



CHAPTER 2

School, Community, and Students: The River

When I first visited The Anchor School in the spring a few years before this study began, I was struck by its open environment. This openness was physical and mental. The buildings for the elementary, middle, and high schools, as well as central buildings for the offices and activity spaces, are in a quiet wooded area. Unlike at some public schools, there is no School Resource Officer patrolling the grounds or halls, and visitors can walk freely into the buildings without having their driver's license scanned or following strict check-in and check-out procedures. The middle and high school operate with standard class periods as in typical public schools, but there is substantially more freedom of movement. At the high school, I saw older students walking around campus in small groups, students studying outside on their own, and viewed the meeting space with its large open room, where students and teachers set up folding chairs when they held a community meeting. At the middle school, I saw students running in and out at lunchtime with bare feet, taking their lunch boxes to their preferred outdoor or indoor spaces. I would later learn that one of the privileges students earned when they moved from elementary to middle school was the freedom to abandon their shoes, and the new fifth graders gleefully abandoned theirs in cubbies each student had in their homeroom. There is a creek behind the middle and elementary schools, and students eagerly searched for crawfish and played in the water. As someone who has only experienced public schools as a

teacher and student, this level of freedom and interaction with nature was simultaneously thrilling and alarming.

The teacher in me instantly worried about the kids playing by the creek and wondered who was keeping track of everyone. But The Anchor School kids and teachers were not worried. Their school seemed to run on organized chaos where during free time everyone knew the expectations and was given the freedom to explore their own boundaries. At the end of the day, each student has a job to help take care of the school environment. Students might clean the windows, empty the classroom trashcans into the larger bins, or any other number of small jobs to keep the building and surroundings tidy. Resources were used sparingly and reused when possible. Everyone was taught to work together and to value each other and their space.

Through these lessons, they learned important concepts such as responsibility and caring. As we worked with our students in our social justice literacy and mathematics elective *Math for a Cause*, my co-researcher Bryan and I often commented on how well the students got along. Unlike in other middle schools, there were not easily discernible cliques where you could observe what the students were wearing and tell who were friends with whom. Personal style was more relaxed and while I am sure there was some kind of social order we were not aware of, it was different from your typical middle school scene of popular kids, jocks, and nerds.

Thus, the atmosphere of The Anchor School was not your average environment and so undoubtedly affected our study. In our metaphor of a kayaking journey, The Anchor School and its surrounding cultural context can be thought of as the riverbanks. A river—in this case, our course—is altered by the environment it is in; so too are the riverbanks affected by the river itself. The kayakers (our students and teaching team) can also affect the river and riverbanks with their actions. The next sections will give context for the riverbanks, the river, and the kayakers in this study.

2.1 THE RIVERBANKS

The Anchor School is a private K-12 Quaker school in a southern state. It is in a semi-rural area that serves as a buffer between two urban areas and is surrounded by woods with small farms nearby. The largest of the nearby cities had an approximate population of 250,000 in 2014 (the

year the study was conducted), with racial demographics of nearly equal White and Black populations (around 40% each) with approximately 13% Hispanic and 4% Asian (according to the city's Web site, not included here for anonymity). The other urban area was smaller, with around 40,000 people, the majority (around 70%) of whom were White with Black people making up around 10% of the population. There are several smaller towns close by as well, and the student population was spread out within this larger area.

The surrounding urban areas were known as liberal spaces within a more conservative state, and the students in our class seemed to be from socially liberal homes, based on their comments on politics and which news sources they watched with their parents. The nearby urban areas house two large research universities which served as employers for many students' parents, and in general, the parents seemed to be in professional careers. Despite the liberal leanings of the area, or perhaps because this liberalness was a neoliberal one which thrives under a false guise of "being reasonable and promoting universally desirable forms of economic expansion" (Duggan, 2002, p. 177) which translates to supporting White interests, racial tensions within grew between the urban areas. Gentrification was a growing problem in the larger city's downtown areas. Visible LGBTQ+ communities included many social groups for niche populations (such as a Latinx queer people or polyamorous families) and an annual city pride celebration is held at one of the universities. However, some infighting occurred within these queer groups as queer leaders of Color pushed back against White conceptions and norms, such as having a police presence at the annual pride festival, and at the time of writing pride is led by a Black woman who heads a city LGBTQ center.

