

DEVELOPING POLITICAL CONOCIMIENTO: TRAJECTORIES OF MATHEMATICS TEACHERS

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This paper focuses on the trajectories of two mathematics teachers in developing Political Conocimiento through one year of Professional Development (PD) on culturally responsive mathematics teaching. The PD was organized around teacher and student noticing, positionality, community partnerships and action research. The study found that the teachers' discourse practices shifted from whiteness pedagogies towards politicized notions of schooling, caring, and mathematics learning. The paper discusses the dominant ideologies that teachers reproduced in their discourses around mathematics education and interactions with students. It also illustrates the teachers' trajectories of Political Conocimiento through the deconstruction of the role that race plays in their positionalities, their classrooms, and school.

Keywords: professional development, Political Conocimiento, dominant ideologies, teacher education

Introduction

Mathematics teachers are increasingly being asked to engage in critical analyses to question and subvert dominant policies and practices in mathematics education that re-minoritize groups of youth and their communities. While some teachers have the opportunity to scrutinize mathematics education in preparation or professional development programs (Leonard et al., 2010), most teachers only have access to content and pedagogical knowledge (Kumashiro, 2013). This focus solely on dominant mathematics practices and techno-rational discourses in teacher preparation reinforces whiteness (Daniels & Varghese, 2020; Sleeter, 2017). Researchers like Gutiérrez et al. (2021) position this lack of opportunity for developing what they call *Political Conocimiento in Teaching Mathematics (PCTM)*, as a problem because schools and the system of mathematics education are necessarily political institutions.

This general lack of awareness among mathematics teachers is exacerbated by the fact that a majority of secondary mathematics teachers are from well-resourced, majority populations (in the US, for example, higher socioeconomic status whites). Mathematics teachers from dominant backgrounds, like most people in power, tend to be unaware of their biases against minoritized groups, and how systemic privilege and oppression are remade in mundane moments of everyday life, and thus, that teaching is political work (Sleeter, 2017; de Freitas, 2008; Shah and Coles, 2020).

This paper reports on the trajectories of two mathematics teachers in developing Political Conocimiento through a one-year Professional Development (PD) on culturally responsive mathematics teaching. The PD was organized around teacher and student noticing, positionality,

community partnerships, and action research. Our findings suggest that teachers' discourse practices shifted from whiteness pedagogies towards politicized notions of schooling, caring, and mathematics learning.

Theoretical Framework

Political Conocimiento is “knowledge that allows you to see how politics permeates everything we do” (Gutierrez, 2017, p. 20). This knowledge entails understanding that education is necessarily a political institution designed in part to subjugate others under the guise of promoting democratic ideals (Bishop, 1990; Freire, 1996). It also involves recognizing that educational reform often serves neoliberal ends instead of dismantling systems of oppression (Philip et al., 2019). This is particularly true in mathematics education, which tends to reinforce whiteness (Martin, 2013) and deficit perspectives of minoritized youth (Berry et al., 2014).

Political Conocimiento also involves close scrutiny of the self in relation to systems of power. Teachers' positionalities tend to shape the degree to which teachers are aware of themselves as cultural, and racial beings who organize the mathematics classroom based on their implicit perspectives and practices (Battey & Leyva, 2018). Without knowledge of self in relation to others, mathematics teachers may inadvertently reinforce systems of power they may be seeking to subvert (Louie, 2017)

Mathematics teachers who are developing Political Conocimiento become more attentive to white-centered approaches embedded in dominant ideologies and (discourse) practices, to notions of goodness, fairness, and competence organized around white norms (Louie, 2018), and to their role in cultural and racial processes systems of mathematics teaching and learning (Gutiérrez, 2017). Growth in awareness plays out differently for teachers depending on their positionalities (Rubel, 2017; Gutiérrez et al., 2021).

