

## *Editorial*

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# **The Sociopolitical Turn in Mathematics Education**

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Over the past decade, the mathematics education research community has incorporated more sociocultural perspectives into its ways of understanding and examining teaching and learning. However, researchers who have a long history of addressing anti-racism and social justice issues in mathematics have moved beyond this sociocultural view to espouse sociopolitical concepts and theories, highlighting identity and power at play. This article highlights some promising conceptual tools from critical theory (including critical race theory/Laterit theory) and post-structuralism and makes an argument for why taking the sociopolitical turn is important for both researchers and practitioners. Potential benefits and challenges of this turn are also discussed.

*Key words:* Equity/diversity; Race/ethnicity; SES; Social and cultural issues

We are at a moment in history when it is both very easy and very hard to attend to identity and power issues in society. For many mathematics education researchers, an emphasis on the social has already begun, causing us to rethink such common terms as “learning.” This shift in thinking lays the foundation for sociopolitical perspectives to inform education, to imagine new possibilities for relationships between people, mathematics, and the globe (Gutiérrez, 2002). At the same time, however, the research methodologies preferred in awarding grants and the publication outlets used to evaluate tenure/promotion of faculty continue to work against researchers taking risks in this arena. That is, focusing on issues of identity and power do not easily translate into large-scale policy recommendations or prescriptions for practices in the classroom. Similarly, for educators, the effects of a global society (e.g., the flow of goods and information) are present in the learners who arrive in our mathematics classrooms every day. Who can ignore the influence of media and technology on today’s youth? And yet, the standardization of the curriculum and the focus on high stakes tests (at least in the United States) leave teachers with little room to reflect upon how such students are constructing themselves and being constructed with respect to mathematics. The rush to move onto the next mathematical concept (or response to intervention procedure) almost ensures we will not ask *why* this concept? *Who* benefits from students learning this concept? What is *missing* from the mathematics classroom because I am required to cover this concept? How are students’ *identities* implicated

in this focus? Indeed, we are at a moment in history where we have ready excuses not to attend to issues of identity and power in mathematics education—after all, what does power have to do with a rational, universal field like mathematics? Yet, we are also at a time when not attending to identity and power means we are at best fooling ourselves about future prospects and at worst likely to ensure that mathematics education will be unable to realize its full potential for the 21st century.

### FRAMING EQUITY

It is undeniable that “talk” of equity has become more mainstream in the mathematics education community. A look at the programs for the annual meetings of the National Council of Teachers of Mathematics, Association of Mathematics Teacher Educators, National Council of Supervisors of Mathematics, and even the International Study Group for the Psychology of Mathematics Education shows a surge in themes and number of sessions devoted to understanding and promoting increased participation and achievement in students who historically have been marginalized by the school system. Moreover, the general public is firmly aware of an “achievement gap” as the media has cashed in on headline-worthy findings from the plethora of studies and related writings produced on the topic by individuals within and outside of mathematics education. Although the theoretical framings of equity in mainstream mathematics education tend to reflect equality rather than justice, static identities of teachers and students rather than multiple or contradictory ones, and schooling rather than education (Gutiérrez, 2008a; Gutiérrez & Dixon-Román, in press), the increased attention to equity-related issues is palpable.

Alongside this heightened interest in equity is a parallel trend of wanting to understand the social nature of teaching and learning. Sociocultural theories, once seen as on the fringe of a mainly cognitive field, now take their place squarely within mainstream mathematics education journals like *JRME*. Concepts such as “communities of practice,” “learning as participation/belonging,” and “out-of-school mathematics” are being used by researchers who do not necessarily identify with an equity stance or concern for social justice/transformation. A shift toward focusing on social issues has allowed us to uncover the importance of students and teachers needing to belong to something larger and for changes in one’s identity to serve as evidence of learning. That is, the concern for the individual (and related cognitive functioning) no longer is the central point of learning or teaching under a sociocultural lens. As such, it has opened doors for researchers to study classroom culture, participation structures, socialization processes, and teacher professional development in whole new ways. Today, meaning, thinking, and reasoning are seen as products of social activity (Lerman, 2000). Teachers who long ago saw beyond the utility of outside “experts” entering schools for a 1-day workshop on improving student learning without first trying to understand the local context of teachers’ work can attest to the shift in thinking that now has the potential to position teachers as internal experts who, in part, can professionally develop each other.

Even so, many researchers who have dedicated their work to understanding and advocating for anti-racism, social justice, and transformation have moved beyond using the kinds of sociocultural tools that draw primarily from cultural psychology to highlighting identity in social interactions; they privilege the voices of subordinated groups and forefront the politics and power dynamics that arise from sites of interaction. In this work, a shift has occurred from examining school structures and institutions to examining discourses and social interactions. This is not just about understanding students' identities in some kind of developmental, linear trajectory, or deterministic manner. It is about how identities are (re)constructed in spaces and moments. In this work, questions shift from what do American Indian students know/learn in mathematics to what forms of power and authority are enacted in determining what American Indian students learn and from whose perspective do American Indian students learn.

Just as a shift to sociocultural theories has led to new framings of persistent problems (and therefore potential solutions),<sup>1</sup> so, too, do critical perspectives offer new insights for researchers and practitioners. For example, research by feminist scholars in the 1970s and 1980s highlighted the ways in which studying the problem of girls engaging in mathematics needed to be turned on its head. It used to be common practice that researchers concerned with gender inequities in mathematics education would focus their efforts on such things as documenting the differences in achievement and learning strategies between boys and girls, exploring the cognitive strategies that helped boys successfully negotiate the math classroom and the mathematical tasks they were presented, and describing the different levels and nature of "confidence" between the genders. Such framings of the "problem" and associated research methodologies produced findings and policies that basically amounted to trying to get girls to become more like boys—something most people could now recognize as far from equity. And yet, similar framings of the "problem" exist today in mathematics education's preoccupation with the achievement gap, indicating much more work could benefit from adopting a sociopolitical perspective.

The purpose of this article is not to do an exhaustive review of the work that has been done on identity and power issues in mathematics education.<sup>2</sup> Rather, I intend to highlight with selections what this sociopolitical turn means for mathematics education and why taking such a turn might be fruitful for the field. I argue that it is from the views of subordinated individuals and communities that we will learn

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<sup>1</sup>See Ellis and Berry (2005) for an argument about how moving from a procedural-formalist paradigm to a cognitive-cultural paradigm has influenced our understanding of reform mathematics—shifting from questions of whether reforms work to what might such reforms entail?

<sup>2</sup>For thorough reviews of the treatment of race, culture, and power in mathematics education, see for example Diversity in Mathematics Education Center for Learning and Teaching (2007), Gutiérrez (2002), Martin (2009), Mellin-Olsen (1987), Nasir, Hand, and Taylor (2008), Stinson (2008) and for discussion and for examples of post-structuralism/postmodernism in mathematics education, see Brown (1994), Brown and McNamara (2005), Ernest (1994, 2004), Stinson (2006, 2008, in press), and Walshaw (2001, 2004, 2007, in press).

how to rethink mathematics education. Along the way, I will identify some of the advantages and difficulties in adopting a sociopolitical frame of mind.

### WHAT IS THE SOCIOPOLITICAL TURN IN MATHEMATICS EDUCATION?

A shift in view to include sociocultural theories is partly what Stephen Lerman (2000) was referring to in his argument that mathematics education has made the social turn. Lerman suggests that the origins of this social turn are in three general fields outside of mathematics education—anthropology (from, e.g., Lave), sociology (from, e.g., Walkerdine), and cultural psychology (from Nuñez; Crawford). For these researchers, knowledge and identity are intricately linked and situated in specific practices.

At the time, Lerman's meaning of the term "social" went beyond the layman's definition of involving social beings and interactions and included the consequences for addressing hegemony in society. However, not all projects drawing on sociocultural concepts today address issues of power.<sup>3</sup> In fact, several scholars have clearly demarcated research that is sociocultural (with underlying goals of enculturation) from that which is political (with underlying goals of emancipation).<sup>4</sup> Regardless of the focus of a research project, the fact that mathematics is a human practice means it is inherently political, rife with issues of domination and power, just like any other human practice. So, while many mathematics educators are comfortable with including social and cultural aspects in their work, most are not so willing to acknowledge that teaching and learning mathematics are not politically neutral activities.