Atypically for a southern area, which tends to have a social conservatism influenced by various forms of Evangelical Christianity, the students at The Anchor School were comfortable discussing queer issues. Notably, they were more comfortable with queer issues than racial ones. This is likely because of The Anchor School's population. At the middle school where the research took place, all the faculty and staff were White; only a few students of color attended at the time. In contrast, some teachers, staff, and students were openly queer, and many students had queer parents or other family members. The middle school Gay-Straight Alliance (GSA) was the most popular club when we conducted our study, and many members identified as straight allies. The GSA staff advisor told me that to announce the first meeting of the year, the students excitedly

planned a skit where they played the popular Katy Perry (2008) song “I Kissed a Girl” (whose subsequent lyrics proclaim “and I liked it”) to the school’s delight. The club also marched in the annual pride parade and had begun reaching out to other local schools when they needed help with queer issues, such as supporting another local (public) middle school’s GSA when the principal threatened to ban the club. They also were celebratory of the movement toward marriage equality. Middle school GSAs are rare, especially in the relatively conservative South, and its large presence here was admirable.

Despite the positivity of queer celebration, the school’s conceptions leaned toward homonormativity (Duggan, 2002), a concept indicating a drive for equality that mirrors heterosexual norms and mainstream inclusion for queer people. Homonormativity works within a neoliberal mindset that limits public views of queerness to how it can fit within a consumer market. Focusing queer issues on marriage equality puts queer people within a frame that is palatable to conservative heterosexuals and removes attention from other aspects of queer existence such as relationships outside of marriage and/or monogamy, youth activism, and issues of housing inequality. This focus on marriage equality by The Anchor School was understandable, however, as it dominated local and national news at the time of the study. When marriage equality came to our state midway through the term due to a circuit court decision, the school community celebrated this victory as it positively affected people in the students’ lives.

This is not a celebration that needs to be hampered for fear of being normative, as all victories are important, and it is worth celebrating the work of activists, but it does emphasize marriage rights as a key factor in queer lives. There are some queer activists against the concept of marriage being tied to government and human rights at all (e.g., Conrad & Nair, 2010). Additionally, the use of the Katy Perry (2008) song highlights the problematic nature of straight artists capitalizing on queer experiences (“I kissed a girl”) while simultaneously maintaining their heterosexuality (“hope my boyfriend don’t mind it”). When this song was released, there were debates in queer circles about the heteronormativity of a song that relied on a sapphic moment for titillation rather than representation. While I do not expect middle schoolers to pick up on these nuances, I wonder if any of their teachers did. This GSA’s activism was tied primarily to marriage rights and the rights of other students to have a GSA, which again is admirable. I do not want to put

the burden of queering LGBTQ+ activism on preteens and early adolescents. However, I do wonder if there were any critical conversations on LGBTQ+ issues that included intersectionality and discussions of other issues within local queer communities. Unfortunately, this was beyond the scope of my own study, and I was unable to attend any GSA meetings.

Students Perceptions: Individual Focus to Social Justice

While queer issues were discussed openly and often at school, some of our students questioned *how* they were discussed during individual interviews. Ally (who will be profiled in the kayakers section) was a concrete thinker, and when Bryan and I interviewed her she expressed her impression that the staff wanted all the students to think a certain way. She explained that the staff talk about change within people, so that any talk dealing with a social justice topic like LGBTQ+ people is discussed on an individual, rather than a group or systemic, basis. For example, she said they were told “if somebody was not gay when they were younger but then in high school they change, then you shouldn’t be mad at them or anything.” While I was not present for these school conversations, so I cannot state that this is exactly what school staff said, Ally’s impression is interesting. The school teaching students that people’s sexual orientations may change is great, as sexual fluidity is real and common, and it is important that children learn that they (and others) are free to explore their identities rather than coming out once and being stuck with the first identity they name. However, it seems that, for Ally at least, there was little understanding of how an individual’s identity related to a broader social context of heteronormativity or of systemic homophobia.

Similar ideas came out in Sum Dood’s interview. When asked in his final interview if his ideas on social justice had changed, he said, “I think partly it [the class] made me more trying to understand why the people who don’t like gay marriage don’t like it, [instead of] just going with gay marriage cause that’s what we’re doing.” Here, Sum Dood is realizing that at their school, mostly everyone believes that gay people should be allowed to get married. He recognizes that one of the tactics to convince people to support same-sex marriage is “cause that’s what we’re doing,” meaning a reliance on the idea of social momentum toward a more liberal society without engaging in any critical reflection on the topic. He mentioned, like Ally, that the school believes in gay

marriage and he agreed it was important, but he had not really thought about why it was important to him, beyond a general belief in equality for all. Consequently, he had not thought about why others were against it. From thinking through these issues in our class, he began to “look at the other side to understand why,” so that he could better counter homophobic ideas and articulate his own arguments in support of marriage equality. This exploration is important in any social justice work, as activists and allies are stronger if they can articulate specific reasons for their beliefs beyond “it is the right thing to do.”