Literature Review

Preparation and professional development programs for mathematics teachers aimed at supporting cultural and political awareness have met with mixed results. Mathematics teachers from dominant backgrounds who have participated in these programs tended to maintain colorblind ideologies and discourses of whiteness (de Freitas, 2008, Gutiérrez et al., 2021) held the Black, Indigenous and people of color (BIPOC) students in their classrooms at a distance (Rubel, 2017), treated mathematics as a neutral subject that masks White privilege (Sleeter, 2017), and engaged in benign notions of caring (Bartell, 2011; Daniels & Varghese, 2020). Whiteness was a significant roadblock for teachers, as they sought to take up more critical perspectives. Analytic tools focused on culturally responsive mathematics teaching and supported productive reflection on political aspects of mathematics education (e.g., Aguirre & Zavala, 2013),

In conceptualizing Political Conocimiento, Rochelle Gutiérrez and colleagues (2013; 2017; 2021) have emphasized the importance of emotions and relationality. In treating mathematics teaching and learning as emotion-laden activities, teachers can strive to cultivate spaces of healing in which participants recognize their interdependence in building sustainable futures. At the same time, Matias and Zembylas (2014) caution that benign emotions of caring and pity are wrapped in whiteness and mask distancing and contempt for the “Other”. Instead, critical forms of care and compassion in mathematics education must confront deficit perspectives, challenge whiteness, and white fragility, and focus on political solidarity with minoritized students, families, and communities (Bartell, 2011).

A significant challenge supporting teachers in developing Political Conocimiento is the pervasiveness of neoliberalism in educational policies and practices. Yeh (2018) found that despite teachers' intentions to draw on students' cultural practices, their curricular planning was circumscribed by performance audits based on student test scores. While it is possible for teachers to creatively subvert these benchmarks, the tightly-bound and highly guarded system of mathematics education can make this challenging.

In this paper, we explore the trajectories of two mathematics teachers towards Political Conocimiento in a one-year professional development on culturally responsive mathematics teaching. These were our research questions:

- How did dominant ideologies around mathematics education manifest in teachers' discourses?
- How did these discourse practices shift over the course of the professional development?
 - In what ways did the shifts in discourse practices represent shifts in teachers' trajectories of Political Conocimiento?

Methods

This qualitative research study took place in the context of a professional development (PD) on culturally responsive mathematics instruction for secondary mathematics teachers in one school district. The PD comprised bimonthly meetings over Zoom and took place during the 2021-2022 school year. Teachers engaged with various activities and artifacts to support their development of political knowledge. Data collected for the study included video recordings of the PDs on Zoom, video recordings of interviews with teachers, and artifacts from the PD and teacher work.

Design of the Professional Development

The PD was thoughtfully designed to embrace multiple dimensions of noticing, anti-racist practices, and culturally responsive teaching. Its goal was to disrupt traditional notions of teaching and learning mathematics by engaging in critical explorations of teachers' identities and interconnectedness, fostering a collective consciousness rooted in shared experiences. Through intentional acts of noticing, teachers were encouraged to challenge the dominant discourse and critically reflect on their pedagogical praxis. Immersive reading discussions on subjects like anti-deficit noticing, antiracist education, and historical racism were employed to deepen their comprehension of equity and social justice in education. Student noticing surveys were employed as a means for teachers to gather insights from their students, noticing students' perspectives and identifying areas of improvement. Moreover, teachers contributed diverse artifacts—ranging from pictures to videos and personal reflections—that allowed them to share their observations with facilitators and teachers. Ultimately, the PD culminated in teachers constructing action research plans tailored to address specific problems of practice, empowering them to challenge their own biases and actively confront systemic racism.

Subjects

Carrie and Charlotte were two white, female, mathematics teachers who work at the same high school and have more than ten years of experience teaching mathematics. The demographics of the high school at the time was: 64% white, 14 % Hispanic, 11% Black, 8% two or more races, 2% Asian or Pacific Islander, and 1% Native American. Both taught three

mathematics classes that followed a tracking system: low, average, and high. Teachers reported that in their ‘high track’ class, most students were white, in the ‘average track’ class, the students were white and BIPOC, and in the ‘low track’ class, the majority were BIPOC students.