I use the term *sociopolitical turn* to reference a growing body of researchers and practitioners who seek to foreground the political and to engage in the tensions that surround that work. The sociopolitical turn signals the shift in theoretical perspectives that see knowledge, power, and identity as interwoven and arising from (and constituted within) social discourses. Adopting such a stance means uncovering the taken-for-granted rules and ways of operating that privilege some individuals and exclude others. Those who have taken the sociopolitical turn seek not just to better *understand* mathematics education in all of its social forms but to *transform* mathematics education in ways that privilege more socially just practices.

A variety of perspectives can be considered part of the sociopolitical turn. Here I discuss three that have garnered greater attention in mathematics education in the past decade. Regardless of whether researchers name these theoretical perspectives as such, it is in adopting the stance that politics are always present that is key.

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<sup>3</sup>For example, Atweh et al. (2001) cluster psychological, political, and social perspectives in one section.

<sup>4</sup>See, for example, Greer, Mukhopadhyay, Powell, and Nelson-Barber (2009), Mukhopadhyay and Greer (2001), Valero (2004), and Walshaw (2007).

## CRITICAL MATHEMATICS EDUCATION

Critical theory, with its roots in the Frankfurt School, has influenced greatly the development of critical pedagogy and resulting forms in mathematics education: critical mathematics education (Frankenstein, 1989, 1990, 1995, 2009; Powell & Brantlinger, 2008; Skovsmose, 1994, 2004) and social justice mathematics education (Gutstein, 2003; 2006). Two of the main goals of critical mathematics are to (1) develop within learners “conscientizacão” (a kind of political awareness) that allows an individual to recognize her or his position in society and as a part of history (Freire, 1987) and (2) motivate individuals to action. Conscientizacão is produced through one’s ability to analyze society from a political point of view, incorporating that view into one’s identity, and being able to identify injustices in the world. In mathematics, this has translated into learners being able to make sense of data in ways that help them see the humanity behind the numbers and to use mathematics as a tool for exposing and analyzing injustices in society and as a means for convincing others of a particular (often nondominant) point of view.

In this line of work, the meanings that students make of quantitative data are partly influenced by the forms of quantitative data presented (Frankenstein, 2007). Learners as active inquirers and participants in a problem-posing dialogue are important parts of critical mathematics education. Through dialogue, learners are given opportunities to express themselves and act on their knowledge. In this way, students are offered a greater number of choices in how they can interact as citizens. Much has been written in this area in mathematics education lately, especially as it pertains to curricular reform (e.g., social justice mathematics projects), however, the field continues to evolve to consider broader notions of pedagogy and stance (Gregson, 2007, 2008; Gutstein, 2006; Powell & Brantlinger, 2008). Moreover, practitioners and researchers who seek to understand their place both in society and history and aim to challenge the status quo reflect the growing field of critical mathematics education.

## CRITICAL RACE THEORY AND LATCRIT THEORY

Although many forms of hegemony exist in our global society, racism is a particularly prominent form in the United States, with a long history of positioning African Americans, Latin@s,<sup>5</sup> and American Indians as inferior and/or deviant.<sup>6</sup> As such, some scholars have found an explicit focus on race/racism/racialization (not just social justice) important to their research endeavors, applying conceptual

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<sup>5</sup> I use the @ sign to indicate both an “a” and “o” ending (Latina and Latino). The presence of both an “a” and “o” ending decenters the patriarchal nature of the Spanish language where it is customary for groups of males (Latinos) and females (Latinas) to be written in the form that denotes only males (Latinos). The term is written Latin@ with the “a” and “o” intertwined, as opposed to Latina/Latino, as a sign of solidarity with individuals who identify as lesbian, gay, bisexual, transgender, questioning, and queer (LGBTQ).

<sup>6</sup> Latin@s now outnumber African Americans as the largest “minority” group in the United States (US Census Bureau, 2010); the growing number of mixed-race individuals is shifting the dialogue on the relationship between race and identity.

tools from critical race theory (CRT) (Ladson-Billings & Tate, 1995) and critical studies. Education scholars outside mathematics have long highlighted the ways in which racism operates at many levels: individual, institutional, societal, and global/epistemological (Scheurich & Young, 1997). Drawing from Matsuda et al. (1993), Dixon and Rousseau (2006) offer some central tenets of CRT, including recognizing that racism is endemic to American life; rejecting dominant legal claims of neutrality, meritocracy, and objectivity; maintaining an interdisciplinary grounding; requiring a contextual/historical analysis; assuming racism contributes to the construction of dis/advantage that people experience in society; attending to the experiential knowledge that people of color have; and seeking to end racism. CRT seeks to privilege the voices of scholars of color and the experiences of students and teachers and to work against popular discourses that suggest such experiences are subjective, illegitimate, or biased. As such, common conceptual tools are counter-narratives and storytelling. In 2005, Dixon and Rousseau suggested that even 10 years after the introduction of CRT into education, efforts to operationalize the conceptual tools for understanding and deconstructing race in society are only slowly developing. Yet, over the past few years, a growing interest in mathematics education has emerged.<sup>7</sup>

Latin@ critical theory, also known as LatCrit theory, is similar to critical race theory in its goals of transformational resistance. However, LatCrit theory also focuses squarely on the relationships between racism and other forms of subordination: through sexuality, language, immigration status, and phenotype (Solórzano & Delgado Bernal, 2001; Bernal, 2002; López, 2006). In LatCrit theory, transformational resistance can occur in the form of big acts, such as protests that create solidarity in a movement or in small acts that help validate one's worth and dignity when feeling oppressed (e.g., speaking out at a public meeting, telling oneself that an administrator does not speak for you or some "natural" order of things). A key aspect here is that resistance does not necessarily mean a person acts in a way that is visible or that presumes a lack of participation in schooling (Davidson, 1997; Fernández, 2002; Flores & Garcia, 2009). For those using LatCrit theory, social activism is an important part of education and testimonios form the basis of the stories that people tell about themselves. Similar approaches considering other intersections include Femcrit, Tribalcrit, Asiancrit, and Whitecrit. In all of these CRT forms, there is acknowledgement that ranking the oppressions is not the goal (Yosso, 2005).

Although a plethora of writings have not been produced within mathematics education using a CRT framework, those who do draw on a CRT or LatCrit framework in education offer convincing claims about the value of deconstructing race/racism in particular as a means to highlight whiteness as property and its relation to "normality," to value the strategies and strengths of people of color, to highlight

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<sup>7</sup>For a more comprehensive look at the causes, consequences and manifestations of race, racism, inequity, and the dynamics of power and privilege in schooling, see Dixon and Rousseau (2006); Parker (1999); and Taylor, Gillborn, and Ladson-Billings. (2009) For specific connections to mathematics using a CRT framework, see for example, Berry (2008), Martin (2009), Rousseau and Tate (2003), and Stinson (2008).

community wealth, and to challenge commonly held beliefs about a racial hierarchy or a neutral society.

## POST-STRUCTURALISM

Although many mathematics educators have heard of critical and social justice mathematics and possibly critical race theories, fewer are likely to be familiar with post-structuralism. Yet, post-structuralism offers additional theoretical tools for those who have adopted a sociopolitical stance. Aligned with sociocultural theories, a post-structuralist view considers the individual not as the source of his or her own meaning, reasoning, knowledge, and action, but rather, as a product of discourses (Foucault, 1977, 1980; Peters & Burbules, 2004; Walshaw, 2007). That is, the meanings that people make of themselves and of their world are the result of the political struggles they undergo as they negotiate discourses. Here, discourses mean much more than talking and words. Discourses include institutions, actions, words, and taken-for-granted ways of interacting and operating. So, in some ways, discourses can be thought of more like paradigms in which we operate. Discourses reflect a particular point in history, including specific relationships between people, knowledge, and agency; they come to define what we think of as “normal.” For example, the achievement gap is one kind of discourse that is prominent in U.S. mathematics education today. It is what people take as the normal state of things because it has been repeated and reported upon in so many ways.