Quaker Values and The Anchor School

This examination of school norms and beliefs necessitates a look to the Quaker foundation of The Anchor School. While investigating them in depth was beyond the scope of this study, it is still important to consider how they affect the school community’s value system. One of the reasons I chose this school as the study site was because I thought equity and social justice were values embraced by the school community and included in curriculum. Some examples that led me to this belief were: the annual event in honor of Dr. Martin Luther King Jr.; bringing in guest speakers who are humanitarians and dedicated to diversity; students and staff participating in diversity events in the region; and inclusion of community service in the middle and high school curriculum. This belief also came from their mission statement. While social justice was not mentioned explicitly, ideas of respecting others, service, and teaching students “that it is possible to change the world” (citation omitted to maintain anonymity) indicate a desire to help others and work toward equality. The mission statement also names these values as explicitly Quaker and includes other Quaker values that are discussed below in more detail. While the Quakers are a religious group (who call other Quakers “Friends”), the school was not otherwise religious. There were no group prayers or other religious observances, and students of all faiths were welcome at the school.

Silence and reflection were highly valued at The Anchor School, and students began and ended each day by “settling in” and “settling out,” in which they sit in silence for about ten minutes. Having participated in this, I can attest that it is calming and helps you center yourself, making it a nice transition for students and teachers. Though it may appear a form of meditation to outsiders, Quaker scholars point out that this is

not exactly the case: “The silence is used for mediation, in the sense of concentrated thinking ... though they do not use any particular meditative technique” (Bradney & Cownie, 2000, p. 59). Further, silence does not imply passivity, but is “a creative, active experience...it involves concentration, commitment and self-discipline on the part not only of the individual, but the worshipping group as a whole” (Bradney & Cownie, 2000, p. 60). At The Anchor School settling in and out was not a form of worship, but sometimes a teacher would ask the students to concentrate on something like a positive experience they had that day and carry that feeling with them when they left school. Ally, our previously mentioned student, told me that science shows that silence is helpful for the brain, and she appreciated the school’s space for silent reflection.

As a participant observer, I was amazed to see the entire middle school—students and teachers—sit in this silence at the end of the school day. The first few times I looked around curiously, sure that I would spot a few students fidgeting or whispering, but remarkably all were both quiet and still, with phones put away. As soon as it was over there was a mad dash for bags and a rush out the door, but for ten minutes everyone was united in silent contemplation. Parents of children who attend The Anchor School told me that even the very young children are capable of this stillness. This practice continues to amaze me, and I wonder how it would have affected my own former high school students. I also find that this moment of rest and reflection is helpful to those doing social justice work. This work can be relentless and exhausting, and though many activists call for “self-care” it seems just as common for activists to burn out as they do not take moments for themselves.

Social Justice Contradictions Within Quakerism

Despite the school’s commitments to diversity and service, there are some beliefs that seem out of sync with social justice work, especially when viewed through a queer lens of questioning norms and boundaries. One of the Quaker values mentioned in the mission statement is seeking the truth, which can be seen as counter to queer values that believe in openness more than truth, or even multiple truths. The mission statement later discusses truth again, stating that they hold the “belief that truth is continually revealed.” This tenet also includes the acknowledgment that “answers are dynamic, not static” which is a queer conception

of problem-solving and indicates that answers may shift. However, it still implies that there is truth in the first place. It further implies that there is a *single* truth; the mission does not say anything about the possibility for simultaneous multiple truths, or that truth may look different to different people. The concept of multiple truths is vital for social justice work, which must consider the perspectives of diverse groups of people with different needs and priorities. Whose truth is privileged? Whose truth is “revealed,” and how possible is it to reevaluate that truth and acknowledge that “answers are dynamic?” While I did not ask any teachers about their interpretations of the mission, I wondered in retrospect if it had an influence on their teaching or curriculum design.