Positionality

The PD was led by the authors of this paper. The first author, Brenda Aguirre, identifies as a Latina international graduate student. She is a third-year Ph.D. student who for the last two years has been working as a facilitator and researcher of learning spaces that promote Political Conocimiento for mathematics teachers. The second author, Victoria Hand, identifies as a white, female mathematics education professor who while researching equity and mathematics for over twenty years continually grapples with her whiteness and colorblindness. The third author, Tarah Donoghue, identifies herself as a white, woman. She taught middle school mathematics for three years. She studies culturally sustaining pedagogies in math classrooms using an Indigenous epistemological framework. The fourth author, Victor Leos, identifies as a first-generation Latino graduate student. He is a second-year Ph.D. student who has spent the last two years working with math and science teachers in professional learning communities around equitable teaching practices and inclusive pedagogies.

Data Collection

Teachers’ discourse practices were captured through initial interviews, noticing interviews, transcripts of PD Zoom meetings, final interviews, and teacher PD artifacts such as reflection journals, action research plans, and collaborative jamboards.

Analysis

To analyze the data, the first author transcribed the PD sessions and interviews, read observational notes, and examined the teachers’ PD artifacts. In this process, she developed ideas and categories related to the learning opportunities teachers had around antiracist practices. The data was coded using Dedoose, with categories including power relations, whiteness, reform math pedagogy, tensions, teachers’ perceptions, critical discourses, emotions, and caring. The second author recoded a subset of the data and the coders sought interrater consensus around the codes. We went back to the coding process and ensured we followed the agreed-upon guidelines and criteria for coding. We discussed individual interpretations of the data, compared notes, shared thought processes, and identified any areas where our understanding diverged. We worked together to reach a consensus on the analysis.

Later, the data was recoded based on Political Conocimiento and dominant ideologies. These concepts were used as analytical frameworks to analyze the data collected from various sources. The initial interviews provided a baseline understanding of teachers’ perspectives around political issues in mathematics education and allowed the authors to identify any initial awareness. The noticing interviews enabled the authors to gain insights into how teachers recognized and responded to power dynamics, dominant ideologies, and antiracist practices within videos of mathematics classrooms. The noticing interviews captured teachers’ awareness and engagement with political conocimiento. The transcripts of PD Zoom meetings provided a rich source of data for analyzing discussions around articles read, shared experiences, students noticing surveys. The authors could observe how teachers addressed power relations, critically examined dominant ideologies, and discussed antiracist pedagogies. The final interviews provided an opportunity for teachers to reflect on their learning and level of awareness of

political issues in education. Finally, the authors analyzed various artifacts that provided concrete evidence of how teachers applied and integrated political *conocimiento* and confronted dominant ideologies in their teaching practice. For example, the action research plans demonstrated their intention to address power dynamics and challenge dominant ideologies, while collaborative jamboards served as visual representations of teachers' collective engagement with political *conocimiento*.

By using the concepts of political *conocimiento* and dominant ideologies as analytical frameworks across the different data sources, the authors were able to examine and showcase the ways in which teachers' initial understandings changed, how they recognized and addressed power dynamics, and the impact of the PD on their pedagogical practices. This analysis highlighted the teachers' engagement with political *conocimiento* and their efforts to challenge and transform dominant ideologies within their own teaching contexts.

Findings

The analysis revealed that after the second half of the school year, the two mathematics teachers experienced notable shifts along a trajectory of Political *Conocimiento*. Their learning trajectories are represented in three main themes: colorblind distancing, discourses of whiteness, and development of critical discourses. The first finding illustrates how the teachers described their "low-track" math classes in ways that ignored the hypersegregation of African American students and held them at arm's length. The second finding focuses on the values and ideologies that the teachers manifest in their discourse that reinforce the superiority of white people. The third theme traces the shifts from discourses of whiteness to critical discourses, where teachers start to notice or question their biases.

Colorblind distancing

At the beginning of the PD, Carrie, and Charlotte identified their respective "low track" classes as "challenging". Carrie described her "challenging" class as a "hard class with a tough culture", and Charlotte described hers as "combative and yucky". The teachers acknowledged that coming back from the Covid year was difficult for students in general, but both positioned their "low track" classes (in this case hypersegregated African American students) as particularly challenging.

