, we explored the philosophy of education known as critical pedagogy. Further, we considered issues of power and purpose within the system of public schools in the United States while focusing on urban schools. Since students majored in different disciplines, a goal of the course was for the students to use their respective disciplines to examine critically social and cultural realities especially as these relate to the educational system. The course would end with an exploration of teaching mathematics for social justice (TMfSJ), not necessarily the enactment of such.

However, my students had other plans and I thank them profoundly for pushing our work forward as they did. Our first discussion centered around the book, *Our schools suck: Students talk back to a segregated nation on the failures of urban education* (Alonso, Anderson, Su, & Theocharis, 2009). What emerged was a somewhat heated discussion at the intersection of education, race, class, politics, and students' own experiences.

Urban College is a public college situated in one of the most ethnically diverse neighborhoods in the United States. Though the area is slowly becoming gentrified, the neighborhood still consists of primarily working-class families. Urban College’s students reflect the ethnic diversity and economic makeup of the surrounding community. Most are the first in their families to go to college, grew up speaking a language other than
English, and receive financial assistance. Among the 11 students in my course, all but one grew up in the surrounding area and all but one attended local public schools. They were keenly aware of the inequities faced by those from marginalized communities in the public school system having navigated that system as students and one as both a student and a parent.

Unlike the others, Maribel (all names are pseudonyms) was a recent immigrant who began her college education abroad. Her daughter was a public school student in one of the local schools and while Maribel was, at times, critical of the public school system, she was less critical of it than the other students in the class. She viewed it as imperfect but far better alternative for her special needs daughter than schools of her home country.

With regard to the schools they attended, my students spoke passionately and with concern about the inadequate conditions of their classrooms, labs, and other school facilities, low expectations some teachers and guidance counselors held for them, as well as the institutional disorganization and lack of academic opportunities. They made clear the need to change the school(s) they had attended for the better. They praised and admired the faculty, staff, and others in their schools who had believed in them, encouraged them, and supported them. In part, they credited these individuals for helping them to be college students. While their stories, of course, varied and my description here is sorely lacking the individual student narratives, many could relate to the students in the text by Alonso, Anderson, Su, & Theoharis (2009) as well as to the conditions, school environment, and experiences described in the works of Kozol (1991).

Initially the readings affirmed students’ experiences. The authors of some of the texts centered their scholarly work on the experiences of urban youth in public schools such as those in my class. My students felt validated. With time, they saw their stories as part of a larger narrative about the school system’s role in reproducing the social and economic inequality present in society. They moved beyond a focus on individual conditions to consider from a critical standpoint the role of larger, political systems such as the public schools as they challenged popular narratives that place blame for failure on individuals and that argue that the U.S. society is a meritocracy with those that work hard able to transcend circumstance and social forces.

There came a point, however, where the conversation shifted. Travis, a young Caribbean-American student, had been consistently discouraged in high school from pursuing college study. His guidance counselor attributed his poor grades to a lack of both interest and ability. Instead, Travis explained that his classes were too easy, teachers did not expect much of him, and he was not mature enough to realize that he was hurting his future by disengaging regardless of how poorly the school was serving his academic development. Travis actively questioned the value of our ongoing conversations given that the unjust situations persist and that the next generation of students is facing exactly what he himself faced regardless of how many texts have been written on the subject.

His frustration was expressed by other students. The conversation ran its course. I spoke very little during this time painfully aware that I had led us to this place of hopelessness. Hearing the anger and despair in my students’ voices, I tried to inject a sense of hope by noting the course would end with a focus on improving social life through the teaching of MISJ. Yet even as I said the words, I knew this was not enough. Class ended with a discouraged group of students walking out of the room.

At the time, I had some limited experience working with teachers around teaching MISJ. Some had reasoned that in their study of social inequities, students would confirm mathematically what they knew experientially - that their world is rife with inequality and that they had been marginalized in a myriad of ways. It is one thing for students to know they are in a school with fewer opportunities, but to see it in black and white, some argued, may be harmful to students. “What if it paralyzes them?”, a teacher had once asked me. Until that moment, I had not felt fully the weight of her concern.

