

Teacher Note

Racial and Linguistic Diversity in the Classroom: What Does Equity Mean in Today's Math Classroom?

... we have no patterns for relating across our human differences as equals. As a result, those differences have been misnamed and misused in the service of separation and confusion.¹

Audre Lorde

We must not, in trying to think about how we can make a big difference, ignore the small daily differences we can make which, over time, add up to big differences that we often cannot foresee.²

Marian Wright Edelman

U.S. public schools are responsible for educating students who are more racially and linguistically diverse than at any other time in our history. The beginning of the 21st century in the United States is marked by an influx of immigrants, and schools and teachers are at the front door meeting these students. Hence, many teachers work in classrooms with increasing numbers of immigrant students, students of color, and linguistically diverse students who often face unique challenges related to language proficiency, cultural and social adaptation, and poverty. What are the issues and challenges for teachers in these diverse classrooms?

While developing this curriculum, the *Investigations* staff and field-test teachers worked together to continue educating ourselves about this question. Many of us have had direct experience teaching in schools where students come from diverse racial, cultural, and linguistic backgrounds. In many cases, the students' culture, race, ethnicity, and first language are different from those of the teacher. This Teacher Note provides a glimpse into the complex issues about racial,

cultural, and linguistic diversity being discussed in the field of education today. It also provides resources for further reading, including those we found helpful in our own professional development.

Equity in the Mathematics Classroom

Equity does not mean that every student should receive identical instruction; instead, it demands that reasonable and appropriate accommodations be made as needed to promote access and attainment for all students. (NCTM, 2000, p. 11)

Investigations was developed with the assumption that all learners can engage in challenging and substantive mathematics. Assumptions about students' capacity and inclination to learn in school can undermine their access to and participation in significant mathematics learning. An extensive body of literature documents the persistence of these assumptions and their effects on students' opportunity to learn. For example, students of color and those whose first language is not English are often seen in terms of what they lack instead of what they bring to the learning environment (termed in the literature a *deficit thinking* model). Student underperformance in school may be explained by student and family shortcomings, behavior that does not match a particular set of norms, immaturity, or lack of intelligence. Students who do not speak fluent English may be judged as having poor or underdeveloped conceptual understanding because they cannot yet express the complexity of their thinking in English. Misunderstanding cultural differences can lead schools to inappropriately place children into special education and low-ability groups and to expect less from them than from other children. For instance, Entwistle and Alexander (1989) report that poor black children are often described as less mature, and, consequently, school personnel may hold lower expectations for them than for children whose socioeconomic status is higher.

¹From a paper delivered at the Copeland Colloquium, Amherst College, in April, 1980. The paper was entitled, "Age, Race, Class, and Sex: Women Redefining Difference."

²Marian Wright Edelman, "Families in Peril: An Agenda for Social Change," The W. E. B. Du Bois Lectures (Cambridge, Mass.: Harvard University Press, 1987), p. 107.

Many teachers are working hard to improve learning opportunities for these students, with the goal of enhancing both the learning climate and students' educational performance. In this work, teachers must consider the broader issues as well as practices, procedures, strategies, and other key aspects of schooling. In an educational setting, equity indicates a state in which all children—students of color and white students, males and females, successful students and those who have fallen behind, and students who have been denied access in the past—have equal opportunities to learn, participate in challenging programs, and have equal access to the services they need to benefit from that education. Equity has sometimes been oversimplified to mean that all students should be treated the same—neutrally and without differentiation. Rather, differences matter, and matter in specific ways. Successful learning experiences depend on teachers building on the contributions of all students and recognizing the differences that matter to them.

In the mathematics education literature, researchers from four projects, three in the United States and one in South Africa, looked across their projects to identify features of classrooms “essential for supporting students’ understanding” in mathematics (Hiebert et al., 1997). They organize these in five dimensions, one of which is “equity and accessibility.” The authors describe this dimension as fundamental:

[E]quity . . . is not an add-on or an optional dimension. It is an integral part of a system of instruction that sets students’ understanding of mathematics as the goal. Without equity, the other dimensions are restricted and the system does not function well. (p. 12)

Race and Linguistic Diversity

While teaching a seminar on race in education several years ago, one of the authors of this essay was met with a remarkable silence and little open discussion of race, racism, and the ways they come up in classroom teaching. Some think that racism is no longer an issue in schools, and that “color blindness” is the way to approach a diverse class of students. However, many in the field believe that explicit

classroom attention to race, ethnicity, and home language results in increased communication and learning.