Carrie, for example, shared at the PD how it felt like she and her students were on different sides, and that nothing she tried changed that dynamic:

...that one class that's pretty challenging this year ...it feels very much like the kids against the teacher. It feels like it's all of them against me, and that is a brand new feeling. I've been teaching for a very long time and I've never felt like that before. I've been trying all kinds of things to improve the culture of the classroom and the behaviors of the classroom.

In this quote, Carrie is portraying an entire class of students as against her. We view this move as a way of *distancing* herself from them and treating them as a singular body with shared motivation to oppose her teaching. Yet, classrooms are necessarily heterogeneous spaces, where youth as individuals have varied orientations, goals, and values. Ignoring this heterogeneity and treating the class as of one mind is a way of "othering". Additionally, to Carrie, changing the "tough" classroom culture is about changing the behaviors of the students, who she views are the ones creating the opposition. Locating the blame for an unhealthy classroom culture with students is a deficit move that ignores interactional dynamics. We note also that Carrie's

description of the dynamic in her classroom does not attend to issues of race and culture, but instead comes from a colorblind discourse.

Like Carrie, Charlotte also described her classroom as oppositional. In this case, she mentioned race, but not in terms of a racialized learning environment, and employed deficit discourses:

I do have several students of color that just put their heads down. I have a lot of kids that have opted out. I have twelve that would do absolutely nothing, or they pretty much do absolutely nothing. Like, I just can't get them to pick up a pencil. And, we had a few really big personalities of kids too. At the beginning, I think [it was] just kind of a toxic start.

Charlotte used the term “opting out” to describe the majority of students, in this case all of whom were African American, whom she viewed were not behaving appropriately (e.g., putting heads down, not picking up a pencil, having a big personality). She made a judgment call based on students' behavior that they were choosing not to learn mathematics in her classroom. In this case, again, we argue that the way Charlotte is positioning the African American students is both distancing and deficit. She is distancing herself from them by not accounting for the way that her class and the broader system of education may be harming them, and by treating their behavior as self-explanatory.

In both cases, we view the teachers' discourse to lack criticality and self-reflection about the ways their classrooms operate as racialized learning environments for African American students. The distancing that both teachers engage in is bound up in their whiteness (Rubel, 2017) and colorblind discourses of teaching. We examine other characteristics of their discourses of whiteness in the next section.

Discourses of whiteness in mathematics teaching

A second finding is that Carrie and Charlotte's discourses gravitated around white people being the norm. While Carrie centered her white students and their mathematics learning, Charlotte centered herself on the analysis of her classroom.

The PD involved teachers in interrogating dominant ideologies around race, culture, and mathematics. Teachers read an article about how a mathematics teacher concerned with equity challenged dominant ideas around smartness in her classroom. When discussing dominant ideologies around mathematics education, we started populating a jamboard with examples. Some common themes from the teachers were: meritocratic ideology, good scores as a proxy for intelligence, math as pure and objective, and math as a space that privileges certain types of knowledge, among others. After the jamboard activity, we asked if any teachers wanted to elaborate on one of the themes on our jamboard. Carrie started describing math as a space that privileges certain types of knowledge. In doing so, she used an example from her high track class:

I teach an advanced level class. They're eighth graders doing 10th grade math and so I've got a lot of really, really bright kids in there .. And, you know, there's still kids who are very smart in that class but don't get it as fast...I think it's interesting. The entire class is full of high achieving kids and yet they still are subscribing the same sort of ideologies that smart looks one way.

In this excerpt, Carrie elaborates on how the dominant ideology that smartness in mathematics looks one way affects “bright students” in her “advanced” level class. Importantly, the students in her “advanced” class were white. Carrie notes how some of the students in that

class do not get mathematics quickly because they accept dominant ideologies around smartness. We note here how Carrie's focus is placed on her white "advanced" class, versus her "low track" class, which is predominantly African American. The fact that students in the "advanced" class were white could have been an opportunity to reflect on the overrepresentation of white students in advanced level mathematics courses. Instead, Carrie's discourse centered white students who are "bright" and targets of dominant ideologies of smartness.

