Gatekeeping in Mathematics for Social and Racial Justice: Reflections on a Conversation Among Colleagues

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Abstract

Many educators personally value social justice and antiracism. However, personal identities, the perception of competing mathematics and social justice goals for teaching, and public discourses and policies can create barriers to realizing these commitments in mathematics classrooms. In this commentary, we share excerpts from one of our many conversations with connections to current literature and selected artifacts representing gatekeepers to social justice and antiracist mathematics. In addition to framing the gatekeepers, we highlight productive points of change for educators navigating tenuous situations in their schools and communities.

Discussion And Reflection Enhancement (DARE) Pre-Reading Questions

1. What challenges and tensions do you face in realizing your commitments to antiracism in mathematics classrooms?

2. What are the sources of those tensions? Do they arise from personal/internal conflicts, competing school/curricular goals, or public discourses about mathematics education?

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We would like to extend our gratitude to the reviewers for suggesting that we more intentionally draw on and amplify the voices of BIPOC authors. We agree that as we work toward TMSRJ, we must continue to critically reflect on and expand whose voices and ideas inform our research. This manuscript serves not as an example of what this could look like, but rather a snapshot of our current progress toward finding resonance between our instructional and research practices.

Gatekeeping in Mathematics for Social and Racial Justice: Reflections on a Conversation Among Colleagues

Michael Lolkus, Eric Cordero-Siy, and Frances Harper

Many in the United States are calling for change in response to increased awareness of police killings of Black people and unjust policies promoting and sustaining white supremacy. Educators are recognizing the political nature of their work as they strive to promote change alongside community members. These efforts underscore calls, such as those from TODOS: Mathematics for All (2020), to rethink collective action through renewed community partnerships and pledges to dismantle racist structures in mathematics education. Taking an antiracist stance is to "dismantle systems and structures that maintain racism within teaching and learning mathematics" (TODOS, 2020, p. 2), which works in tandem with broader efforts toward teaching mathematics for social justice (TMSJ). Husband (2016) distilled antiracist education into four defining characteristics: knowledge deconstruction and critique, an overtly political stance, analyses of racial and economic oppression simultaneously, and social activism. TMSJ can (but does not necessarily) include these four characteristics. We use TMSRJ (teaching mathematics for social and racial justice) to refer to efforts to emphasize antiracist education as part of broader efforts to teach and learn mathematics for social justice.

While progress is being made in some states to embrace TMSRJ movements (e.g., A Pathway to Equitable Math Instruction, 2021; Seattle Public Schools, 2021), others are working to restrict what is taught about systemic racism (e.g., Adams, 2021; Allison, 2021). Emerging policy gatekeepers may restrict teachers' and teacher educators' ability to engage in antiracist work. Gatekeepers, however, are not limited to groups or policies that oppose TMSRJ (Appelbaum & Davila, 2007), but those who deem certain practices as TMSRJ-worthy or not can also act as gatekeepers by amplifying individuals' self-doubt about their antiracist commitments. Gatekeepers determine what efforts toward TMSRJ are viable, by which educators, and for which students. As such, we refer to gatekeepers, not as physical gates, but individuals, conceptualizations, and discourses that inform who has access to and what counts as TMSRJ.

We, three mathematics teacher educators and researchers, explore these tensions by sharing our conversations about fully realizing mathematics education as a tool to critically understand and change the world by (a) complexifying TMSRJ; (b) identifying gatekeepers to TMSRJ; and (c) providing resources and recommendations.