This seeking of truth aligns with Heath’s (1996), a Quaker educator, explanation of truth in Quaker schools. Heath stated that “the ‘peculiar mission’ of a Friends school is to empower its members...to live more fully in Truth. For Friends, to ‘empower’ is to enable a person to be his or her own minister in seeking that Truth” (p. 5). The Anchor School statement goes on to say they have a “commitment to look beyond and beneath the obvious, searching for truth and identifying falsehood.” This juxtaposition seems contradictory when considered from a queer standpoint. How can one search beneath the obvious if you are still engaged only in searching for truth or falsehood and not engaged in the nuances that exist between these two poles? Again, I cannot say how much (if at all) these tenets on truth effected teaching at The Anchor School: I did not ask the teachers to examine the mission and reflect on how it effects their personal teaching strategies or the school’s overall learning environment. However, I think it is possible that this belief in truth may have affected the ways our students worked in class and pursued their research.

The school’s value of service, which I initially saw as an indication of a commitment to social justice, was more complicated and was not necessarily approached with a liberatory stance toward empowering others in the community. Examining Quaker values on service helps to illuminate these contradictions. Quakers have a long tradition of service and activism, which often draws outsiders to the religion. Bryan, my co-researcher, and I found that when students discussed their service work it seemed more about the students helping someone for a day rather than a sustained project with a community. Part of this divide between service and justice work may stem from Quakers’ tendency to avoid conflict (Bradney & Cownie, 2000). In Quaker Meetings (religious observances

are called meetings rather than sermons or services), decision making can take months as full agreement is required before finalizing a decision. As Bradney and Cownie (2000) pointed out, “Quaker decision-making is also Quaker dispute avoidance since one cannot dispute a decision which one has freely and fully consented to or which one accepts was made according to the promptings of the spirit” (p. 152). This implies that once a decision is made, discussion is complete, and no further arguments can be brought up. Social justice is contentious, and it is nearly impossible to get a large group to come to consensus on intersectional issues regarding race, gender, class, and others, especially if those decisions have to be made before one can take action. Working on issues such as homelessness, for example, requires both short-term decisions such as where to procure and how to distribute food and clothing and long-term decisions such as how to create more equitable housing in a community. Waiting for consensus on some of these issues would cause harm to the people experiencing homelessness who are in need of immediate assistance.

Other than the need for consensus, Quaker beliefs on nonviolence may also affect how Quaker institutions complete service work. As Bacon (1986) pointed out in her discussion on feminism and Quaker beliefs, “The Quaker devotion to nonviolence has sometimes made it difficult for Quakers to know how to handle anger” (p. 225). Anger, and working through it, is often a part of social justice work. If The Anchor School leaders, or at least those who planned community service activities, were uncomfortable with anger from a Quaker mindset, then it makes sense that service was relegated to community cleanups rather than participating in the more emotional work required by social action. One teacher at the school discussed her dissatisfaction with the way service learning was conducted with me. She saw their current method as taking their privileged students to another community for a day of service, such as at a food bank, and returning home without discussing the larger issues at play and how they and the larger community were affected. This is also counter to what most see as the intent of service learning: It should be fully integrated into the curriculum, offer time for deep reflection, and respond to community needs (Furco, 1996). At the time of the study, a small group of teachers were working to change the way the school conceived of service learning and wanted to bring a social justice lens to the conversation. They were also planning to integrate it into the curriculum and allow more student choice, so that the students could explore service opportunities for issues they were passionate about.

2.2 THE RIVER

Now that we have examined the broader community and school setting (the riverbanks), it is time to explore our course (the river), *Math for a Cause*. Environmental factors on the riverbanks affect the river's conditions, which in turn affect the kayakers. The class was offered as an elective for fifth- through seventh-grade students (the eighth graders had a required course during the time we met). We met on Tuesdays and Thursdays during the last period of the day. This time slot gave us some problems with attention span as well as students leaving early to compete in sporting events, as is common in most school settings. The class was held during the first 10-week trimester of the 2014–2015 school year. Morgan, Bryan, and I served as co-instructors, though Morgan was the primary teacher and in charge of all assessment. Morgan was a math teacher at The Anchor School, and agreed to work with Bryan and me as she is interested in, and was already practicing, social justice teaching. Bryan and I were in graduate school together and found that our shared interest in social justice pedagogy could be combined in interesting ways that utilized our disciplinary interests (English for me, mathematics for Bryan) as well as incorporating my additional interest in queer pedagogy. Like the rest of the middle school staff at The Anchor School, we are all White. This may have helped our mostly White students (full demographics shared in a later section) be more comfortable talking about race with us. While Bryan and I could write comments on student work, as researchers it was unethical for us to formally assess their work. I typically led discussions and lessons that were focused on literacy, while Morgan or Bryan led discussions and lessons on mathematics. We all participated in facilitating discussions on social justice topics.