The importance of understanding discourses in this way is that they produce “truths.” They do not just reflect some natural order of the world; rather they structure the world. Take, for example, the notion of “success” that is used in reference to students. Most mathematics education researchers and practitioners would agree that one driving force in our work is for students to be successful. Yet, what constitutes success is largely driven by discourses of achievement and proficiency on standardized exams, tangible outcomes that can be measured in some way. A post-structuralist view works against singular meanings and truths such that concepts like “success,” “proficiency,” “achievement gap,” even “mathematics” are now open for debate. Unless learners and practitioners have the means to challenge these discourses or re-inscribe them with other meanings, they can come to believe they are successful or unsuccessful based on the discourses that operate in schooling practices. As such, they may evaluate themselves (often unconsciously), perhaps even rein in particular behaviors so as to be in line with what we think of as habits of successful learners or practitioners (a form of internal surveillance) (Foucault, 1977). Rarely do our definitions of success include self-actualization—the idea that we should be allowed to become better people by our own definitions, not just those prescribed by schooling. That is partly why discussions of identity and power are so important—because the goals we have for students may be disconnected from the ways in which they see themselves now or in the future. And, yet, even in constructing and privileging certain truths over other possible ones, discourses are malleable—subject to outright rejection or (re)inscription (Butler, 1999).



That is, teachers who have adopted a sociopolitical stance may decide not to judge their success only on whether they close the achievement gap (Gutiérrez, 2009) but also look for ways in which students are being creative and imaginative when doing mathematics or for when students see a more positive relationship between themselves, mathematics, and their futures. One difference in the way discourse is interpreted by Foucault is that unlike other theories that imply an overarching metanarrative, where people are oppressed by the narrative, post-structuralism ascribes more agency to individuals in recreating or shifting meanings of the discourse.

From a post-structuralist point of view, knowledge and power are inextricably linked. That is, because the production of knowledge reflects the society in which it is created, it brings with it the power relations that are part of society. What counts as knowledge, how we come to “know” things, and who is privileged in the process are all part and parcel of issues of power. Here, power is not a possession but is circulated in and through discourses. Educational practices allow for particular forms of knowledge to be produced, thereby determining legitimate participation.<sup>8</sup> For example, when schools demarcate which algorithms are valid when learners are asked to show their work, the practice can lead to immigrant students discounting the knowledge of their parents who have learned mathematics in other countries, even if those “foreign” algorithms are correct.

## SOCIOPOLITICAL CONCEPTIONS OF IDENTITY AND POWER

One might ask: why the fuss about identity and power if those terms are already starting to be used in mainstream mathematics education? Don’t all teachers want to empower their students and doesn’t that require at some point attending to their identities? The answer lies partly in who defines these terms, how these terms are being used, and for what purposes. That is, these terms mean different things to different people, partly because people have different reasons for including them in their research and everyday work.

### *Identity*

The term *identity* in mainstream mathematics education research often is used to mean a cultural marker of students or teachers. Many mathematics education researchers like to describe a study as taking place in a context that has some meaning because of the learners who are served. They might say something like, “This project is a case study of one teacher’s approach to engaging her Filipino students in reform mathematics.” However, in many cases, what it means to be Filipino; how students’ interpret the data or make meaning of classroom practices; how students are positioned in mathematical practices; and how *this* teacher and

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<sup>8</sup>For a good introduction to post-structuralist accounts of mathematics education, see Walkerdine (1988), and Walshaw (2004, 2007).



her students fit into a broader discourse about the politics of language, racism, sexism, and teaching and learning at this particular point in history are issues that are never discussed.<sup>9</sup> Instead, researchers might move on to examine the specific practices the teacher uses to teach and perhaps the meanings those practices hold for that teacher, offering findings and potential implications for future research and teaching.

If the teacher is “successful” and students learn the requisite mathematical concepts, the authors of such research might conclude that these particular teaching practices are useful for other teachers of Filipino students. If the teacher is unsuccessful, the authors might focus on the injustice of such practices, the subordination of students in the process of schooling, and students’ unfair access to “high-quality” teachers. For those who embody a sociopolitical stance, both of these major claims may have some merit but also reflect several flaws in research, particularly seeing identity as a fixed, overarching metanarrative, owned by the individual.

The important point is that a sociopolitical perspective challenges whether the identities presented in the research project align with the ways in which educators and/or learners who are participants in the project would choose to describe themselves. In different contexts and at different moments, Filipin@ learners and their teachers may find other features of their identities more salient to their work or interactions with others.

As previously mentioned, these terms, once introduced, can end up serving as nothing more than a classification system, a common trend in research that employs an achievement gap lens (William, 2003). More often than not, these dividing practices make it difficult to see points of solidarity. What is hidden in using ethnicity to signify identity is who gets to decide how identity is being defined and employed. Moreover, by continuing to use static cultural markers, many mathematics education researchers are complicit in the practice of constructing brown and black bodies in a deficit and overly simplistic manner.

In contrast to this view, researchers and practitioners who espouse a sociopolitical frame of mind (in particular post-structuralists) see identity as something you do, not something you are. This kind of performativity (Butler, 1999) occurs because all learning and knowledge is situated in social interaction. That is, an individual’s identity is partly in his or her control and partly in the hands of others who seek to define/create/act themselves. As an individual, I can project a particular image of myself by the things I say (to myself and others) and the ways I interact, but others also participate in my identity by interpreting (through their own lenses) the meanings of my words and actions.

Within mathematics education, Sfard and Prusak (2005) make distinctions between actual and designated selves, suggesting that the goal in learning should be to narrow the gap between these two selves. Yet, to the uncareful reader, the term “actual” self can imply a kind of truth about the self. In fact, the “self” and “other”

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<sup>9</sup>The question of what it means to be Filipin@ is important. In México, the mix of Spanish and indigenous blood is considered Mestizo while that same mixture of Spanish and indigenous blood in the Philippines is considered Asian (Rodríguez, 2003, p. 15).

are co-constitutive (Anzaldúa, 1987; Buber, 1970). I find the work in Latin@ studies to be more useful in this arena.

Norma Alarcón (1996) refers to the “subject in process” to capture how marginalized people reject a determined/predictable identity. For Alarcón, an individual is always in development, but not in a linear or unidirectional way. There is no beginning or end. For Chela Sandoval (1991) these “tactical subjectivities,” where Mestizas negotiate between and amongst the different narratives that are being written about them, create a “differential consciousness”—a shattering of the unitary self, a space that maintains contradictions and ambiguity, thereby allowing a mobile form of identity to take hold. Similarly, for Anzaldúa (1987), the “herencia de Coatlicue” (ongoing state/process of breaking free from the old boundaries of oneself to develop new ones) is an important process in the creation of self. That is, groups need to constantly highlight the differences between themselves and others to create collectivity while also bridging those differences so as to avoid further oppression. In mathematics education we recognize that learners, practitioners, and researchers are constantly creating themselves—writing themselves into the space of education and society as well as drawing upon and reacting to those constructions.

Because individuals participate in varying communities and discourses over time, identity is necessarily dynamic, multivocal, even occasionally contradictory. The self, therefore, is a collection of interconnected identities constituted in practices such that any given practice positions an individual through and in race, class, ethnicity, sexuality, gender, religion, language, and so forth. For example, I am a Chicana<sup>10</sup> researcher, mother of three children in the public schools, wife, daughter, vegetarian, bilingual citizen, yoga enthusiast, teacher-educator, activist, and so on. None of these identities are mutually exclusive or completely overlapping. Even given this multivocality, a person’s sense of self is tied up in the discourses that he or she participates in (historically and in present day), a kind of amalgamation in an ongoing process. So, things that have occurred in a person’s past are not disconnected from the present or the imagined future.

