Missing the Brilliance of Scholars of Color: Mathematics Teacher Educator Discourse in a White Zone of Proximal Development

Ashley D. Scroggins, University of Colorado, Ashley.Scroggins@colorado.edu
Victoria Hand, University of Colorado, Victoria.Hand@colorado.edu
Tonya Bartell, Michigan State University, tbartell@msu.edu
Sunghwan Byun, Michigan State University, byunsun3@msu.edu
Beth Herbel-Eisenmann, Michigan State University, bhe@msu.edu
Courtney Koestler, Ohio University, Koestler@ohio.edu

Abstract: In this paper, we describe and critically examine how white mathematics educators participated in the perpetuation of mathematics education as a white institutional space and zone of proximal development. Following Martin (2008) and Leonardo and Manning (2017), whiteness is examined as a series of discursive moves that frame and guide activity among a group of mathematics teacher educators. The paper examines mechanisms through which white researchers, working with a racially diverse team on professional development (PD) for mathematics teachers, instantiated an institutional space of whiteness despite the expressed goal of all of the researchers and designers of the PD to interrupt sociopolitical injustice in mathematics education. The analysis uses empirical examples from a particular conversation about the PD design process that we argue discursively maintains whiteness as the overarching frame of the joint activity.

Keywords: equity, justice, mathematics education, whiteness

Mathematics education as a white institutional space

Equity has been an important, long-standing goal in mathematics education. Although efforts toward equity and justice in mathematics education through research and teacher education are making an impact on the field, this work remains situated within broader systems of privilege and oppression that support and constrain these efforts in various ways. In 2008, mathematics education researcher Danny Martin called on stakeholders in mathematics education research and policy to recognize the field as largely a white institutional space. Feagin and Moore (as cited in Martin, 2008) characterize white institutional space as ideologies and practices in a context, framed as "neutral" or "fair," that serve to maintain white supremacy. In this characterization, white privilege is maintained through mundane, transparent practices that operate (often) beyond the conscious attention of the individual actors involved in the activity. This view of white institutional space couples well with racialized conceptualizations of Vygotsky's (1978) zone of proximal development (Leonardo & Manning, 2017). As mathematics education scholars committed to equity and social justice, we take up this call to closely examine the ways in which our project space maintained white institutional space. We recognize that, as Leonardo (2004) argues, whiteness saturates everyday school life (and also our project work) and that one of the first steps to articulating its features is coming to terms with its specific modes of discourse. We must understand whether and how whiteness is operating in order to transgress existing boundaries and engage in explicit work to disrupt its function.

Discursive practices of whiteness

This paper focuses on work that is part of the Access, Agency, and Allies in Mathematical Systems (A³IMS) project, in which our project team set out to design and study a mathematics teacher professional development (PD) that explicitly attended to access, agency, and ally work as embedded components of equitable mathematical systems that support students' and teachers' opportunities to learn. This paper examines mechanisms through which some white researchers on our racially diverse project team instantiated and sustained an institutional space of whiteness through their discursive activity despite the expressed goal of all project team members to interrupt sociopolitical injustice in mathematics education. This paper, then, speaks to the question of how mathematics educators committed to equity and justice still perpetuate whiteness in their work and, thus, require additional, targeted efforts toward the continued dismantling of oppressive structures. Like Battey and Leyva (2016), we hope not just to name white privilege but to "document the institutional ways in which [w]hite supremacy in mathematics education acts to reproduce subordination and advantage" (p. 51). Specifically, this paper presents empirical examples, drawn from a particular conversation about the original

plans for part of the PD by the racially diverse research team, to illuminate how whiteness was instantiated and maintained as an overarching frame of the interactions taking place.

Theoretical and methodological approach

Here we draw on a range of literature from outside and within mathematics education to introduce and describe the key constructs that inform this study: race and racism, whiteness, white supremacy, white privilege, white institutional space, and white zones of proximal development.

Our project team has been comprised of 16 scholars at various times, in different stages of careers and with multiple areas of expertise. The five principal investigators on the research project were white. The scholars of color on the bigger project team were early in their careers and not yet tenured or were doctoral students. Yet, all of the project team had teaching experience and various expertise related to the PD design. The PD design team was made up of three white principal investigators, two white senior personnel, one African American and one white graduate student, and participation on this team was voluntary. It is important to note that although there is a danger in focusing solely on a single dimension of team members' identities (see, for example, Bullock, 2017), we believe strongly that a focus on race helps to illuminate longstanding racial injustice in the U.S. and in mathematics education. We also acknowledge "choosing" a racialized term to signify one's racial identity can be difficult, in part because this identity may not be consistent across contexts and the ways in which race intersects other socially-constructed concepts (e.g., ethnicity, nationality). Here we use race and professional status to illustrate the complexity of tensions present in white institutional spaces reified through of white zones of proximal development.