We covered three instructional units that focused on current social justice events and were often guided by student interests. The units were: (1) Ferguson and the killing of Michael Brown, (2) student-group choice between: marriage equality, environmental issues, education, or health care, and (3) marriage equality. See Table 2.1 for more details on our curriculum structure. Brown died before the semester began and this was heavily reported in the news as the Black Lives Matter movement grew in prominence as a response to police violence against People of Color and Black people in particular. For the second unit, we asked students to rank four possible topics (chosen partially from a focus group Bryan and I conducted in the spring with students, and partially from

Table 2.1 Curriculum structure

	<i>Social justice topic</i>	<i>Articles read and/or information consulted</i>	<i>Mathematical questions (written by students)</i>	<i>Data collected</i>
Unit 1	Michael Brown	<p>“Anonymous Operation Ferguson” – Press Release. https://pastebin.com/KqmJKU8D</p> <p>“Ferguson Shooting: Hip-Hop Moves as a Strong Force for Michael Brown.” Associated Press</p> <p>“Grief and Protests Follow Shooting of a Teenager.” Julia Bosman and Emma Fitzsimmons</p> <p>“Eric the arsonist: Holder fans the Ferguson Flames.” Linda Chavez</p>	<p>How many police shootings have occurred in Missouri, as compared to other states, in the last five years?</p> <p>How many people listened to the Michael Brown tribute song, as compared to other songs by the artists?</p> <p>How many people think Michael Brown is guilty?</p> <p>What is the average height and weight of men in our community compared to Michael Brown? [their article emphasized his size]</p>	<p>Audio recordings of student group work, reading handouts, math handouts, field notes, and audio from final whole-class discussion</p>
Unit 2 (student groups picked topics)	Marriage equality	<ol style="list-style-type: none"> “Why Christians Won’t Back Down on Gay Marriage.” Pascal-Emmanuel Gobry “10 Reasons why Homosexual Marriage is Harmful and Must be Opposed.” www.tfpstudentaction.org 	<p>Exact question not recorded, but were researching how many Christian churches were welcoming of LGBTQ+ people</p>	<p>Audio recordings of student group work, reading handouts, math handouts, field notes, and audio from final whole-class discussion</p>
	Environmental issues	Title not recorded: Students found an article about the use of turtles in Santeria practices	Do people think it’s OK to sacrifice turtles for religious practice?	
	Education	“How the Education Spendthrifths Get Away with It” Paul Peterson	Are lower income schools better than higher income schools?	
	Health care	National Healthcare Disparities Report, 2011, Chapter 10: Priority Populations	Exact question not recorded, but were researching how transgender people of different races are treated in the healthcare system	
Unit 3	Marriage equality: All students first read an article from the local paper on same-sex marriage	<p>Polling data on same-sex marriage</p> <p>Number of states in 2014 where same-sex marriage was legal</p> <p>Statistics on bullying for LGBTQ+ youth</p>	<p>How much has the percentage of people in support of same-sex marriage increased each year?</p> <p>How many states already support same-sex marriage, and how can that convince people in other states to vote in support of it?</p> <p>Did not have a cohesive question, but their intended message was to convince conservative teens that being “gay is OK” and to prevent bullying</p> <p>Is there a correlation between marriage equality laws and suicide rates?</p>	<p>Audio recordings of student group work, reading handouts, math handouts, field notes, and audio from final whole-class discussion, student videos, student Web site</p>
		Suicide rates per state as compared to marriage equality laws by state		

Morgan's knowledge of individual student interests) and then we placed them into groups accordingly. As mentioned previously, same-sex marriage became legal in our state during the trimester and the students were already talking about it at school, so focusing on it for the last project was a natural fit. This also allowed us to end the semester on a positive note, to give our students a hopeful mindset of how social action can result in positive change. More detailed examples of these units are shared in later chapters.

Each of the first two units followed a similar instructional pattern. First, the students read news articles about the topic. Sometimes the teaching team chose the articles and sometimes the students did; if this was the case, they sought teacher approval (in which we checked that the reading level was appropriate and that the article was from a legitimate source). As they read, they completed scaffolded handouts that focused on critical literacy by asking them to answer questions such as "Who has the power?" See Fig. 2.1 for an example of a critical literacy handout. After this, they would brainstorm and create a mathematical question inspired from the article and conduct more research as needed (see Fig. 2.2 for an example of a critical mathematics handout). For example, in the second unit one group wanted to find out if there is a correlation between student achievement and school funding. Often, the math portion was difficult as the students had to sift through data and try to "read" the numbers. As such, students did not usually finish their math problems, but they learned a lot from problem-creation and solving. The school funding group, for example, learned that school funding was not the same by state or even city. As private school students, this was not something they had ever needed to consider and gave them new insight into educational issues on a national scale. For the last unit, students created a presentation (either a video or Web site) using math about marriage equality. Throughout the course, students worked in groups of three to five on both reading articles and creating math problems. Occasionally, we would conduct whole-class math lessons as we saw the need. Whole-class discussions happened during and after each unit giving students time to reflect and dialogue on the topics and share their small group work. These processes will be discussed in more detail in later chapters.