The importance of all of these views is that the individual is both greatly influenced by and greatly influences the taken-for-granted rules and institutions in mathematics education. In terms of broader politics, identity does not just happen, it happens for a reason. As mathematics education researchers, we need to ask: under what circumstances are identities (e.g., of learners, educators, families, communities) constructed, and whose interests do those identities serve?

### *Power*

Just as identity has taken on many meanings in mathematics education, so, too, has power. For many in mainstream mathematics education, power is related to one

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<sup>10</sup> The term Chicana reflects a political stance and refers to persons of indigenous origin who claim their homeland (Aztlán) in the southwest United States and northern part of México before the U.S./Mexico border was constructed. I did not cross the border; the border crossed me.

of two major constructs: (1) the *power of mathematics* or (2) the power associated with *being successful in mathematics*. The first of these two ideas, the utilitarian view of mathematics, is implied in many policy documents and curricular textbooks. The argument goes something like this: *mathematics, as a rational, universal, and logical discipline is located in a unique position to be the ultimate arbiter of truth. Its ability to model the real world and to maintain a kind of internal certainty gives evidence of this privileged and earned position. Something proven with mathematics is seen to have final say.* This concept of power is the foundation of assertions that learning mathematics gives students power in society (Malloy, 2002). It is as if mathematics carries with it something separate from humans that can be conveyed to individuals, thereby affording them a more powerful view of the world.<sup>11</sup>

Because mathematics has been constructed in society as a valued, high-status field, arguments that are not mathematizable are easily dismissed. Such arguments are said to be charged with politics, ideologies, and personal interests. Yet, those who have adopted a sociopolitical stance in their work recognize that it is this mathematical formatting (Christensen, Skovsmose, & Yasukawa, 2008; Skovsmose, 2004), reducing a phenomenon to its primary (measurable) characteristics, that erases part of reality, leaving it a fiction. This fiction then becomes the means for domination. Elsewhere I have argued that rather than perpetuating the idea that mathematics has an intrinsic power, we might want citizens to develop the ability to discern for themselves which kinds of questions can be answered using mathematics and which cannot (Gutiérrez & Dixon-Román, in press). By thinking critically about the benefits of and drawbacks to formatting realities with mathematics, we might be more deliberate in how and when we want to use/create mathematics in our everyday lives.

Another version of power often used in mathematics education research relates to the status conferred on those who are successful at mathematics. That is, just as mathematics is often perceived as an arbiter of truth, it follows that an individual who masters the discipline should be imbued with a sense of higher esteem, intelligence, and, for recent immigrants, even “insider” status (Sfard & Prusak, 2005). With the ability myth strong in the United States, most citizens who do not meet with success in mathematics early in their lives assume they just are not smart enough to have mastered it. Schooling tends to perpetuate the discourse that some people are good at mathematics while others are not by tracking students into particular forms of mathematical practices based upon perceived ability and highlighting the winners of the system as evidence that the system works. This gate-keeping view of mathematics is present in the many forms of testing and credentialing that are used in further schooling and work. An individual who is interested in pursuing graduate work in the arts and humanities must take an exam that

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<sup>11</sup>I do not mean to imply that learning mathematics does not offer a different view of the world. However, that view is partly tied up in the practices and meanings that are associated with doing mathematics for any given individual. There is no “absolute” form of mathematics that can be transferred to others.

evaluates analytic and quantitative reasoning skills in addition to reading comprehension. High scores on the analytic and quantitative portions of an exam can confer intelligence, even if not seen to relate to an individual's field of study. And yet, those in mathematics-related fields are not required to show the same levels of competence in fields like English or reading comprehension.

In both of these definitions of power, it is a tangible thing that is conveyed to an individual through a process, often learning. The fact that mathematics in these two definitions is all positive and unchanging is never questioned in many projects involving mathematics education. Teachers are often unknowingly complicit in this arrangement that assumes mathematics provides a useful tool that all students should *want* (or need) to learn. Although some educators may claim there is inherent beauty in mathematics, for example making things in the world visible that without mathematics are not, students do not always see that mathematics is beautiful in this way. More often than not, school mathematics serves to obscure things that otherwise were previously visible to them. Even projects that focus squarely on equity issues in mathematics education often have an underlying deficit perspective in terms of trying to get more (and different kinds of) students to learn mathematics. Elsewhere, I have referred to this perspective as “people need math” and have countered that claim by suggesting that, in fact, “math needs people” (Gutiérrez, 2002, 2008b).<sup>12</sup>

However, a sociopolitical frame of mind challenges these two (and other) popular definitions of power in mathematics education. Researchers concerned with the philosophy and sociology of mathematics have made convincing arguments against a rational, universal logic that allows mathematics to operate outside of individuals, morals, or power relations (Clarke, 2001; Ernest, 1994, 2004; Fitzsimmons, 2002; Restivo, 1992, 2007). Even mathematicians, when asked, offer a multitude of definitions of mathematics, including definitions that recognize human nature in its creation (Burton & Morgan, 2000). By highlighting the fact that mathematics as a research field is constantly changing and allows for contradictions (e.g., catastrophe and chaos theory, undecidability, uncertainty, and fuzzy logic) researchers in this area have started to raise questions about the very nature of mathematics (not just mathematics education) and its relation to power.<sup>13</sup>

Moreover, those who espouse sociopolitical perspectives tend to move beyond Marxist views of power operating from above, power as the possession of specific individuals or groups (Yosso, 2005), or power as controlling individuals in some kind of predetermined manner (McCarthy, Crichtlow, Dimitriadis, & Dolby, 2005). In fact, because power relations are part of our everyday lives, we participate in the construction and circulation of power.

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<sup>12</sup> See also Walkerdine (1988) for how this perspective relates to rationality and the subordination of girls.

<sup>13</sup> See for example, Borba and Skovsmose (1997) as well as Skovsmose and Valero (2001) for a good discussion of this underlying myth of a utilitarian mathematics and D'Ambrosio (1990, 2006), Powell and Frankenstein (1998), and Gutiérrez (2002) for a discussion of a more humanizing mathematics.

These sociopolitical definitions of identity and power offer an important move against the kinds of binary categories that have proven problematic in the past. It is overly simplistic to conclude that *either* students learn *or* are alienated; *either* teachers are complicit in the racist practices of schooling *or* they are not. For example, in recognizing that identity is produced through power relations, that it is an ongoing act of cultural production, and that power is not the sole property of one group opens up opportunities for us to see how learners and educators constantly shape shift, how they come to define mathematics teaching and learning, and how they can adopt lines of solidarity and responsibility for one another. The intention of creating solidarity can be carried out without ignoring the material realities of society and a schooling system based on capitalism. For example, because the process of racialization is relational (i.e., one is always positioned with respect to others), research that investigates the ways that African American, Latin@, and American Indian students are raced/positioned opens the door for us to see that *all* students are raced/positioned. As such, a focus on identity and power is appropriate for understanding and improving the conditions not just for marginalized students, but for all students.

So, a study of African American preservice mathematics teachers learning to teach social justice curriculum projects does not address identity because these teachers are introduced as African American. Naming these teachers as African American presents the danger of reinscribing static categories. For identity to be taken seriously, we must also see some analysis with respect to how they are positioned in doing this work, how they position themselves in doing this work, and what meanings they ascribe to the work that they do. That is, how is being African American and teaching social justice mathematics for these particular teachers different from other teachers engaged in similar activities? How do their students' identities interact with and inform the teachers' identities and practices? How does teaching as an African American educator *at this point in history* inform and make salient particular aspects of one's identity?

Furthermore, the fact that these teachers are learning to teach social justice projects (a practice that theoretically seeks to transform) does not automatically mean this study is addressing power. Again, some level of investigation must be taken to unveil how power operates in this setting. If the teachers are learning this curriculum in an uncritical manner; if their definitions or interpretations of social justice are merely content-oriented and fail to privilege the voices of their students or result in different interactions between students in the classroom; if local contexts are not investigated or reflected in the work; if learners are positioned as "consumers" of the social justice projects or the teacher's ideology; then power may be operating in the study as little more than an empty signifier, a place holder for later recommendations, not being created discursively through practices.