Background for the Conversation

Our conversation grew out of our collaboration on a virtual symposium for the annual conference hosted by the American Educational Research Association (Berry et al., 2021) focused on mathematics teachers' experiences with TMSRJ. Sparked by questions raised in the discussion of our respective presentations, we continued regular Zoom discussions (six in three months) to investigate and unpack tensions in mathematics teachers' engagements with TMSRJ. We also regularly brought artifacts (e.g., policy documents, social media posts, news articles) to share as we collectively sought to understand evolving gatekeepers to TMSRJ. We have organized several of the artifacts that served as reference points in our ongoing conversation on a website (http://sites.google.com/view/gatekeepingartifacts), and we invite you to visit this site, to engage with and reflect

on the artifacts yourself, and to reference specific artifacts as we evoke them in our conversation. To capture the nature of our ongoing discussions, we recorded our most recent one. This paper is organized around illustrative excerpts from that discussion, and you can find the full transcripts on the website. In this article, we reflect on the conversation that occurred at the beginning of the 2021-2022 academic year when we were all early-career mathematics education researchers working across three states that had legislative efforts to ban critical race theory (CRT; Loughlin, 2022; McGreevy, 2022; Redman, 2022). We draw on our diverse teaching and personal experiences from our varied backgrounds and different career stages. In doing so, we provide some recommendations on how to confront various barriers to TMRSJ, but we wish to emphasize that these examples are contextually situated and should not be seen as prescriptive. We provide a brief overview of our positionalities, with more details unfolding through the selected excerpts.

Cordero-Siy is a cis BIPOC[1] man who grew up in diverse, middle-class environments and has lived on the boundaries of identities. He learned being a mathematics teacher goes beyond "teaching mathematics" when a student said she was happy to have a math teacher embrace her queerness. He learned about movements and theories explaining this. At the time of our conversation, he identified as still on the boundary of social justice and "not enough" in his role as a Research Associate. As this piece moved towards publication, he entered his current role as a Clinical Assistant Professor.

Harper is a white cis woman. Her commitments to social and racial justice came from growing up in poverty as a member of a multiracial family. She chose a career in mathematics education because of the power of mathematics as a gatekeeper, and she has been learning how to disrupt inequities with and within mathematics since her first year as a teacher. Her relationships with BIPOC students, families, and community leaders guide her work. During our conversation, she was an Assistant Professor and was promoted to Associate Professor as this article moved toward publication.

Lolkus is a white cis man with suburban, upper-middle class lived experiences. He learned more about racial injustices and his own unearned privilege as a secondary mathematics teacher with BIPOC students. Lolkus continues to explore the affordances of TMSRJ with prospective mathematics teachers and undergraduate students. These efforts were central to his work as a doctoral candidate at the time of our conversation, and he transitioned into a role as a Curriculum Writer and Editor for a secondary mathematics educational nonprofit organization.

We were brought together by our commitments to TMSRJ, and we see the challenges to centering antiracism that we face as mathematics teacher educators as related to those challenges faced by K-12 mathematics teachers with similar commitments. We hope that in holding a mirror up to ourselves that others—in particular, early career mathematics (teacher) educators with a variety of positionalities in relation to antiracism—might find these ideas to be mirrors or windows for themselves. By analyzing our conversations through a lens of antiracism, we also hope to trouble or expand what TMSRJ can be, specifically in the service of antiracism.

Snapshots of Ongoing Conversations

We recognize many gatekeepers limit opportunities for TMSRJ, including those that are self-imposed, restrictions through public policies, and mis-categorized positionings of mathematics educators as those who "do equity" and "do math." Here, we provide a narrative of, and selected quotations from, our conversation about personal, public, and conceptual barriers (i.e., gatekeepers) to TMSRJ. We also provide direct links to the referenced artifacts and encourage you to engage with these artifacts as you consider the ideas we present in this article.

Personal Gatekeeper: Identities

Status and power differences related to one's own identities—regardless of their role in the classroom, teacher education, or research—may hinder or support efforts to engage in TMSRJ. A salient identity of our

[1] Drawing from the *Mo(ve)ment to Prioritize Antiracist Mathematics* (TODOS, 2020), we use BIPOC to refer to Black, Indigenous, and People of Color in recognition of the unique experiences and relationships different BIPOC communities have to whiteness and white supremacy in the United States.