Our classroom environment was freer than in a typical school, or at least the types of schools where Bryan and I had worked as classroom teachers. The middle school had been recently remodeled to include

<p>1. What math words do you write as having the POWER? How do you know?</p>	<p>2. What are the BELIEFS of the author? How do you know?</p>	<p>3. Based on the power and beliefs, who do you think is the intended AUDIENCE?</p>	<p>4. In this article, what do the author or people interviewed see as NORMAL? How do you know?</p>
<p>5. What math words do you notice (value, weight) and how does that effect the meaning?</p>	<p>6. Are the opinions in the article different from your own? How?</p>	<p>7. What is your reaction to the article? (How do you feel reading it?)</p>	<p>8. What do you want readers of this article to know about the topic? (may want to check the comments)</p>

Fig. 2.1 (continued)

Math for a Cause: Choose your own adventure

Goal: Create and work on a math problem based on your social justice issue and article. Think of the article as a starting point- you may need to think bigger to create and solve your math problem

Remember your topic is not about social justice unless you are investigating how it impacts groups of people who have been/are discriminated against. Dig deep!

Directions: 1) Read the roles below, and with your group decide who will do what. 2) Discuss and answer the 9 questions. 3) Use the article and your worksheet to come up with your math problem. Everyone should work together on your problem while completing your roles. 4) This will be challenging- ask for help if you get stuck! 5) If you're unsure if a source is legit, ask us.

Roles:

Recorder: You're responsible for writing the answers to these questions If your group members disagree, write down the different ideas and who had them.

Researcher: Using your article or outside sources, find information you need for your problem. Ask one of us if you need help with finding sources, or are not sure what you need.

Problem constructor: With your group's input, lead the brainstorming session to create the math problem you will solve. You'll need notebook paper. Social justice math is complicated: it won't be a simple equation.

Research tips:

- 1) Use **key words** to search instead of full sentences. Use the library website to find information for your math problem.
 - 2) Be careful with your key words. For example, if you want to find out numbers of people who are racist, remember that they probably won't call themselves that. For example: instead of "racist people who think Michael Brown was guilty" try "survey Michael Brown opinion" and then look at the way people answered different questions. *You* have to **interpret the information** to figure out what it means- google can't always do it for you.
 - 3) **Skim** the headings of an article to see if it has information you're looking for. Don't read everything carefully before deciding if it's useful.
 - 4) Don't get distracted by a research black hole! When you find information, before you write anything down **make sure that the information answers your research question**. If it doesn't keep looking.
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Fig. 2.2 Critical mathematics handout

1. What do you want your math problem to focus on? Give a specific example from your article. Just writing “education” or “marriage equality” is too big- find something specific and related to social justice.
2. What information do you need for your math problem? Statistics, opinion polls, etc.?
3. What **social justice** question(s) is your math problem going to answer? (Examples: Are poor people targeted more than wealthy people in environmental regulations? Are areas with mostly white populations given more funding for schools than areas populated mostly by people of color?)
4. Write your math problem here. **Show one of us before you start working.** Use notebook paper to show your calculations.
5. Write down websites you consult for your math problem. Don’t write down everything you look at, just the ones you end up using (use notebook paper if you need more space):
6. When you’ve finished your math problem (or as far as you can go) write down what you found:
7. Do you have a different view of your topic now? Why or why not?
8. How can you use your math findings to teach others about your social justice topic?
9. What are the limits of using math to teach others about your topic?

Fig. 2.2 (continued)

much interruption and to have privacy, which may have allowed them to feel freer while engaging in discussions on difficult topics such as racism and homophobia. The teaching team would walk around between these groups offering help when needed. This allowed the students to focus more easily, but sometimes when they spoke with all three of us, especially when the teachers did not consult with each other in between checking on groups, we would each give them different ideas which lead to confusion. This open environment, however, seemed fruitful as when listening to their recorded conversations it was evident to me that students were engaging in critical dialogue about their social justice topics. These conversations were likely more open without a teacher present, even though they were aware of the recorder and sometimes addressed it, or me, directly. The small-group environment also allowed each student to talk more than is possible in a large group discussion.