What can we do in the face of vast inequality and the large, complex social forces which drive the reproduction of such? The question can be understood as an acceptance of defeat, but it can also be understood as the beginning of genuine inquiry driving us to consider alternatives for action. In our next meeting, I shared a quote by Edward Everett Hale, “I am only one, But still I am one. I cannot do everything, but still I can do something; And because I cannot do everything, I will not refuse to do the something that I can do” (as cited in Greenough, 1902, p.172). I then threw the question the students had raised back at them, “What can we do?” and together we brainstormed ideas.

These included obtaining additional resources for schools through book drives, letters to tech companies for donation of goods and services, and efforts to increase fundraising. Others ideas centered on raising awareness and organizing to change policies. My students spoke of writing letters to local leaders, having sit-ins, and initiating social media campaigns. The excitement and energy in the room grew. Not content with just talking through the possible avenues for action, students asked me to work with them as they found ways to actively address the issues we had studied. I agreed that during the next semester I would work with those who were
interested in a 1-credit independent study course driven by the teaching of MfSJ.

Some educators propose that teaching MfSJ should engage students in the study of mathematics while using mathematics as a tool to explore and challenge the inequities that exist in the social world (Gutstein, 2006; Wager & Stinson, 2012). It can be a powerful pedagogy that requires embracing the political nature inherent in all teaching and expanding one’s understanding of the role of teachers of mathematics. Since I came to this pedagogy after my K-12 teaching career, my experiences with MfSJ have come predominantly as a teacher educator.

The Math for Social Justice Independent Study Course

The math for social justice independent study course marked the first time that I undertook the work of teaching MfSJ with students who were not pre-service or in-service teachers. The course learning outcomes were to (1) understand key issues in the mathematics research literature around mathematics for social justice, (2) solve mathematical problems involving basic statistics, probability, algebra and geometry, and (3) propose, design, implement, and assess a mathematics for social justice project. We did some initial readings and activities from Gutstein and Perlson’s (2005) text, Rethinking mathematics: Teaching social justice by the Numbers. Nevertheless, most work centered on semester-long projects that students developed, implemented, and reported upon.

After students had presented an issue to study and an explanation of its importance to them in an initial proposal, I met with each independently to talk through how mathematics could inform and support their work. Here, I became aware of the mathematical content required for each of their projects and how comfortable they were with it. Thus, the specific mathematical content required for the course grew from their projects.

While there was some overlap (i.e. various statistical measures and knowledge of distributions), there were other areas of mathematics (i.e. area and proportional reasoning) that were more necessary to one student’s work than to the others. However, given the small number of students, all were exposed to the entirety of the mathematical content. While the whole class met weekly, much work was completed outside of class, where meetings with individual students proved invaluable in supporting their work. The next section will describe the students’ projects in more depth.

Student Projects

Tamika’s Project: Low-Cost Housing for Undergraduate Students

As Tamika walked through the streets surrounding the college, she was struck by the numerous empty and boarded up houses due to foreclosures while simultaneously thinking about the lack of student housing at Urban College, a commuter school with no residence hall. While Tamika would have liked to live closer to Urban College, she was unable to for financial reasons. She argued that living closer to campus would mean additional time and opportunities to work collaboratively with both students and faculty leading to improvements in her grades and the quality of her education.

Her research showed student retention, graduation rates, and satisfaction with one’s educational experiences have indeed been shown to be positively correlated with proximity to campus. She surveyed students at Urban College and found that the almost universal reason for students not living closer to campus was financial. From a survey of the neighborhood, she identified the number and percentage of abandoned homes within a certain radius. Furthermore, with some difficult but persistent digging, she discovered that the amount of money that banks could collect and the number of students that might benefit if homes were used for low-cost student housing on a semester to semester basis until they were sold.

On the basis of her research, Tamika crafted a proposal that she shared with local elected officials, the student government association (SGA), and several banks. Though she was not able to implement her proposed solution, she and a fellow graduate were working to establish a non-profit organization aimed at supporting undergraduate students from marginalized communities around issues including housing.

Maribel’s Project: Supporting caretakers around special education services

As a fearless advocate for her special needs daughter, Maribel navigated the public school system. At her daughter’s elementary school, she surveyed caretakers and learned that many were unaware of the breadth of support services available and the processes involved in securing these services. She identified a need for education and support around such services creating a group for caretakers of students with special needs to address this need. The group meets regularly to support one another by sharing information, resources, and experiences. Maribel used her position...
as a member of the school's parents' association to advertise the group and its work so others could join.