group was that of early career mathematics education researchers and teacher educators working to promote antiracist mathematics instruction. We considered how this early career identity might conflict with some of our personal and professional commitments. For example, as an assistant professor (in Tennessee), Harper raised concerns about racism more selectively (i.e., less frequently) during meetings and in her classes than she had done as a doctoral student (in Michigan). As a new faculty member, she felt more vulnerable given that her colleagues voted annually on whether to retain her in her position, based in part on "collegiality" and student course evaluations. This early career dimension of our collective identities underscores the tensions that educators might face when trying to find their place in their professional communities. For instance, Cordero-Siy shared hesitation to commit to the work while reflecting on institutions to apply to:

> In choosing spaces where we want to start our careers, it's becoming a little more difficult [Conceptual Artifact V]. I'd like to do this type of work, and there's an opening in this state, but I don't want to go there because of all the executive orders. This is not going to bring me joy, this is not where I need to be—it's going to suck.

While efforts to engage in antiracist work are needed everywhere, we acknowledge that our decisions on where to work toward TMSRJ were partly informed by opportunities to join supportive communities. This seemed even more pressing given our roles as early-career educators working toward antiracist mathematical spaces and facing potential backlash for challenging the status quo (cf. Robertson, 2022), as well as not yet having the same career protections or as established community and institutional partnerships as our later-career peers. Efforts to reform mathematics education in schools prove more successful when teachers committed to change do their work within supportive networks and as part of a collective enterprise (Coburn et al., 2013; Gutiérrez, 1996). Antiracist initiatives are no exception, and the evolving political climate will require supportive and innovative approaches to network formation and change regardless of the geopolitical context where people live.

We also reflected on how our identities, particularly our racial identities, and dispositions influence our efforts toward TMSRJ. Lolkus, for example, acknowledged the apparent paradox of white people, like himself, who have benefited from systemic injustices working toward TMSRJ:

> So, white folks, in particular, who are in positions of power, are the ones who are deciding what culturally relevant pedagogy looks like in K-12 schools and are the people who are most likely to continue to perpetuate these issues. It's bringing a lot of questions about my individual role, specifically as a white man [Identity Artifact I], but then also thinking about how does each person's identity then inform their efforts towards TMSJ and antiracist math [Identity Artifact II]?

Our personal and professional identities are intricately linked with what we can recognize in our research and inform how we can reimagine mathematics education (Youdell, 2006). These identities are continually evolving, as are our relationships with our research collaborators and participants (Walshaw, 2010). By simply engaging in the mathematics education research enterprise, "we are implicated in constructing part of the practices of mathematics" (Valero, 2004, p. 19). The same can be said of teachers engaging in the enterprise of schooling. As educators, it is important to embrace the complexities of our identities in our efforts toward TMSRJ, and not allow them to serve as barriers to getting started. For example, in actively working towards justice, white folks might worry that they will "get it wrong," while BIPOC folks may fear backlash and hostility from others.

Collaboration provides one way of finding supportive networks and overcoming self-doubt and anxiety based on our racial identities. In our conversation, Harper shared about the role of collaboration in her efforts working toward TMSRJ, specifically given her positionality as a white faculty member at a historically white institution:

> The work that I feel most passionate about is imagining something new [Identity Artifact III], with people who are better positioned to imagine what that looks like than I am [Identify Artifact VII].
>
> Lolkus (in response): So, if we're not yet able to reimagine mathematics education on our own as an independent endeavor, we need to find and connect with the folks who are.

We must recognize how our individual identities (e.g., privileged backgrounds, restricted decision-making

power) shape our capacity for anti-racist actions at different moments and in varied contexts, and continue to question the implications of our work. Do our actions disrupt mainstream discourses and raise awareness or reinforce stereotypes of marginalized communities (Darragh, 2018)? Engaging with folks from diverse experiences and backgrounds can support our reimagination of mathematics education. For example, Harper reflected on her experiences in Allies for Change (n.d.), an antiracist seminar for white people, which set norms for expecting joy when engaging in antiracist work. Meaning, as we do the hard work of confronting systems of oppression and inequities in our communities and schools, we must also look for and anticipate joy as we partner with others in collective action toward TMSRJ. This prompted Cordero-Siy to reflect on our responsibilities and our spheres of influence working toward TMSRJ:

> What is our role in this? Who needs to speak up? Us to try to help people think through the things like what the Heritage Foundation said, [that Critical Race Theory is racial discrimination; Identify Artifact IV], or perhaps to empower some parents who I personally know?
>
> Lolkus (in response): The role that I play in that is being able to help navigate some of the predominately white spaces in ways that the parents, the teachers, the students that I work with don't have access to navigate those spaces in that same way.