A more fluid notion of identity allows for me, as a Chicana at this point in history, to use my Spanish language as a public act, as a form of opposition to the English-only movement in the United States, even while fully recognizing that Spanish was the language used to colonize my Raramuri-speaking, Tarahumara great-grandparents. Clear lines of "oppressor" and "oppressed" are blurred if power is

not something that is owned by a particular group or enforced from above. The very language that was once wielded against my ancestors I now use to challenge the politics of language. Again, it is possible for individuals to play the game while also changing it; learners and practitioners do it all the time.

Three useful concepts are brought forward from critical studies when one adopts a sociopolitical stance: transparency, subjectivity, and agency/voice. *Transparency* refers to the process of making the familiar seem strange, deconstructing the operating paradigms, and making the taken-for-granted rules of the game more explicit. Making dominant discourses more apparent is a necessary step toward both recognizing how those discourses dis/advantage individuals and in challenging those discourses and their associated practices so as to put new ones into place. For example, deconstructing the notion of “empowering students” to show that it relies on a definition of raising test scores, not self-actualization, means being able to recognize that there may be a space for educators to incorporate into their goals definitions of futures that students envision for themselves. In this sense, deconstruction is a useful process, as it highlights the ways in which current realities are not necessarily the only, or the most natural, of those that could be constructed (e.g., we could have a very different evaluation system in place for students, teachers, and researchers). Similarly, by highlighting that society is set up with whiteness as a norm, it offers greater perspective for understanding how whites, without doing anything, are privileged and can feel normal in their everyday practices while people of color are disadvantaged. Deconstructing social discourses like “whiteness as normal” or “whiteness as neutral” also highlights the fact that negotiating whiteness for people of color (beyond learning how to “pass”) requires additional skills/strengths/sensibilities, practices that often are not seen or valued. The same could be said around issues of gender/sexuality, religion, (dis)ability, and language.

*Subjectivity* is also an important concept for many who adopt a sociopolitical stance, highlighting the idea that individuals are not fixed, that they defy categories. Recognizing that individuals are constantly in the making, internally multivocal, and contradictory is necessary for seeing the collection of identities that they bring to bear on the enterprise of mathematics education. This complexity is useful if we are to move beyond the kinds of list-generating and dividing practices that are tempting in education. Such lists (e.g., of effective teaching of English learners) work against the professionalization of teachers and the dignity of students in a global society. No two students are identical; the same could be said of teachers. In fact, individuals are positioned within practices that construct them. When teachers are expected to follow a prescribed way of interacting with students because they fit a particular category of identity, in essence they are under surveillance (Foucault, 1980), a kind of external and internal monitoring that goes against their ability to remain sensitive to the needs of particular students and the relationships they create with them. That is not to say that researchers and practitioners cannot learn from previous research that has been conducted where students like theirs have excelled. It is only to say that this kind of knowledge must be tempered by their successful experiences and their deep connections with students.

A third useful concept, *agency/voice*, arises for those who espouse a sociopolitical viewpoint in their work within mathematics education. When individuals are seen as enacting their identities and actively negotiating schooling, we are able to view the mathematics classroom as more than a site for enculturation or social reproduction. That is, while researchers and practitioners have their own agendas, these agendas are constantly in negotiation with the needs of others and the meanings they place on circulating discourses. Any teacher who has attempted to implement a reform-oriented curriculum can tell you that students do not simply follow along because the teacher is the authority in the classroom. Similarly, while policy documents can promote a particular discourse in mathematics education, alone they are not capable of determining the meanings or actions that will ensue. If parents, teachers, administrators, and researchers did not have agency, the Principles and Standards for School Mathematics as put forth by the governing professional organization (National Council of Teachers of Mathematics) would be followed in every U.S. school. That simply is not the case. So, where power arises in discourses, it also serves as a site for resistance.

#### WHAT DO WE GAIN BY TAKING THE SOCIOPOLITICAL TURN?

Just as adopting sociocultural views helped us challenge widely held notions of “learning” and “participation,” adopting sociopolitical views offers the ability to rethink terms such as “mathematics,” “who is good in mathematics,” “the role of resistance in relation to dominant circles,” and “quality teachers.” The process of deconstruction is particularly useful to expose current practices/knowledges/categories as socially constructed in a particular point in history. Doing so opens up new possibilities—new views on learners and educators, new arrangements within/beyond school upon which we can act. Although many gains are offered by taking on a sociopolitical stance, I focus on a few here in hopes of further grounding my argument.

#### *Beyond Essentialization*

It is important to highlight the features of practice that coincide with certain kinds of students engaging/succeeding in school mathematics (and this form is much more productive than focusing on failure and/or disengagement). However, a sociopolitical lens helps us recognize the danger of perpetuating the view that students that share home language, nation of origin, gender/sexuality, ethnicity, or other features of culture are basically all the same.

Essentialization, reducing a group to a single characteristic that seeks to convey the essence of that group, goes against the very idea of creating meaningful bonds with students through shared interaction. Yet many well-meaning teachers and administrators who seek to connect with their students unknowingly rely upon distilled versions of a culture or background.

Let me be clear. I do not mean to imply that reading about successful teaching practices with population X is not useful for helping practitioners begin to develop



a better appreciation for the ways in which they can support such students. However, because identity is fluid, complex, multivocal, and contradictory, researchers and practitioners who adopt a sociopolitical stance also recognize that a research study can offer only one representation in a particular point in time and in a particular context. Researchers employing a sociopolitical lens who advocate for English learners, students with disabilities, or recent immigrants generally acknowledge the tensions of creating knowledge that builds upon previous work and informs the field while also not implicitly conveying that all English learners, students with disabilities, or immigrant students are the same.

The position of the researcher, the research methodologies employed, along with the kinds of questions asked highly influence the nature of “findings” that any study can produce. Without the voices of marginalized people commenting on their interpretations of the mathematical practices in which they are engaged, we are unlikely to fully understand the possibilities of other arrangements in mathematics education. Equally important, recognizing that identity is something that an individual *does*, not *is*, opens the door for learners and educators to (re)produce, (re)signify, and (re)use the operating paradigm for their own purposes.

### *Beyond Victimization*

If power is not something that is wielded against people by other individuals, but rather institutionalized in discourses, then students who have been marginalized by society have the ability to construct a counter narrative (either through voice or actions) that justifies their position and affirms their self-worth. We have to remember that learners, like educators, are fairly sophisticated. They do not merely succumb to the framings that others cast upon them. All individuals (students, teachers, administrators, family members) negotiate the education context; some are merely more effective/resourceful at it than others, given their intentions. So, while we should be concerned that students could be forced to assimilate into a particular way of interacting in a classroom in order to participate, a sociopolitical perspective can also show us that just because a student is participating in ways that we ascribe to “successful students” does not necessarily mean that student buys into deficit notions of kids who do not participate in the same manner. Nor do students necessarily define themselves based solely on how well their behaviors or grades correlate with discourses on the achievement gap (McGee, 2009; Stinson, 2010).

Resistance is often thought of as fairly one-dimensional. That is, when school is seen as the site of social and political struggle, students who resist authority and the reproductive role of schooling in a capitalist society end up sacrificing participation in learning (Willis, 1981). Unfortunately, this is the kind of thinking that leads people to buy into such discourses as “the burden of acting white.” Yet we learn from conceptual tools like counter narratives, subversion, testimonios, and resignification that resistance exists in forms that are not easily unearthed in interviews or classroom observations and, perhaps more important, that exercising

agency does not necessarily mean choosing to fail. Students can knowingly play the game without letting the game define them. They do not do this individually, but rather as part of a larger group of people who are (re)writing society and education.