Similar to Carrie, Charlotte participated in discourses that centered whiteness. In Charlotte's case, she centered her experiences as a white person and teacher. For example, Charlotte wanted African American students to like her and to see how she was like them in some ways:

I think they [students] just assume that I've always had everything I ever needed which I mean I haven't struggled like a ton, but my parents were on food stamps when I was a kid. We didn't get to go on family vacations. Obviously it's not the same, ... and it's like it's hard to say, like, "I kind of can relate", but it's difficult sometimes to let your students know that you might be similar more similar than you think.

In this excerpt, Charlotte is attempting to explain the commonality between her experiences growing up with socioeconomic challenges and the experiences of African American students in her classroom. In naming her experiences with class oppression growing up but not contrasting them with the privileges she has had as a white woman, Charlotte is potentially manifesting white fragility. Here, she is hoping that the students in her class will relate to her experiences of poverty and find her more appealing as a teacher.

We see the discourses of white fragility manifest again in another PD session. In it, Charlotte commented on how the "low track" class challenged her authority and made it difficult for her to teach. She argued, "When I try to express vulnerability, they [students] come on to attack me. [I tell them], 'It's really difficult for me to do my job!'" And then they tell me I am not a very good teacher. [I tell them] "I'm on your side!" Charlotte's discourse in these utterances again reflects her white fragility around her BIPOC students. Charlotte became defensive when the students did not respond to what she viewed as acts of vulnerability with them, and she centered her pain and frustration. Similar to the excerpt above, Charlotte appears to have expected students to feel a connection with her and to support her as a teacher. In both sets of utterances, Charlotte's discourse brings the attention to her, as a white woman, focusing away from the experiences of BIPOC students.

Developing critical discourses in mathematics teaching

Major themes that arose from the last sessions of the PD and the final interviews indicated that the teachers were starting to take up critical discourses around positionality and race. Both Carrie and Charlotte's discourses showed awareness of themselves as white women, the impact their positionalities had on their students, and engagement in less colorblind analysis when referring to their "low track" classes.

In her last interview, Carrie shared a deep reflection on her journey in the PD, she pointed out her growth, her desire to continue learning, and how she enjoyed her "challenging" class, in her words:

I've grown a lot and I still have a lot to grow, but just understanding that my position in this world as a white woman and how I position myself in the classroom can impact my students. My hardest class, they've become my favorite class, they were the easiest to build relationships with, I enjoy them as people in a way that I didn't expect.

Similarly, Charlotte also demonstrated awareness of her whiteness. She recounted an interaction she had with her “low track” class:

I was like, “Tell me about your experience here.” [I said], “I know I’m white but I want to hear anything you have to say.” I think that’s the big part for our students. Most of their teachers are white. Most of their teachers don’t look like them.

In these utterances, Charlotte and Carrie demonstrated an awareness of their racial identities as white women and the potential impact it may have on their students. While Carrie emphasized in how this awareness has brought her to establish closer relationships with her students, Charlotte has noticed the lack of racial diversity among teachers and the need for more representation for students of color in her school. Both teachers have started a process of deconstruction of narratives around their “challenging” classes and their students of color. We argue that both discourse practices indicated movement along a trajectory of Political Conocimiento. According to Gutierrez (2017) teachers who have developed Political Conocimiento are able to deconstruct deficit narratives around students.

As Charlotte and Carrie began to acknowledge their whiteness, they engaged in deeper reflections on the role that race plays in their classrooms. Carrie, for example, noted that her black students consistently showed up late or in some cases didn’t show. In the following quote, she starts to wonder about the meaning of what she sees from a point of curiosity:

I have all of my [white] students show up on time, and then 5, 10, 20 minutes later I get a sea of black students that show up late every single day, and I think that is one of the most obvious differences in my [challenging] class. I don’t know what I think about that, but it’s interesting to me. And then, I have a few perpetual students who just don’t come, and they are all students of color the ones that I never see.