Confronting Personal Gatekeepers

Our conversation prompted Lolkus to connect the need for teachers to critically reflect on their own positionalities while also working to understand other folks' perspectives through analogies like those of "Windows and Mirrors" (Gutiérrez, 2012 [Identity Artifact V]; Learning for Justice, n.d. [Identity Artifact VI]). This reflection is necessary given that those in dominant groups have historically (a) appropriated the ideas of those of the oppressed (Kivel, 2017); and (b) burdened their colleagues of Color as the source, explanation, and final arbiter of their actions (Brazas & McGeehan, 2020). Since school mathematics "is placed largely in the hands of Whites or in the hands of non-Whites who are positioned to preserve White interests" (Martin, 2015, p. 21), educators must re-learn history and actively confront their complicity in creating today's sociopolitical conditions that promote white supremacy (Bell et al., 2021). Lolkus, for instance, worked to unpack the ways that his efforts toward TMSRJ were still embedded in and upheld whiteness so as to continue revising and rethinking his antiracist pedagogies (Lolkus, 2022). Nuanced understandings through self-reflection of how we are all impacted by racial trauma is necessary for TMSRJ (TODOS, 2020) and can support us to embrace the complexities of our identities. To be clear, we are not suggesting racism harms white people in the same way or to the same extent it harms BIPOC people, but we all have healing work to do (e.g., Case, 2019; Menakem, 2014) if we are to prevent racial trauma and anxiety from creating barriers to getting started in TMSRJ efforts.

Conceptual Gatekeeper: Mathematics and Social and Racial Justice Goals for Teaching

Mathematics teachers and teacher educators are often framed as supporting either core content or justice-centered practices [Conceptual Artifact I]. This postulated binary functions as a gatekeeper as to who does "the work" and conceals the complexity of teaching and teacher education. Even so, these extremes are imagined. Students' experiences with racism become salient in mathematics classrooms, whether teachers acknowledge them or not (e.g., Harper, 2016), and you do not "arrive" as a social justice teacher—it is always a process of learning with and from students and communities how to better disrupt inequitable systems. To prepare teachers, teacher educators cannot simply address each pole of the binary separately or "add equity and stir," but by arguing against the core values that have driven research and teacher preparation to uphold the binary (Dunn, 2016). Relatedly, our conversation explored apolitical framings of mathematics, as Cordero-Siy shared:

> I'm thinking about the word "organized" now…. I'm also wondering if [attacks on mathematics educators by far-right extremist groups; MathEdCollective, n.d.; Conceptual Artifact II]… feels organized because of popular ways people conceive of, say, mathematics. I'm looking at what Mike in Idaho said: "Whenever I put y = mx + b for a student from China, Bulgaria, or Bolivia, they immediately knew what we were covering and went to work [Conceptual Artifact IV]."

The attacks on mathematics educators who challenge the status quo of mathematics teaching and learning provide examples of how many people currently hold a narrow understanding of what is and what counts as mathematics. This resistance to acknowledging an expanded conception of mathematics, and TMSRJ in particular, echoes backlash to mathematics education reforms that worked to prioritize students' conceptual understandings of mathematical ideas over memorization and procedures (Cordero-Siy et al., 2022). As such, these tensions, in and of themselves, underscore the historical role of mathematics being used as a tool of whiteness (e.g., colorblind [Stinson, 2011], culturally neutral [Ernest, 1991; Felton, 2010; Gutiérrez, 2017], normed behaviors and emotions [Battey & Leyva, 2016]). As Harper noted:

> We know that it is often the case, right, that when reform efforts are scaled up, the marginalization of BIPOC in classrooms just continues.