Race (or ethnicity) can have overlapping and coexisting categories of meaning. Sometimes, race signifies being economically, socially, politically, and educationally oppressed. Other times it signifies a sense of community and belonging, involving valuable associations with a particular group, history, cultural codes, and sensibilities. Race conveys multiple meanings, and racism takes on multiple forms, subject to context and situation. Whether expressed subtly or with crude directness, the effects of racism are felt in everyday school experience. Preconceptions about who students are, which are based on surface behaviors, can mask important potential.

For example, in one classroom, a Hmong girl is quiet, well behaved, and does little to demand attention. But although she is well behaved, she is not engaged and does not quite know what’s going on in the lesson. In another classroom, a young black boy is distracted and disruptive, eager to contribute, but often “in trouble.” The Hmong girl might be seen as a model student—quiet, hard working, high achieving, and nonchallenging of classroom norms. In contrast, the black boy might be seen as loud, threatening, noncompliant, dysfunctional, and low achieving. The characterization of the Hmong girl seems positive, even flattering, in comparison to the characterization of the black boy. However, both views may be silencing the voices, needs, and potential contributions of these children in different ways. For the Hmong girl, a focus on seemingly compliant behavior may lead the teacher to ignore her educational needs. For the black boy, a focus on seemingly bad behavior may distract the teacher from recognizing his educational strengths.

To understand all students’ experiences—to support them in rigorous learning and to respect the variety of their language practices, histories, and identities—educators must continue to learn about the issues of race and racism, cultural and linguistic diversity, and teaching practices and strategies that support the learning of all students.

Teaching Practices and Strategies

Many important insights about teaching practices and strategies that support students of color and English language learners can be gleaned from those who have been studying and writing in the field. Some of these educators and researchers focus specifically on the mathematics classroom, but there are also accounts from science and literacy that have a great deal to offer the teaching of mathematics.

Gloria Ladson-Billings studied exemplary teachers of African-American students and has written about an approach of “culturally relevant teaching.” Although the teachers she studied differed in the way they structured their classrooms—some appeared more “traditional,” while others were more “progressive” in their teaching strategies—their conceptions of and beliefs about teaching and learning had many commonalities. Here is a subset of characteristics of these teachers adapted from Ladson-Billings’ list (1995). These teachers

- believed that all students are capable of academic success.
- saw their pedagogy as always in process.
- developed a community of learners.
- encouraged students to learn collaboratively and be responsible for each other.
- believed that knowledge is shared, recycled, and constructed.
- believed they themselves must be passionate about learning.
- believed they must scaffold, or build bridges, to facilitate learning.
- believed assessment must be multifaceted.

Overall, these teachers supported their students and held *them to high standards*:

Students were *not permitted to choose failure* in their classrooms. They cajoled, nagged, pestered, and bribed

the students to work at high intellectual levels. Absent from their discourse was the “language of lacking.” . . . Instead, teachers talked about their own shortcomings and limitations and ways they needed to change to ensure student success. (p. 479)

Critical to teaching students who bring a variety of cultural, social, and linguistic experience into the classroom is what Marilyn Cochran-Smith (1995b) calls “understanding children’s understanding”:

[C]entral to learning to teach in a culturally and linguistically diverse society is understanding children’s understanding or exploring what it means to know a child, to consider his or her background, behaviors, and interactions with others, and to try to do what Duckworth calls “give reason” to the ways the child constructs meanings and interpretations, drawing on experiences and knowledge developed both inside and outside the classroom. (p. 511)

Eleanor Duckworth, whom Cochran-Smith cites above, may have originated the phrase *understanding children’s understanding* in her essay of the same name (1996). In that essay, she discusses the idea of “giving children reason” as she describes a group of teachers in a study group who set themselves this challenge: “[E]very time a child did or said something whose meaning was not immediately obvious . . . [they] sought to understand the way in which . . . [it] could be construed to make sense” (pp. 86–87).

This work of hearing and understanding students’ ideas, discourse, and representations and involving all of them in significant intellectual work can be especially challenging when students come from backgrounds quite different from the teacher’s own. Cindy Ballenger’s *Teaching Other People’s Children* (1999) and Vivian Paley’s *White Teacher* (1989) provide first-person accounts of teachers who are actively examining their own preconceptions about the behavior and discourse of the students they teach. Ballenger expresses how her initial belief that all students’ could learn was not enough:

I began with these children expecting deficits, not because I believed they or their background was deficient—I was definitely against such a view—but because I did not know how to see their strengths . . . I came to see . . . strengths . . . that are part of an intellectual tradition, not always a schooled tradition, but an intellectual one nonetheless, and one that, therefore, had a great deal to say to teaching and learning. (p. 3)

Ballenger recounts her journey in learning to listen to the sense of her students, both “honoring the child’s home discourse” and engaging the student in “school-based and discipline-based ways of talking, acting, and knowing” (p. 6).