2.3 THE KAYAKERS

When our class began, Bryan and I were excited to meet our fellow kayakers. Class enrollment was capped at 15 students as The Anchor School values small class sizes. Twelve students enrolled, and 10 out of the 12 participated in the research study. Since this was an elective course, the class population was self-selected by students who were interested in math and/or social justice (this phrase was used in the course description given to students before they picked their electives) and/or enjoyed taking classes with Morgan. There was a possibility that some students may have been pressured into taking this class by their parents, but as there were approximately 35 electives offered each trimester of which students are required to take three, we felt it was highly unlikely that there would be many students in the class who did not wish to be there.

To protect the privacy of the students, I am using student-chosen pseudonyms here. Morgan is also a pseudonym. Table 2.2 lists the demographics of our student participants, and I also describe their personalities here to give the reader a better sense of our classroom dynamic. Our focal students (who were interviewed in the beginning and end of the course) were Jimmy Smith, Ally, Mia, and Sum Dood. Bryan and I chose them from a smaller subset of the total participants who returned their parental permission forms promptly, and these four in particular fit our criteria of representing a range of experiences, grade levels, and interests. The focal students' interests and values all effected

Table 2.2 Participant demographics

<i>Name</i>	<i>Age</i>	<i>Grade</i>	<i>Legal sex (male or female)</i>	<i>Gender identity (boy or girl^a)</i>	<i>Race</i>
Aiden	11	5	M	B	White
Ally	11	6	F	G	White
Ashley	11	6	F	G	White
Izzie	12	7	F	G	White
Jimmy Smith	10	5	M	B	Mixed race
Justin Case	12	7	M	B	White
Mia	13	7	F	G	White
Rosette	11	6	F	G	White
Sue Denim	12	7	M	B	White
Sum Dood	11	6	M	B	Mixed race

^aStudents were given the opportunity to circle boy, girl, transgender, or write in their own gender identity

how they paddled their own kayak through the course and engaged with the issues they explored.

Jimmy Smith was one of our younger students as he was in fifth grade and did not have as much experience with middle school math or service learning. He chose the class mostly because he was interested in, and skilled at, math. He often asked critical questions when working with his groups of both their mathematical calculations as well as the social justice issues at hand. Jimmy's engagement often served as encouragement for his group members.

Ally, a sixth grader, was our concrete thinker: She stated she liked math because there were rules and would get distressed when there was not an obvious singular answer to a problem. Morgan shared with us that this need for structure sometimes caused her problems socially. She was also a gifted athlete, where her desire for discipline served her well. By the end of the course, Ally's fixed mindset was beginning to shift as she learned that numbers did not necessarily represent an immobile truth.

Sum Dood, also a sixth grader, was one of our liveliest students. His pseudonym took many spellings over the trimester (Some Dude, then Sum Dude when he realized he could make a math pun, before finally settling on Sum Dood), indicating his playful approach to the course and his participation in the research. He enjoyed math and was also passionate about social justice causes, particularly LGBTQ+ rights. He was

an active member of the GSA and marched with them in the local pride parade. In whole-class discussions, he was often eager to share his ideas.

Mia was very different from Ally and Jimmy Smith. She was a student who entered the class not liking math, but she took the course because she enjoyed service learning projects and hoped to complete one in the class. Mia had even participated in a school field trip where they visited important sites from the Civil Rights Movement and spoke of that trip as influential in her commitment to service. She was usually reading a novel before class began rather than chatting with her classmates which made me think she might be quiet in groups, but on the audio recordings she was vocal with her group and freely expressed her opinions. As a seventh grader she was one of our older students.

Our other students also had distinct personalities and interests, resulting in a dynamic classroom environment. Aiden was one of two-fifth graders and a new student to The Anchor School who was often in his own world. Bryan and I often wondered how he would function in a more typical school environment with tighter structure, as here he was allowed to do his own thing and seemed to float through the course. When he was interested in the content, he would engage members of the teaching team in critical conversations, but often when we checked on him he would be searching for irrelevant things on the internet and waiting for instruction from his group. Once he even lost his group (which is hard to do at a small school) when he had not noticed they left their study room to film their final project.