Many mathematics education reform efforts continue to perpetuate whiteness through the promotion of white interests and white ideals (Berry et al., 2014; Martin, 2010, 2013).

Confronting Conceptual Gatekeepers

For these tensions to be minimized, we must reimagine mathematics (Martin, 2015). Namely, we see promise in teachers and teacher educators moving beyond positioning TMSRJ as solely adding social justice topics to the mathematics curriculum (and "stirring"). Instead, we work to reimagine every aspect of the mathematics classroom experience from an anti-racist lens, thus blurring boundaries around what counts as teacher activism. Cordero-Siy, for instance, challenges dominant discourses about and conceptions of "what counts" in his design and delivery of a doctoral seminar focused on forbidden texts, theories, and methodologies in mathematics education. Harper takes a different approach by partnering directly with teachers and caregivers of BIPOC children to reconceptualize content and curriculum (Harper et al., 2023). Moreover, some educators look to engage in social justice practices beyond their immediate spheres of influence (Kokka, 2019), leading to teacher activism, or working toward social justice, both in and out of the classroom (Picower, 2012). Such political struggle can support teachers to develop political relationships with the community and crucial knowledge needed for TMSRJ (Gutstein, 2018).

Public Gatekeeper: The Public and "The Public"

Through either attacks on or support for those working to reform mathematics education, the public functions as a gatekeeper to what schools and mathematics classrooms should be about. We questioned the extent to which attacks and support reflect broader public sentiments with Cordero-Siy noting louder voices masquerade as "the public." Current events, such as calls for schools to "cancel" Critical Race Theory (CRT) in K-12 curricula ["Public" Artifact III, "Public" Artifact IV], have precariously positioned teachers. As one Nashville high school mathematics teacher, Travis Vaughn, shared, these curricular restrictions "will make it harder for me in the classroom as most of my students face racism and discrimination in this country… every system in the U.S. is built on racism and white supremacy" (Stout, 2021, para. 6). Vaughn's reaction provides an example of the tension mathematics teachers face as their work continues to transition to a point of activism in and of itself. Meanwhile, lawmakers in 13 states used legislative means to ban, in their understanding, CRT (Education Week, 2021). This sentiment does not apply only to CRT or in politically conservative locations. There is growing opposition to California's ethnic studies curriculum, Seattle's mathematics curriculum focused on ideas of power and oppression, and Virginia's de-tracking of mathematics. Harper shared:

> Those who have the most power to determine what's allowed in schools have decided that social justice, equity, and even social emotional learning and culturally responsive teaching ["Public" Artifact II], which some people would not lump in with these other things, are not allowed anymore in classrooms. So, I see that as sort of pressing more teachers into acknowledging that the work they do in their classroom on a day-to-day basis is activism.

Although this sentiment has been echoed in town halls and school board meetings across the country, there is no evidence that this perspective is shared across dinner tables. It seems that the public gatekeeping may be limited to smaller, yet more vocal sectors of the public such as the groups who attacked Gutiérrez and Rubel (see Gutiérrez, 2018; Rubel & McCloskey, 2019).

Confronting Public Gatekeepers

In Aguirre's (2016) interview, Martin called for mathematics educators to continue to challenge current systems (e.g., white privilege, racial hierarchy). Despite efforts to name and understand systemic injustices in mathematics education, Martin shared, "much of this is contained and absorbed by the system. Or, if it gets too critical and borders on the radical then it is actively resisted by the system." (p. 12). We see this resistance playing out in "the public's" response to CRT in schools. As we work to understand and enact our roles, we must continue to question, educate, and challenge those with the loudest voices who deem TMSRJ inappropriate ["Public" Artifact III]. Furthermore, we see community engagement as central to TMSRJ. To this end, Harper acknowledged an opportunity for growth:

> We, as math educators, aren't good at communicating with public audiences, or even parents. A lot of what gets shared is only a small portion of the conversation. We're not having these conversations in spaces that get disseminated more broadly.