Jennifer's Project:
Increasing Opportunities for Student Enrichment

Originally interested in the disparity between access to educational resources and opportunities across public secondary schools in the surrounding area, Jennifer changed her focus after some difficulty around accessing individuals at the schools in question. Although we talked through her relying on readily available data from the Department of Education website, she instead changed her focus to student enrichment services at Urban College. Jennifer was an honors student, had participated in various internships, and had worked with me as a research assistant crediting some of her academic success to such activities. She wanted to know to what extent students were aware of the opportunities available to them at the college through the men's/women's centers, various tutoring centers, the office of undergraduate research and others. She learned, through a survey, that students' level of awareness varied greatly and was influenced by numerous factors. She identified the easiest to address as whether the student had an active college e-mail address that they checked regularly. She envisioned a marketing campaign aimed at students around resources at the college and the importance of using one's Urban College e-mail. However, since she changed her focus, she did not fully develop the campaign or propose it to stakeholders. Nevertheless, she was encouraged to run for the SGA and served her fellow students as a representative the following year.

Samaya's Project:
Improving Support Services for Students at York College

Samaya was frustrated by what she called a lack of customer service at the Urban College. By surveying students, she learned that while there was a widespread disappointment among students around customer service, the registrar and financial aid offices were over-represented among student complaints. She learned that these offices were understaffed and that this was especially challenging at peak times of the year. Furthermore, both students and staff were dealing with complex procedures, rules, and systems delaying adequate service and increasing frustration. She argued that if students were better educated around these issues, the number of students visiting the offices in person would be reduced, the burden on staff relieved, and the experience improved.

Her analysis showed that first generation college students, international students, and students from economically disadvantaged families were overrepresented among those that had substantial complaints in part due to being more likely to require financial aid and much less familiar with the system of public higher education. She brought her findings to the administration and was encouraged to run for office in the SGA. Samaya was elected shortly thereafter helping to drive a campaign around customer service and increasing education around policies and procedures. Coupled with the work of the faculty caucus, labor unions, and the administration, various changes were undertaken to address the issues raised including the hiring of additional staff, reconsidering the use of space, and extensive customer service training. Now a graduate, she is attending law school confident she can continue her advocacy work through law.

Between Paralysis and Empowerment

It seems to me that the space between paralysis and empowerment is to be filled with action. To move past hopelessness as one studies the injustices present in our society, we must focus on the question posed by my students What can I do? and recognize it as a call for action. However big or small the change we make, it is a step towards greater social justice. Maribel's work created a small network of caretakers that support one another. The issue of how to best identify and procure services for students with special needs within the large, imperfect system of public schools has not been resolved and the injustices faced by those from marginalized communities still exist. However, to those that have benefitted from this work, it is a step towards justice.

Action, too, seems to be the bridge that connects our roles as teachers of mathematics to our roles as advocates towards a more sociallyjust society. Yet undertaking this work is hard. First, we need to identify issues of interest to students and craft mathematics lessons around these. We need to tend to the mathematics alongside the social. Compounding the problem is the reality that most mathematics teachers including myself, receive extensive training in mathematical content and pedagogy. Yet few, if any, receive training in how to use mathematics to explore social issues, how to facilitate discussions around such issues in our classrooms, and how to support students in their roles as agents of social change.

When Tamika approached me about her project I knew not how to best support her. We would need to learn about mortgages, foreclosures, and the mathematics tied to these, but there were also issues of insurance, liability, and the policies/regulations governing contracts, student housing.
and a myriad of other areas that I have little to no training in. We met often as she crafted a policy proposal that, although imperfect, was reasonable enough to share with the stakeholders we had identified and at times my work involved identifying resources (individuals or materials) who might be able to help her. Certainly, this is not the type of work that my coursework had prepared me for but it is meaningful work and expanded my view of what it means to be a teacher of mathematics.

To see Tamika and her classmates work with energy around these projects, was to see them grow as agent of social change. One of the most rewarding aspects of these experiences was seeing how the work changed us in positive ways. When the question What can I do? first arose we were almost hopeless but by identifying avenues for action students grew in the awareness that even in the face of tremendous injustice they can identify ways to push forward as agents of social change. That is, that we have more power than we may have originally believed and this, to me, is a lesson worth learning over and again.

REFERENCES