Carrie engages in a discourse that challenges colorblindness. For the first time, she was able to articulate the racialized experiences and behaviors of the students in her “challenging” classroom. By acknowledging that there is a difference in behavior between her white and black students, she is recognizing that race does play a role in her classroom. This utterance shows a departure from a colorblind approach that would ignore any racial disparities.

Charlotte, also notices the racialized experiences of students, but from another point of view:

I think at our school our white kids have opportunities such as tutoring. I don’t think a lot of my other kids ..it’s not something that they have. I think they [white students] just have more access to tools to feel more confident and to feel better at math. But they’re not actually better at math.

We note several points in the utterance. First, Charlotte continues to name white students explicitly, while using “other” to refer to students of color. In this way, Charlotte was still engaging in colorblind discourses. At the same time, she showed awareness of the privileges of her white students that BIPOC students did not have. Importantly, for Charlotte, this privilege is reflected in opportunities and resources that enable white students to “feel more confident and to feel better at math.” The word “feel” here is critical, because she is not arguing that the resources do produce these differences. The final utterance, “But they’re not actually better at math”, reinforces this interpretation, and signals that Charlotte is disrupting the discourse around mathematical identity, mathematical performance, and ability.

We argue that the critical discourses of both teachers around positionality and race show Political Conocimiento. For Gutierrez (2017) signs of Political Conocimiento development include: “the ability to deconstruct competing messages about concepts like equity, mathematics, and learning that circulate in society; consideration of not just one-to-one interactions but historical, systemic, and institutional aspects of schooling that affect particular students..” (p. 29)

Carrie’s discourse demonstrates an understanding of how her positionality as a white woman can impact her students, she acknowledges that there is a role her whiteness plays in her classroom. This awareness brings her to deconstruct her mathematics classroom from a neutral space to one mediated by race. She is also aware of the racial differences in her classroom, such as the different patterns of lateness among her students. This may indicate that she is aware of systemic and institutional factors that can impact student learning. Similarly, Charlotte’s discourse shows an awareness of the historical and systemic lack of representation of students of color in her school. She starts to question institutional aspects of her school such as the overrepresentation of white teachers as something that affects her students of color. She also recognizes the unequal opportunities and resources available to different groups of students, indicating an understanding of the institutional factors that can impact student learning.

Both Charlotte and Carrie demonstrated signs of Political Conocimiento development, including the ability to deconstruct competing messages about equity, mathematics, and learning, and an awareness of historical, systemic, and institutional aspects of schooling that affect students of color disproportionately.

Discussion and conclusion

The aims of this paper were to illustrate dominant (discourse) practices around mathematics teaching represented in two white female teachers’ narratives, and the teachers’ trajectories towards politicized forms of mathematics knowing. The paper drew upon on the concepts of Political Conocimiento for Teaching Mathematics (Gutierrez, 2013, 2017, 2021), dominant ideologies in mathematics education (Louie, 2018) and Whiteness (Sleeter, 2017) to examine the shifts in teachers’ discourse through participation in a culturally responsive math professional development.

Our findings regarding the teachers’ discourses validate extant research that mathematics teachers tend to engage in dominant ideologies that center whiteness, sustain colorblindness, and equate whiteness with smartness (Gutierrez, 2017; Louie, 2018). Mathematics teachers from dominant backgrounds, such as Carrie and Charlotte, tend to reproduce dominant, deficit ideologies in their discourses and teaching practices centering white students as the norm and positioning BIPOC students as the “other”. The study also identifies *particular* deficit discourses that the teachers took up, such as colorblind distancing (Rubel, 2017) and white fragility, and the ways these discourses manifest in everyday talk about classroom life. Finally, the study also reinforces findings from Gutierrez et al. (2021) that teachers tend to be race-evasive about their own identities and by confronting Whiteness and questioning the role of race in the classrooms and school they can gain political knowledge. This research also informs policy and decision making around professional development opportunities for mathematics teachers that focus on culturally responsive teaching and anti-racist practices by highlighting distinctions between dominant discourses and ones that are aligned with anti-racist ideologies.