Working in English with students whose first language is not English presents two challenges to teachers who do not share the student’s first language: (1) how to learn about, respect, and support the discourse practices that students can contribute from their own knowledge and communities; and (2) how to bring students into the language of the discipline of mathematics in English. Judit Moschkovich (1999) identifies two critical functions of mathematical discussions for English language learners: “uncovering the mathematical content in student contributions and bringing different ways of talking and points of view into contact” (p. 11). She identifies several important instructional strategies that support these students’ participation in math discussions (p. 11):

- using several expressions for the same concept
- using gestures and objects to clarify meaning
- accepting and building on student responses
- revoicing student statements with more technical terms
- focusing not only on vocabulary development but also on mathematical content and argumentation practices

Josiane Hudicourt-Barnes (2003) writes about the participation of students whose home language is Haitian Creole. Her research highlights the way that understanding

the forms of discourse students contribute from their own culture enables teachers to uncover and appreciate how students are making sense of subject matter. Although she writes about science learning, her observations are applicable to the mathematics classroom: “To be ‘responsive to the children and responsible to the subject matter’ (Ball, 1997, p. 776), we must be able to hear children’s diverse voices and create opportunities for them to pursue their ideas and questions (p. 17).” Further, she argues that classroom discourse that follows a rigid, restrictive format “may mean that children from families of non-Western traditions are shut out of classroom participation and that skills from other traditions are devalued and subtracted from children’s cognitive repertoires, and therefore also made unavailable to their fellow students” (p. 17).

Being “responsive to the children and responsive to the subject matter” is highlighted by many of the writers in this field. They emphasize that the teacher’s responsibility is *both* to the students’ ideas, sense making, and forms of discourse *and* to bringing these students in to the ideas, vocabulary, and ways of working in the discipline of the content area. Gloria Ladson-Billings (2002) sums up her observations of a teacher whose urban, largely African American, students, initially hated writing:

To meet the academic goals he had set, Carter had to rethink his practice in some fundamental ways. . . . He had to keep a sense of uncertainty and a willingness to question in the forefront of his teaching. . . . while Carter empathized with the students’ struggle to write he understood that his job was to teach them to do it. He didn’t put them down for not enjoying writing or writing well, but he also did not let them off the hook. He had to help them appreciate the power and fulfillment of writing and he had to preserve each student’s sense of self. (p. 118)

Continuing to Learn

Continuing to learn is something we all can do. This Teacher Note attempts only to introduce you to some authors and resources who can contribute to that learning. Many of the resources cited here include rich examples from classrooms that can evoke productive interaction when read and discussed with peers. You may have opportunities to take advantage of courses, seminars, or study groups, such as the one that Lawrence and Tatum (1997) describe, or to self-organize peer discussions of articles in the field.

Teachers can also pose their own questions and study their own classrooms. Writing brief case studies in which you raise your own questions about these issues in your teaching and then sharing your writing can be a rich source of learning. You might start by reading what other teachers have written about their own practice as they reflect on their teaching of diverse students. For example, in *What's Happening in Math Class?* (Schifter, 1996), Alissa Sheinbach writes about three students who are struggling in mathematics (vol. 1, pp. 115–129), Allen Gagnon writes about his Spanish-speaking students (vol. 1, pp. 129–136), and Nora Toney recounts her own experiences with racism as a student (when she was bused into a largely white school) and later as a teacher herself (vol. 2, pp. 26–36). After describing some successful experiences in mathematics she had as an adult that contrasted with her experience in the “low group” as a student, Toney concludes by identifying factors that have been important to her own learning:

I have discovered the ingredients necessary for me to learn and achieve success: high teacher expectation, fairness, inclusiveness, engaging contextual material, constant monitoring and feedback, discussions/debates, and reflective writing. Generally speaking, I need numerous opportunities to connect my thinking and ideas to new concepts and ideas. These factors facilitated my *learning* of mathematics, so now I am trying to incorporate these same factors into *teaching* mathematics. (p. 36)