Across several contributions, Martin has referred to mathematics education and research contexts as white institutional spaces (e.g. 2008; 2013). To define white institutional space, Martin tied his early work to Moore (as cited in Martin, 2008, p. 27) to characterize four foundational elements around exclusion, framing, historical construction, and the assertion of neutrality. Martin (2008) argues that even "well-intentioned individual whites" have benefitted from the historical constructions of race that have produced and reproduced boundaries between whiteness and non-whiteness to create racial hierarchies to reward those who are socially constructed as white. Martin continued by adding that structural and institutional perpetuations of whiteness and white privilege also help to maintain white institutional space (p. 390). Given the presence of whiteness and white privilege within mathematics education, there is motive to view mathematics education and research-based work related to mathematics education as white institutional spaces.

Martin (2013) adapted his earlier definition of white institutional spaces to apply it to the context of mathematics education, characterized by (a) numerical domination by whites and the exclusion of people of color from positions of power, (b) the development of a white frame, (c) the historical construction of curricular models based on white thought, and (d) the assertion of knowledge production as neutral and unconnected to power relations (p. 323). Martin's characterization of mathematics education as white institutional space has influenced further investigation into areas mathematics education informed (e.g. Battey & Leyva, 2016; Stinson, 2017). Stinson (2017) argued that researching race in mathematics education without researching white supremacy in mathematics education is a strategic discursive practice and supports Martin's (2013) use of white institutional space and the encouragement to question the type of project and the interests being served by the project of mathematics education. Battey and Leyva (2016) stressed the importance of naming white institutional spaces, including their mechanisms of oppression, to provide those in the field of mathematics education ideas for combatting racist structures (p. 49). We aim to shed light on one particular white institutional space in order to share specific encounters with whiteness to support growth toward resisting structures of racism within the field of mathematics education.

Within the instantiation of white institutional space one mechanism for maintaining whiteness is what Leonardo and Manning (2017) call a white zone of proximal development that works against learning to advance the actual development of white people and maintains a white zone of proximal underdevelopment (p. 24). This application of whiteness extends Vygotsky's (1978) zone of proximal development, the space where the development of one person can be extended through the collaboration with a more capable peer via meditational tools. In this paper, speech, race, and professional status all are potential meditational tools. Therefore, we focus our analysis on discourse processes that mediated the goals of diverse team of PD designers and illustrate the complex interplay between racialized professional identities.

One transcript of a project team meeting was selected for the focus of this paper, since the topics discussed dealt explicitly with issues of whiteness. The interaction in this transcript took place at a whole group meeting in May 2016 during the second year of the project work, two months before the first week-long PD with the teachers occurred. This segment of the meeting was meant to allow team members of the research project who did not work directly on the design of the PD to give feedback to those who did.

We used Haviland's (2008) analytic framework for identifying white educational discourse to analyze discourse moves within the transcript that maintained or disrupted whiteness. Drawing on literature from critical whiteness studies, Haviland identified discursive techniques involved in 1) power-evasion and 2) affirming whiteness. With this framework, we each independently reviewed the transcript, marking instances of power-evasion, whiteness affirmation, and efforts seemingly aimed at disrupting whiteness occurred. Following multiple discussions of the discursive moves in the transcript, we jointly identified six key events from within the longer transcript for further examination. The selection of key events follows the qualitative research practice of choosing excerpts to aid in conceptualization of ideas (Erickson, 1985). The selection of these key events was not based on its adequacy to support analysis, but rather to help illuminate and interrogate what we consider to be instances of whiteness in this particular space.

Discursive mechanisms in a white zone of proximal development

Three primary discursive mechanisms functioned to maintain the discursive (and design) space as largely a white zone of proximal development situated in a white institutional space. The first mechanism coincides with Martin's (2008) first element of white institutional space: racial exclusion. In this episode of interaction, turns of talk, topic changes, and decision making were dominated by white members of the project team. The second mechanism is reflected in Martin's assertion that much of mathematics education continues to be guided by curricular models created and sustained by white elites. In this episode, materials, activities, and ideas used to build the PD, and the expertise that was assigned in the construction process, were often located within a white zone of proximal development, which reifies the white institutional space. The third mechanism stemmed from a conceptualization of "trust" and "readiness" related to white norms (and subsequent practices). These conceptualizations emerged in relation to the topic of whiteness deemed "difficult" to discuss with teachers and reflect power-evasive moves that maintained and sustained the white institutional space. We illustrate these three mechanisms below through brief abbreviated vignettes from each episode.