Educators who take a sociopolitical stance recognize that mathematics education is identity work. Learners are always positioning themselves with respect to the doing of mathematics, their peers, their sense of themselves and their communities, and their futures. So, when an astute teacher sees that a student is not doing what is expected in the mathematics classroom, the teacher can recognize that the reason for this unexpected activity is connected to identity-in-the-making: resisting narratives that position the student as inferior, unworthy, abnormal, or on the margins of the local (e.g., classroom) culture. Savvy teachers can then use this understanding to think about how to be empathetic toward students who are doing this self-protective work and to think about how to better support students negotiating the mathematics classroom (e.g., opening up the range of identities), without prescribing the kinds of identities that are seen as valid.

### *Challenges Common Notions of Teacher Quality*

As American researchers and policy makers race to close the “achievement gap,” greater emphasis on mathematical knowledge for teaching has taken hold (Ball, Thames, & Phelps, 2008; Hill, Rowan, & Ball, 2005; Hill, Sleep, Lewis, & Ball, 2007). School districts and teacher education programs are investing in professional development of teachers, the underlying theory being that the main problem with student learning is that their teachers do not know their mathematics in deep enough or flexible enough ways. What is lacking in these approaches is a model of teacher development that includes giving teachers the skills to form a deep connection to students and *political knowledge*: negotiating the world of high-stakes testing and standardization, connecting with and explaining mathematics to community members and district officials, and buffering themselves, reinventing, or subverting the system to be an advocate for their students (Gutiérrez, in preparation).

I recently gave a talk to a large audience of researchers and practitioners on the dangers of using an achievement gap lens in mathematics education. One gentleman in the audience, an administrator, talked about a number of things he had tried in his district to improve mathematics scores over the years and eventually decided it was time to focus on some diversity training, rather than more mathematics professional development. I would argue that he was on the right track. Too often, we develop categories of “effective mathematics teachers” or “high-quality mathematics teachers” strictly around lines of mathematics or narrow versions of pedagogy, failing to fully capture the dispositions, social interactions, and commitments to advocacy that go hand in hand with the very practices necessary for supporting marginalized students in mathematics—challenging discourses such as “doing well in school requires acting White” and/or “Whites and Asians are good at math.” By recognizing that students’ identities are not first and foremost about mathematics

(even in the mathematics classroom), we begin to see how “highly qualified teacher” is not a category that can be dismissed from the kinds of students one teaches, the interactions in which one engages, or broader power relations in society. The very practices that are taken up in the classroom and the meaning of doing mathematics are inextricably tied to the constellation of other identities that students bring to the classroom. Such an acknowledgement opens the doors for us to see that holding an equity stance means recognizing that as a mathematics teacher, one teaches mathematics and so much more than mathematics that influences students’ development (Gutiérrez, 2008c, 2009).

### *Challenges Racial Hierarchy*

Recognizing that the identities of individuals are constructed partly through the discourses that operate in mathematics education, we can begin to see how ability is socially constructed. The achievement gap is a perfect example. Although mainly concerned with the well-being of marginalized students (defined here as African American, Latin@, American Indian/indigenous, working class students, and English learners), mathematics education researchers who focus on the achievement gap support practices that often are against the best interests of those students. In fact, “gap gazing” offers little more than a static picture of inequities, supports deficit thinking and negative narratives about marginalized students, accepts a static notion of student identity, relies upon Whites as a comparison group, divides and categorizes students, ignores the largely overlapping distributions of student achievement, offers a “safe” proxy for talking about students of color without naming them, relies upon narrow definitions of learning and equity, and perpetuates the myth that the problem (and therefore solution) is technical in nature (Gutiérrez, 2008a).

Regardless of whether one operates in a setting that explicitly articulates an achievement gap focus, it is the gaze, along with the power of repeating this focus that gives authority to a particular discourse about equity, thereby allowing for only certain “truths” to arise—that African American and Latin@ students are inferior to Whites. By providing the categories by which teachers and students see themselves (e.g., gap closer, bubble kids), the gaze can further serve to regulate bodies in ways that shut down other possible discourses and practices within school. This regulation occurs because schools produce mechanisms for shaping, monitoring, and disciplining the knowledges, modes of operating, and positionings of teachers. Every teacher wants to be “normal,” or seen as professional. The idea that others will be judging you to see how your students measure up on standardized tests causes many teachers to go against their better judgments of focusing on relationships and broader notions of learning to focusing on test preparation. The mere threat of surveillance is enough to affect the practices seen to be valid.

Engaging issues of identity and power helps unveil the problems with framing equity from an achievement gap perspective. It highlights how a focus that purports to be in the best interest of students of color reduces them to little more than a test

score, with little regard for how mathematics may be meaningful or useful in their lives. It also makes possible other goals in mathematics education. “Excellence” as defined by marginalized students is one such example (Gutiérrez, 2008a; Hilliard, 2003; Matthews, 2008).

### *Challenges (School) Mathematics*

A final way in which a sociopolitical turn can help mathematics education is that it opens the door for mathematics itself to be deconstructed and examined so that we are more conscious of the discourses and practices that we reinforce and/or challenge. If mathematics is not something out there (rational, universal, innately useful), separate from humans, then researchers and practitioners can learn from students and communities (both inside and outside of school) the various meanings that can be ascribed to doing/creating mathematics. Some research suggests that, in fact, holding a view of mathematics where truth is historically located, connected to the knower, and mutable may be an important component of being a critical mathematics educator (Povey, 2002).

This process of learning from students and communities does not mean a kind of appropriation or exploitation of meanings or practices separate from that which is negotiated by and with individuals. That is, we would not expect to import tasks that involve basketball or dominoes into the classroom merely because they have meaning for some African American students outside of school (Nasir, 2000, in press). The meaning of a mathematical concept (e.g., What is slope?) cannot be extracted from the meaning of the mathematical task that is presented to and interpreted by students. However, being open to the multiple meanings that students place on mathematical practices and offering an educational setting where those meanings can be valued and built upon is a step in the right direction.

It is important to pay attention to the views of subordinated peoples, as they offer a critique of what has been normalized in school. In this way, we open the possibility not just for teaching mathematics in more equitable ways (as it relates to oppressed peoples), but also for a radical revolution in mathematics (Bueno, 2007). This move to challenge what counts as mathematics is driven not from a perspective that assumes certain students cannot be motivated by abstract versions of mathematics (Dowling, 1998) or that all mathematical practices should relate to the “real world” in a concrete sense, but rather from a perspective that assumes that mathematics as a human practice can become more just.

### CHALLENGES TO ADOPTING A SOCIOPOLITICAL STANCE

I have outlined some of the potential benefits of taking the sociopolitical turn in mathematics education. However, understanding some of the difficulties in this work may be just as important. First, post-structuralism has been faulted for an overemphasis on deconstruction to the point where everything can be seen as relative (Hill, 2001). That is, breaking something down into its parts is necessary if we

are to reconstruct something more equitable. However, an overemphasis on deconstruction can reduce social interactions to the point where economics, values and morals disappear, where justice becomes a moving target depending upon whose view is taken. Similarly, in focusing on how individuals are raced, we must work hard to connect such analyses with how people are gendered, how the politics of language operate, economic positioning, and other areas related to identity.

As mathematics educators, we also must not ascribe too much agency to individuals. That is, just because I can deconstruct the politics of language and can use a counter narrative (e.g., seeing monolingualism as a deficit position to bilingualism or multilingualism) or can resignify the meanings of the English-only discourse (as a position of fear, leaving those who speak other languages with more power) does not mean that others will value or acknowledge those framings. Others still might view me as inferior. So the danger is in thinking that because students and teachers are sophisticated and are capable of negotiating complex power relations that they should *have* to do so, that they are never victims of institutional structures and practices, or that the mathematical practices in school should not change.

In the same way that I highlighted the importance of not focusing too strictly on mathematics so that social relations and advocacy disappear, we must also be cautious of not focusing on discourse to the point where mathematics disappears (Sierpinska, 2005). Mathematics has been constructed in particular ways throughout history that have allowed for particular meanings and “truths” to arise, positioning some individuals as inferior or illegitimate. While connections between mathematics and other human practices is critical, we should not lose the perspective provided by those who employ a philosophical, sociological, or anthropological view of mathematics who have invested time in thinking about how mathematical practices in *particular* are constructed by, through, and in individuals. Too many research projects pass up this opportunity.