References

Aguirre, J. M., & del Rosario Zavala, M. (2013). Making culturally responsive mathematics teaching explicit: A lesson analysis tool. *Pedagogies: An international journal*, 8(2), 163-190.

- Bartell, T. (2011). Caring, race, culture, and power: A research synthesis toward supporting mathematics teachers in caring with awareness. *Journal of Urban Mathematics Education*, 4(1), 50-74.
- Battey, D., & Leyva, L. A. (2018). Making the implicit explicit: Building a case for implicit racial attitudes to inform mathematics education research. *Toward equity and social justice in mathematics education*, 21-41.
- Berry III, R. Q., Ellis, M., & Hughes, S. (2014). Examining a history of failed reforms and recent stories of success: Mathematics education and Black learners of mathematics in the United States. *Race Ethnicity and Education*, 17(4), 540-568.
- Bishop, A. J. (1990). Western mathematics: The secret weapon of cultural imperialism. *Race & Class*, 32(2), 51-65.
- Daniels, J. R., & Varghese, M. (2020). Troubling practice: Exploring the relationship between Whiteness and practice-based teacher education in considering a raciolinguicized teacher subjectivity. *Educational Researcher*, 49(1), 56-63.
- de Freitas, E. (2008). Troubling teacher identity: Preparing mathematics teachers to teach for diversity. *Teaching education*, 19(1), 43-55.
- Freire, P. (1996). *Pedagogy of the oppressed* (revised). New York: Continuum, 356, 357-358.
- Gutiérrez, R. (2013). Why (urban) mathematics teachers need political knowledge. *Journal of Urban Mathematics Education*, 6(2).
- Gutiérrez, R. (2017). Political Conocimiento for teaching mathematics: Why teachers need it and how to develop it. S. E. Kastberg, A.M. Tyminski, A. E. Lischka, & W. B. Sanchez (Eds.). (2017). Building support for scholarly practices in mathematics methods. (11-37).
- Gutiérrez, R., Myers, M., & Kokka, K. (2021). Political Conocimiento in teaching mathematics: Intersectional identities as springboards and roadblocks. *Exploring new ways to connect*, 507.
- Kumashiro, K. K. (2013). *Against common sense: Teaching and learning toward social justice*. Routledge.
- Leonard, J., Brooks, W., Barnes-Johnson, J., & Berry III, R. Q. (2010). The nuances and complexities of teaching mathematics for cultural relevance and social justice. *Journal of Teacher Education*, 61(3), 261-270.
- Louie, N. L. (2017). The culture of exclusion in mathematics education and its persistence in equity-oriented teaching. *Journal for Research in Mathematics Education*, 48(5), 488-519.
- Louie, N. L. (2018). Culture and ideology in mathematics teacher noticing. *Educational Studies in Mathematics*, 97, 55-69.
- Martin, D. B. (2013). Race, racial projects, and mathematics education. *Journal for Research in Mathematics Education*, 44(1), 316-333.
- Matias, C. E., & Zembylas, M. (2014). 'When saying you care is not really caring': Emotions of disgust, whiteness ideology, and teacher education. *Critical Studies in Education*, 55(3), 319-337.
- Philip, T. M., Souto-Manning, M., Anderson, L., Horn, I., J. Carter Andrews, D., Stillman, J., & Varghese, M. (2019). Making justice peripheral by constructing practice as "core": How the increasing prominence of core practices challenges teacher education. *Journal of Teacher Education*, 70(3), 251-264.
- Rubel, L. H. (2017). Equity-directed instructional practices: Beyond the dominant perspective. *Journal of Urban Mathematics Education*, 10(2).
- Shah, N., & Coles, J. A. (2020). Preparing teachers to notice race in classrooms: Contextualizing the competencies of preservice teachers with antiracist inclinations. *Journal of Teacher Education*, 71(5), 584-599.
- Sleeter, C. E. (2017). Critical race theory and the whiteness of teacher education. *Urban Education*, 52(2), 155-169.
- Yeh, C. (2018). Democratic accountability in the neoliberal era: The politics of teaching and teacher education in mathematics classrooms. *Policy Futures in Education*, 16(6), 764-780.