The complex interplay between race and professional status was prevalent in how more capable peers were acknowledged in conversation. This was evident in two ways concerning how scholars of color were invited into discussions. First, scholars of color from the project were invited only when the conversation turned to issues of race, despite their expertise in other areas, such as the design and implementation of PD. One white principal investigator commented on the PD design saying, "I feel like there's less of the focus on the self, and on whiteness and the history of whiteness in this community and the overlap between whiteness and mathematics. Maybe it is too much to do in a week, but I think it would be good to get other people's feedback on that. What do people think?" (May 2016 Transcript, Turn 165). Since the conversation was dominated by white scholars up until this point, this discursive move to solicit the feedback of "people" and "other people" was coded language for wanting feedback from scholars of color. Second, when scholars of color were brought into the conversation, only those prominent in the field outside of the project were referenced as expects. A white principal investigator (turn 275) requested more concrete and detailed suggestions for future changes to the PD design. "(275) If the thought is, we are really not getting at interrogating whiteness enough, then it would also be helpful to have some suggestions. Move this here or do this instead or make sure…" "(276) Or bring in [outside consultant who is a person of color]. Because I don't know the activities [they would do in their institutes focused on anti-racism]" (May 2016 Transcript, Turns 275-276). After the request, another white principal investigator (turn 276) quickly turned to the curricular materials and expertise from a scholar of color outside of the research group. References to outside experts and focus on limitations of project members tended to diminish the opportunity for the project team, especially the project members of color who brought varied expertise and experience to uncover and develop new sets of expertise.

Another way whiteness emerged was in the dismissal of contributions of scholars of colors in favor of white normative conceptualizations. For example, one African American researcher, a graduate student, offered a counter-narrative to the conceptualization of trust and its relation to risk-taking among teachers engaging in topics around equity and social justice advocated by the white researchers stating, "I feel like in the ways in which we're talking about these teachers in terms of not being ready for—I think it's a little premature" (May 2016 Transcript, Turn 186). They highlighted participants' identities as teachers who teach a particular racial group of students (predominantly African American children), which suggested that teachers (white or otherwise) could be ready for race-based conversations based on the context of their work and their connection to their students. This notion of being prepared for race-based conversation based on participants' caring relationship to students was raised again by another scholar of color later in this conversation, but again was not taken up among other participants.

The tensions we faced in attempting to transgress whiteness in the design of this PD are prevalent in the field of mathematics education research, particularly among white researchers who take a social justice

orientation to their work. We argue that the discursive mechanisms taking place within and reifying white zones of proximal development are ubiquitous in the current conditions of mathematics teacher PD, and require close attention by mathematics teacher educators. As a result, we must critically examine the lines of research that inform research goals and materials. As Aguirre et al. (2017) argue, it is important to find and draw on research by scholars of color, and to expand our views on what counts as research that relates to mathematics education. The research of scholars from less-dominant backgrounds should not be "tokenized" as solely related to issues of equity, but rather inform how we conceive of "knowledge" and the relations between mathematics, community and broader social issues. This calls for the application of more expansive understanding and acknowledgement of expertise and meditational tools in the design and implementation of mathematical learning experiences. Furthermore, mathematics education researchers should look beyond the scope of our discipline to fields in which ideas around race, racism, whiteness and white supremacy are more deeply theorized.

Relevant scholarly references

Aguirre, J., Herbel-Eisenmann, B., Celedón-Pattichis, S., Civil, M., Wilkerson, T., Stephan, M., … Clements, D. H. (2017). Equity Within Mathematics Education Research as a Political Act: Moving From Choice to Intentional Collective Professional Responsibility. *Journal for Research in Mathematics Education*, *48*(2), 124-147.

Battey, D., & Leyva, L. (2016). A framework for understanding whiteness in mathematics education. *Journal of Urban Mathematics Education, 9*(2), 49–80.

Bonilla-Silva, E. (2010). *Racism without racists: Color-blind racism and the persistence of racial inequality in America.* Rowman & Littlefield.

Bullock, E. (2017). Beyond "ism" groups and figure hiding: Intersectional analysis and critical mathematics education. In A. Chronaki (Ed.), *Proceedings of the 9th International Mathematics Education and Society Conference* (MES9, Vol. 1, 29-44). Volos, Greece: MES9.

Erickson, F. (1985). *Qualitative methods in research on teaching*. Occasional Paper No. 81.

Haviland, V.S. (2008). "Things get glossed over": Rearticulating the silencing power of whiteness in education. *Journal of Teacher Education, 59*(1), 40-54.

Leonardo, Z. (2004) The Color of Supremacy: Beyond the discourse of 'white privilege', *Educational Philosophy and Theory, 36*:2, 137-152.

Leonardo, Z., & Manning, L. (2017). White historical activity theory: toward a critical understanding of white zones of proximal development. *Race Ethnicity and Education*, *20*(1), 15-29.

Martin, D. B. (2008). E(race)ing race from a national conversation on mathematics teaching and learning: The national mathematics advisory panel as white institutional space. *The Mathematics Enthusiast*, *5*(2), 387-398.

Martin, D. B. (2013). Race, racial projects, and mathematics education. *Journal for Research in Mathematics Education*, *44*(1), 316-333.

Stinson, D. W. (2017). Researching race without researching White supremacy in mathematics education research: A strategic discursive practice. In A. Chronaki (Ed.), *Proceedings of the 9th International Mathematics Education and Society Conference* (MES9, Vol. 2, 901-912). Volos, Greece: MES9.

Vygotsky, L. S. (1978). Mind in society: The psychology of higher mental functions.

Acknowledgements