Finally, we must also not fall into the trap of analyzing power and identity for its own sake. Taking the sociopolitical turn means deconstructing the taken-for-granted rules and modes of operating and making the familiar seem strange, not as a kind of intellectual exercise, but as a means to open up possibilities for something new—new forms of operating, new strengths to be valued, new arrangements in schooling practices, new meanings of mathematics education, new connections between mathematics education and the world. It is easy to philosophize about what mathematics is or can be. But, ultimately, we care about how mathematical practices connect with the identities, futures, and lived consequences for individuals in society.

## WHY HASN'T THE SOCIOPOLITICAL TURN HAPPENED SOONER?

If making the sociopolitical turn offers so much promise, you may be asking, why haven't these theories and conceptual tools become more prominent in mainstream mathematics education? The reasons are complex. Partly, the field is still

somewhat in its infancy. Ethnomathematics, which seeks to decenter Western mathematics and highlight the mathematical practices of people throughout the world, was created in the 1980s; critical and social justice mathematics has flourished just in the last 2 decades; critical race theory, LatCrit theory, and science and technology studies only gained momentum in the mid-1990s, and post-structuralism and postmodernism have been embraced in mathematics education only recently.

In addition, conducting research that highlights the dynamic nature of identity and the production of power in social interactions requires knowing multiple literatures outside the field of mathematics education and finding appropriate ways to draw upon them. Opportunities to learn these bodies of literature as part of one's formal preparation in mathematics education are rare. Although educational fields like literacy already seem to have embraced the sociopolitical turn, and many fields have moved on from the purely political to emphasize the spiritual (Anzaldúa & Keating, 2002), mathematics still is largely regarded as a discipline devoid of human influence. As mentioned previously, the strides in challenging this view have come from researchers with one foot in mathematics and the other in philosophy, sociology, science studies, or anthropology. Yet, the broader mathematics education community has not taken full advantage of the products of such labor.

Researchers concerned with a liberatory aspect of mathematics education as related to oppressed peoples tend to embrace interdisciplinarity and draw from cultural studies and critical theory to explain and attempt to intervene in the production of hegemonic practices. Again, doing so requires staying abreast of several quickly moving fields. In the United States, the development of researchers who are capable of doing this complex work means not only large grants that will support such research endeavors (as seen in centers of learning and teaching such as CEMELA, DiME, and to some extent MetroMath<sup>14</sup>), but also senior scholars who can mentor students into this work in meaningful and sophisticated ways, along with institutional practices that value interdisciplinarity and commitment to research for the public good. Just as teaching from an equity stance is much more than knowing the latest findings on effective teaching in marginalized populations (Gutiérrez, 2008c, 2009), enacting research that focuses on identity and power is not as simple as being able to manipulate the various literatures in a technical sense. The researcher must in some way embody the tenets of an emancipatory framework. For some, that means drawing heavily on lived experiences as a marginalized person. For others, it means applying and (re)writing theories and frameworks that give voice to others.<sup>15</sup> So, while "equity" has become a hot topic in mathematics

<sup>14</sup> The Center for Mathematics Education of Latinos/Latinas (CEMELA), Diversity in Mathematics Education (DiME), and MetroMath were all National Science Foundation funded centers that brought together faculty from universities across the United States and sought to develop researchers who could better attend to the complexity of equity issues in mathematics education.

<sup>15</sup> For excellent discussions of research methodologies as they relate to sociopolitical dimensions and power specifically, see Bernal (2001, 2002), Kaomea (2003), Lather (1991), Lomawaima (2000), Lopez (2001), Sandoval (2000), Solórzano and Yosso (2002), Smith (1999), St. Pierre and Pillow (2000), Valero and Zevenbergen (2004), and Villenas (1996).

education, the theoretical underpinnings, epistemologies, and methodologies employed still lag far behind other disciplines. Any resistance to the sociopolitical turn is a form of hegemony.

From the point of view of regular *JRME* readers, opportunities to engage in these issues have been limited by the number of research articles that have embraced critical perspectives on mathematics education. As recently as 1994, Elizabeth Fennema and Laurie Hart completed a review of research on gender in *JRME* and concluded

It is clear that some types and areas of scholarship dealing with gender and mathematics have not been represented in the pages of the *JRME*. Undoubtedly, this has occurred for a variety of reasons: Articles of publication-quality have not been submitted, reviewers and editors have not thought work within certain areas appropriate for *JRME* publication, or there just have not been any studies representing the area submitted for review. (p. 651)

All three of these reasons are plausible. If the aim of research is viewed as uncovering “truths” and “knowledge” in absolute terms, then gender studies that draw upon feminist theory (aiming not just to understand within the current paradigm, but also to liberate girls) is easily construed as not “publication-quality.” It is very likely that the image of *JRME* (its focus on cognitive issues and truths) prevented researchers who drew upon feminist theory from ever submitting their work.

A decade ago, Lubienski and Bowen (2000) did a review of mathematics education articles in a number of journals, including *JRME*. In their review of articles from 1982 to 1998, only 5% addressed issues related to race, ethnicity, or social class. More specifically, they found that

In comparison with research on ethnicity, class, and disability, research on gender was more prevalent and integrated into mainstream U.S. mathematics education research. Overall, the majority of research seemed to focus on student cognition and outcomes, with less attention to contextual or cultural issues. (p. 626)

Today, that same statement could be made with respect to sociocultural views being more present in mainstream mathematics education research than sociopolitical views. A review of *JRME* articles from 1999 through 2008 reveals a similar trend. Ignoring book reviews, 17 research articles out of 124 address issues of race, class, gender, language, or equity broadly related.<sup>16</sup> Of those articles, only five frame these issues in political terms, as related to racism, classism, language politics, or gendered lives. Interestingly, Walshaw drew on the early work of Walkerdine and postmodernism to develop an article on gender issues that appeared in *JRME* in 2001, but it was not embraced by the mathematics education community at large

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<sup>16</sup> During this time frame, two short articles by the Research Advisory Committee of *JRME* and a trio of short research commentary pieces related to equity were also published.



in the United States. However, she continued her work and helped usher in (along with many others) an international line of thinking that draws on post-structuralist and postmodernist perspectives in mathematics education (Brown, 1994, 2005; Fitzsimmons, 2002; Puig, 1998; Stinson, in press; Tymoczko, 1994; Vass, 1994; Walkerdine, 1988, 1994; Walshaw, 2001, 2004; 2010).

Although reviews of journal articles suggest the sociopolitical turn is not occurring within *JRME*, it certainly has been happening elsewhere in mathematics education. Evidence of this turn has arisen in such forms as the handbook chapter by the Diversity in Mathematics Education Center for Teaching and Learning (2007), U.S. education journals without a mathematics focus (see for example, Ellis, 2008; Gutiérrez, 2009; Martin, 2009; Stinson, 2006; 2008), international mathematics education journals (two *Mathematical Teaching and Learning* special issues—vol. 4, 2 & 3, and vol. 8, 3; a special issue in *Educational Studies in Mathematics*—vol. 64; as well as in *Mathematics Education Research Journal*), international books and series (e.g., Atweh, Graven, Secada, & Valero, in press; Brown & McNamara, 2005; Ernest, 1994; Skovsmose & Valero, 2002; Walshaw, 2004, 2007; the Falmer Press series *Studies in Mathematics Education*, as well as the Springer series), international study groups and conferences (e.g., ICMI, ISGEM, MES, MERGA, RadicalMath.org), and to a certain extent in newly started electronic journals in the United States (e.g., *Journal of Urban Mathematics Education*). This collection of articles seeks to further highlight the voices and perspectives of researchers, learners, and educators who are grappling with what it means to (re)construct themselves and mathematics in ways that are more just. In doing so, it offers *JRME* readers and other researchers ways of embracing not just the social, but also the political.