Further enhancing community partnerships and communication is one productive point of inflection for promoting social justice and antiracist mathematics. Taking up this call, Harper works to engage community members, such as parents and community organizers, as active agents in her research through research-practice partnerships (e.g., CRRAFT: Harper et al., 2022 and PLANAR: Harper, 2022b) and outreach through her website, Solving World Problems, with TMSRJ resources (Harper, 2022a).

Conclusion

In this commentary, we reflect on numerous gatekeepers that we have encountered on our journeys toward TMSRJ: (a) educators' *personal* identities and experiences, (b) *conceptual* expectations to prioritize mathematics or social justice goals, and (c) *public* stakeholders with disproportionate voice and power. While we consider productive points of change in our discussion above, we also acknowledge that we are embedded in the tensions and don't always know the best next steps. Those sites of tension, however, can provide a catalyst for breaking through barriers and reinforce the need for ongoing discussions and collaborations. Harper noted these tensions in narratives about TMSRJ:

> So, we're hearing those who we know have influence and power, which are the voices of "Why are we doing this antiracist stuff in math class?" instead of "Why is my child's math teacher racist?"
>
> Lolkus (in response): [Like when we discussed the podcast, Nice White Parents (Joffe-Walt, 2020),] sometimes we need to relinquish power to move toward a more equitable system [Additional Artifact I].

As we move forward in our conversations and efforts to confront TMSRJ gatekeepers, we recognize the need to include voices from more stakeholders in mathematics education. Cordero-Siy questioned whose voices were represented, sharing that "we should also grab student voices–how are they interpreting this idea?" Incorporating students' voices in mathematics education, specifically from BIPOC students, is even more urgent given many students from historically marginalized groups report less social capital than their white counterparts (Caldas & Cornigans, 2015).

Common across these gatekeepers were tensions of individual or systemic endeavors. We see ongoing conversations among colleagues – teacher educators, teachers, parents, and students – as building the collective endeavors necessary for breaking down barriers to TMSRJ. As we move toward actualizing antiracist mathematical spaces, we recognize the need to continue building coalitions of resistance, specific to our own contexts, so as to recognize and challenge evolving and orchestrated efforts that restrict TMSRJ within our respective spheres of influence. Engaging in collective learning and critical reflection is necessary for recognizing and challenging gatekeepers to TMSRJ in our respective situations. It is our hope that these coalitions will continue to collectively learn about social justice pedagogies, through, for instance, literature circles (Leonard & Moore, 2014), confront the supposed neutrality and apolitical nature of mathematics teaching and learning (Martin et al., 2010), and acknowledge and work to unpack the complex intersectional nature of TMSRJ (Larnell et al., 2016).

Evolving Conversations

Our discussions and understandings about TMSRJ gatekeeping continue to evolve. Since recording our conversation and writing this manuscript, conceptual and public gatekeepers to TMSRJ efforts in the United States have become more prominent through open letters (e.g., Barak et al., 2022) that attempt to discredit non-status quo mathematics and public policies (e.g., Florida H, 2022) that aim to ban antiracist curricular resources (e.g., Florida H, 2022). Collectively, we continue to explore how backlash to TMSRJ, such as resisting non-binary framings of mathematics and reform efforts that center racial and social justice in mathematics classrooms, is both a product and perpetuation of whiteness (Cordero-Siy et al., in press). Individually, we are negotiating new professional identities and re-evaluating how to maintain and expand our anti-racist actions and commitments. Through these efforts, we aim to frame and conceptualize current gatekeepers so as to confront the backlash which limits opportunities to work toward social and racial justice in mathematics classrooms.

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Discussion And Reflection Enhancement (DARE) Post-Reading Questions

1. What are other gatekeepers that influence mathematics educators working toward antiracist mathematical spaces?

2. What influence do gatekeepers currently have on your efforts toward engaging in equity, social justice, and antiracist mathematics?

3. In what ways have you upheld these gatekeepers?

4. How are you challenging these gatekeepers? What is working and where do you have room for growth?

5. What does community engagement in your current role look like? How are you working to enhance these opportunities?

6. In what ways are you uplifting students' voices? Where do you have room to grow?