Ashley was a conscientious student and seemed to want to please the teaching team, which was a reason she was not chosen to be interviewed, as Bryan and I were afraid she would say what she thought we wanted to hear. She was a member of the GSA and wanted to promote marriage equality. Rosette was friends with Ashley and Ally, and on the recordings she was often giggly which caused me to unfairly judge her as “not serious” about her learning. In contrast, her survey results showed she thought deeply about social justice issues from class. These three often worked together, although Ashley also worked with Justin Case and Sum Dood during the second unit.

Justin Case was one of our seventh graders. He enjoyed math and was a critical thinker, often discussing the meaning behind words and numbers more often, or sooner in the lesson or unit, than his classmates. Justin Case worked with Sum Dood in each unit. The two of them, along with Sue Denim (which sounds like pseudonym if spoken), chose

their pseudonyms together during the first unit. Then, they pretended they were hosting a podcast as they played with the audio recorder during group work. Any time a teacher walked into their study room, they would announce “welcome to the podcast!” and addressed an imaginary audience while they worked on their research. Sue Denim was often frustrating to us teacher-researchers, as he only wanted to talk about issues he already knew about. He was often distracted, tried to distract his group mates, and engaged in passive-aggressive behavior when he did not want to complete assigned tasks such as turning his back when Bryan and I entered his study room and typing loudly to drown out our voices. Rounding out our seventh-grade group is Izzie, one of the quieter students in whole-class discussions. She usually worked with Mia, and was more talkative in her small groups, speaking up if she did not agree with the group’s direction.

Commonalities Across Students

While the students had distinct personalities and interests, they had commonalities that effected how they entered our class and interacted with social justice issues. The primary one is privilege. There is no school bus at The Anchor School, except to use for sports and field trips, so every family must have the ability to drive their students to school. You would not necessarily know students were privileged by the way they acted, however. Snobbery was not something I witnessed among the students. But I overheard several casual conversations about getting the latest iPhone, tablet, laptop, or gaming system, which caused me to raise my eyebrows in surprise. Students also talked about nice vacations they went on, or parents who had prestigious careers at one of the local universities, or in medical or technical fields. More obviously a site of privilege is the fact that The Anchor School is private. While there are scholarships available (and some of our students may have received scholarships, but this was not information we sought), in general familial financial stability and wealth is required to attend.

Privilege was also strongly tied to whiteness in this space. A teacher told me that during the fall trimester in which our study took place a student called another student “the N word” for the first time in staff memory, and the staff had no idea how to handle the situation. According to this teacher, race in contemporary America was not widely discussed at school, let alone how contemporary conceptions of race are tied to the

past. Lessons about the Civil Rights Movement, while extensive at this school, were not related to present-day racism. This, combined with the fact that students did not see racial diversity around them, made talking about current events involving race (like the murder of Michael Brown) difficult for them.

This lack of knowledge about race relates to Bauman's (2004) work on privileged White students, who she described as living inside a bubble. Those outside the bubble remained unnoticed and the school where she conducted research felt like summer camp where the community sat under a "cloud of niceness" (Bauman, 2004, p. 200). Though students in *Math for a Cause* could recognize that a White cop killing a Black teenager is suspicious and likely racist, they remained uncertain. As I discussed with teachers at The Anchor School, the students were likely grappling with questions such as: What does it mean that they are White, are they bad too? The few Black students they know are nice—does that mean the news might be biased? What does that say about their school? These uncomfortable questions are perhaps harder for the White students to address in their nearly all-White space, where racial oppression is seen as something that took place in the past and was bad, but it is probably fine now. The question seems to remain: How can the school claim to be a place of inclusion, if it seems there is no real effort (or at least no visible effort) made to diversify the student and staff population? These questions hang as the river journey begins.

2.4 A SUMMARY OF THE ANCHOR SCHOOL ENVIRONMENT

While I have relayed here details about The Anchor School, no picture of a school can ever be complete. Schools are complex systems working under multiple frameworks of normality and dominance. The communities immediately surrounding The Anchor School were semi-rural, though it was in-between two urban areas that housed large research universities, medical facilities, and tech companies. The surrounding population was predominately White, with the larger urban area having a large Black population as well, with a smaller Latinx population. The school, however, remained primarily White. Same-sex marriage was not yet federally legal in 2014, though some states recognized it, and during the study our state became one of these due to a circuit court decision. Students in our class had an easier time, perhaps due to their school environment, discussing contemporary LGBTQ+ issues than

issues of contemporary racism; however, they learned more about historical racism and the Civil Rights Movement than most students in public schools. While service was highly valued at The Anchor School, social justice was not necessarily practiced, to some teachers' frustration. This complicated amalgam of current events, school values, and school norms and practices all affected our river.

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