On the one hand, special issues of journals and single handbook chapters dedicated to issues of equity run the risk of reifying a marginalized position in the mathematics education community. The *Journal for Research in Mathematics Education* has had two such special equity issues. The first, published in 1984, was chaired by Westina Matthews and focused on “minorities in mathematics.” The second was published in 1997, chaired by Bill Tate and Bia D’Ambrosio, and focused on culturally relevant pedagogy and opportunities to learn. So, in some ways it is not surprising that a decade later, *JRME* is prepared to offer a special issue related to equity. Some could discount this special issue, seeing it as further ghettoization of the ideas, as not really leaving an impact on *JRME* or its readers. In fact, by creating special issues on equity topics, *JRME* has positioned its readers to easily “ignore” or “distance” themselves on the issues. On the other hand, it also marks a particular point in our history and creates a sense of energy/synergy to have so many articles, from an international group of authors, positioned together and offering a critique of the status quo within mathematics education. As such, this issue has the opportunity to provide the very counter narrative that is needed in mathematics education, opening a space for dialogue among those who have taken the sociopolitical turn and others who share their views as well as those who are new to these ideas.

It is from within the margins that new sites of cultural production arise. That is, because mathematical practices are inherently social and there exist a variety of social groups that will embed their own meanings and purposes onto and through such practices, there will always be subgroups that will challenge the current order of things. Considering these alternate spaces of cultural production as legitimate critiques of schooling (McCarthy et al., 2005) opens up new lines of research and new ways of imagining mathematics education. Without these critiques, mathematics education as a field is in danger of stagnation, unable to address the realities of global citizens. Even so, education is always going on in life (e.g., street corners, churches, families, while standing in line). We are fooling ourselves if we believe that schooling is the main vehicle by which people learn (mathematics). As such, we need to better understand how subaltern groups negotiate the spaces outside of schooling and how they make sense of their surroundings if we are to develop a fuller picture of how mathematics education operates. In that sense, taking the sociopolitical turn is a necessary chapter in mathematics education, as it is from the views of such groups that mathematics education will continue to grow and evolve (in ways that allow schooling to appropriately supplement what goes on elsewhere). With new conceptual tools in mind, we can begin to investigate such questions as these:<sup>17</sup>

- How do mathematics education research, practice, and policy shape constructions of African American, Latin@, American Indian, poor, English learners, LGBTQ, and other marginalized learners? And, what are the ways in which such learners accommodate, resist, subvert, (re)signify, (re)produce, and transgress those constructions?
- How and why do mathematics educators develop an understanding of the politics and values involved in knowledge creation? How and why do they develop the commitment/power to challenge the conventional wisdom of what counts as mathematics and who is good at it?
- How do educators develop the knowledge and disposition to connect the practice of teaching with their learners' development as critical citizens? What are some common tensions in this work?
- What are the strategies and experiences of learners who successfully negotiate the mathematics classroom and education as a broader social practice so that they maintain their cultural identities and fare well on standardized measures of (school) success? How can educators support these strategies of negotiation?
- How do we reframe measures of success and competencies in mathematics education? What is the role of the construction of difference and/or solidarity in this reframing?

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<sup>17</sup>These research questions were developed in part with members of the editorial panel, including Bia D'Ambrosio, Marilyn Frankenstein, Signe Kastberg, Danny Martin, Judit Moschkovich, Edd Taylor, and Dave Barnes (NCTM liaison).

- With respect to learning/doing mathematics, what do we need to understand about how learners are positioned and how they position themselves when they use their cultural/linguistic resources across multiple settings, both in and out of school?
- What is the impact of curricular policy in mathematics on the development of mathematical identities within raced, gendered, and other subaltern learner and educator populations?
- How do the multiple identities of learners influence the adoption and implementation of mathematics curricula or pedagogical embodiments?
- In what way(s) are mathematics education researchers and educators complicit in the institutional practices that perpetuate inequities and unnecessarily constrict the identities that learners and teachers are able to enact around mathematics?
- In what way(s) can thinking about education more comprehensively (e.g., recognizing that education occurs in all facets of one's life—including street corners, doctors' offices, families, religion, even standing in line) help us better unite philosophers, sociologists, and cultural anthropologists of mathematics with those who educate broadly?

## CONCLUSION

I have outlined a number of useful concepts and tools we can (re)use from critical theories and post-structuralist thought. I have suggested that these conceptual tools offer a different perspective on issues of identity and power than are traditionally embraced by the mathematics education community at large. While these concepts and tools are not necessarily new, it is the purposeful collection of them (by way of this special issue) and the analysis of their contributions that offers promise to mathematics education.

It is time to apply these sociopolitical tools in strategic ways so as to move beyond binary positions, make transparent that current realities are only one of many possible, and more effectively subvert the power dynamics at play in mathematics education. To be sure, the articles in this issue will expand on the theoretical concepts I have presented in this article. Moreover, they will highlight the usefulness of such tools through specific mathematical practices so that we might better understand our potential for different arrangements in school mathematics and how to improve mathematics education overall.

If the field of mathematics education is to support practitioners to engage in issues of identity and power, it must provide incentives for them to see that learning and teaching mathematics are not neutral activities. In fact, because teachers are knowledge brokers, they need support in recognizing the extra/hidden work that learners do around mathematics as it relates to their identities. Only then can teachers become experts at supporting learners to maintain a sense of wholeness while doing mathematics, a key aspect of equity. At a basic level, this requires

teacher education and ongoing professional development that helps educators (and their learners) see mathematics classrooms as part of larger social and political histories. The field of mathematics education must also be prepared to support educators to position themselves in their work (e.g., tying their fate to the fate of their students) thereby broadening their goals to include student actualization. Moreover, educators need support to identify and challenge discourses that further ingrain inequities and/or privilege test scores as sole measures for learning. This means helping teachers develop not just knowledge of mathematics, pedagogy, and learners, but also the political knowledge and experiences necessary to negotiate the system (e.g., learning how to use creative insubordination to buffer themselves from mandates that are not in the best interest of their students) and develop working networks with other educators who share their emancipatory visions. Developing a language for this broadened version of professionalism would be of utmost concern.

Similarly, if mathematics education is to clearly benefit from the untapped potential of researchers who have embraced the sociopolitical turn, the field needs to recognize that all research projects are political. To engage with the political, the field needs to value and encourage researchers to position themselves within their work (e.g., articulating those aspects of their identities and ideologies that inform their choice of research projects, the design of such projects, the kinds of questions asked, and findings produced), as seen in this special issue. The field also needs to expose oppressions and revive the histories of marginalized peoples (e.g., students, families, scholars who have not published in mainstream mathematics education research). Moreover, mathematics education must recognize and challenge discourses that equate “science” with doing quantitative work while also learning from other disciplines that have longer histories of exploring identity and power issues. As part of our everyday work, mathematics education researchers need to resist becoming pawns in the current climate of universities seeking to make more money. More specifically, the field of mathematics education needs to challenge the ideology of academia that privileges knowledge production for other academics and encourages researchers to make themselves marketable. Current options for publishing mathematics education research offer little room for researchers to position themselves in their work, to focus on research for the public good, or to explain other disciplinary fields. We must change these trends.

I stated in the opening of this article that it is both very easy and very hard to attend to identity and power issues in today’s society. Yet I believe we are up for the challenge. Many mathematics education researchers recognize the benefits we have gained from including sociocultural perspectives in our work. The sociopolitical turn offers an additional layer that highlights issues of power at play in these interactions, thereby helping us better reflect and contribute to the complexity in our society. Today, we have various theoretical tools that lend themselves to the analysis of teaching and learning as it is related to the relationship between knowledge and power. Without an explicit focus on issues of identity and power, we are unlikely to do more than tinker with the arrangements in school that contribute to the

production of inequities in the lived experiences of learners and educators. We must be willing and able to embrace the sociopolitical turn. Such embracing will help us better understand the current situation in its moment in history as it has been constructed so we can open the door for other possible arrangements. If, as a field, we are not willing to recognize the political nature of mathematics education or the fact that teaching and learning are negotiated practices that implicate our identities, we might as well give up on all of this “talk” about equity.

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