

## INVESTIGATING RACE CONSCIOUSNESS WITHIN TEACHERS' AND LEADERS' VISIONS OF EQUITABLE MATHEMATICS INSTRUCTION IN THE U.S.

*INVESTIGANDO A CONSCIÊNCIA RACIAL NAS VISÕES DE PROFESSORES E LÍDERES SOBRE O ENSINO IGUALITÁRIO DA MATEMÁTICA NOS EUA*

*INVESTIGANDO LA CONCIENCIA RACIAL DENTRO DE LAS VISIONES DE MAESTROS Y LÍDERES SOBRE LA INSTRUCCIÓN MATEMÁTICA EQUITATIVA EN LOS EE. UU.*

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### ABSTRACT

We report on an effort to characterize (changes in) teachers' and school and district leaders' race consciousness within their visions of equitable mathematics instruction. We analyzed interviews conducted over multiple years within a project in an urban school district in the U.S. that focused on racism and racial equity in secondary mathematics and included multi-week professional learning opportunities for teachers during the months between school years. Our analysis yielded a 4-level trajectory modelling the development of race consciousness in participants' discourse. Distinctions across levels pertain to the presence of race in individuals' discourse, the directness with which they talk about race, and the extent to which they locate sources of an historical accumulation of racial inequity within systems.

Keywords: race consciousness. instructional vision.

### RESUMO

Neste estudo, relatamos um esforço para caracterizar (mudanças na) consciência racial de professores e líderes escolares e distritais em suas visões de ensino igualitário de matemática. Analisamos entrevistas realizadas ao longo de vários anos dentro de um projeto em um distrito escolar urbano nos Estados Unidos que enfocou o racismo e a equidade racial na matemática do ensino médio. Também incluímos oportunidades de aprendizado profissional de várias semanas para professores durante os meses entre os anos escolares. Nossa análise resultou em um modelo de trajetória de 4 níveis que modela o desenvolvimento da consciência racial no discurso dos participantes. As distinções entre os níveis referem-se à

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presença de raça no discurso das pessoas, à franqueza com que falam sobre raça e ao grau em que localizam fontes de acúmulo histórico de desigualdade racial dentro dos sistemas.

Palavras-chave: consciência racial. visão instrucional.

## RESUMEN

En este estudio reportamos un esfuerzo para caracterizar (cambios en) la conciencia racial de los maestros y líderes escolares y de distrito en sus visiones de enseñanza de matemáticas equitativas. Analizamos entrevistas realizadas a lo largo de varios años dentro de un proyecto en un distrito escolar urbano en los EE. UU. que se centró en el racismo y la equidad racial en matemáticas secundarias. También incluimos oportunidades de aprendizaje profesional de varias semanas para los maestros durante los meses entre años escolares. Nuestro análisis dio lugar a un modelo de trayectoria de 4 niveles que modela el desarrollo de la conciencia racial en el discurso de los participantes. Las distinciones entre los niveles se refieren a la presencia de raza en el discurso de las personas, la directividad con la que hablan sobre la raza y el grado en el que localizan fuentes de acumulación histórica de desigualdad racial dentro de los sistemas.

Palabras clave: conciencia racial. visión instruccional.

## Introduction

The importance of “equity” has been in mainstream mathematics education discourse in the U.S. for years—at least since 2000 when the National Council of Teachers of Mathematics (NCTM) identified it as one of its six “principles” for school mathematics (the others being curriculum, teaching, learning, assessment, and technology). More recently, scholars have asserted that such mainstream equity commitments have never really been about rectifying what Ladson-Billings (2006) referred to as an “education debt” to Black, Indigenous, Latina/o, and poor communities, but have instead promoted a kind of “mathematics for all” that works to benefit those who already most benefit from schooling systems (Martin, 2015).

Gutiérrez’s (2012) explanation is that most equity efforts have primarily pursued “dominant” dimensions of equity—trying to ensure that all students have *access* to high-quality learning opportunities and resources and that all students are experiencing *achievement*, but failing to also attend to more “critical” dimensions, which require re-shaping mathematics education by responding to matters of *identity* and shifting longstanding *power* structures (Valero & Zevenbergen, 2004). If limited to only the dominant dimensions, then equity discourses and efforts fail to attend to a number of social dimensions and, consequently, fail to counter sources of oppression (Calabrese Barton et al. 2020; Vithal, 2000).

Especially salient in the U.S. is the social dimension of race and its motivating source of oppression, racism (Painter, 2010). The effects of the country’s history of racism—on all aspects of social life and well-being—are well documented (e.g., APA, 2013; CDC, 2021). In education, racially minoritized and poor communities have consistently been excluded from the benefits of school mathematics—to the extent that Martin (2019) identified antiblackness as a defining feature of mathematics education. Unfortunately, progress in redressing that history is impeded by persistent “color-blind ideologies,” including *color evasion* (i.e., ignoring race and racial identity) and *power evasion* (i.e., denying that racism is structural and systemic) (Bonilla-Silva, 2006; Yi et al., 2022). Such ideologies (or discourses) shape how, why, and for whom mathematics education is constructed and enacted—from broad policy mandates to classroom-level interactions.

Tackling the education debt (and other consequences of racism) requires efforts at all levels of our education system and beyond. But the “frontline” remains teachers, and although they hold relatively little power in the larger system, they wield quite a lot in ways that matter for children’s opportunities

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in school (Crozier, 1994). Because mathematics instruction is one of the arenas that can harbor and inflict antiblackness, it is important to attend to teachers' and others' race consciousness (Crenshaw, 1988):

an in-depth understanding of the racialized nature of our world, requiring critical reflection on how assumptions, privilege, and biases about race contribute to one's worldview (Haynes, 2013, p. 200).

Discursively, teachers' and others' race consciousness is reflected in their use of race words or direct racial language, as well as in the degree to which the meanings conveyed in their talk about race and racism align with *race cognizant ideologies* (DeFino, 2022). Alone, the former is limited in terms of what it implies about one's race consciousness, as it is possible to use direct racial language while invoking the aforementioned "color-blind" ideologies and other unproductive views on race and racism, such as essentialism (Frankenberg, 1993) and individualism (Bonilla-Silva, 2006). Likewise, while one may evade the use of direct racial language by, for example, employing coded or "race-proxy" language (Irby & Clark, 2018), they may also talk about issues of race and racism in ways that acknowledge the salience of race in understanding the world.

In this report we describe recent efforts to understand teachers' and others' race consciousness within their visions of equitable mathematics instruction, and how that consciousness might develop over time.

## Methods

Our study was modelled after Munter's (2014) approach to capturing individuals' developing instructional visions,

the discourse that teachers or others currently employ to characterize the kind of ideal classroom practice to which they aspire but have not yet necessarily mastered (Munter & Wilhelm, 2021, p. 343).

We have identified multiple dimensions along which individuals may characterize equitable instruction: the role of the teacher, mathematical tasks, how group work is organized, and what counts as evidence of equity. Here, we share findings regarding the levels of race consciousness with which individuals might describe equitable mathematics instruction within any of those dimensions.

## Project context

Our study was conducted in the context of a research-practice partnership aiming to decrease a racial opportunity gap in secondary mathematics in an urban school district in the Northeastern U.S. serving a student population that was approximately 55% Black, 30% white, and 60% designated economically disadvantaged. The project involved 5-week professional learning workshops in two consecutive summers that supported participating teachers in confronting sources of racial inequity in school mathematics, with follow-up monthly sessions in the school years. Workshop leaders worked to support teachers in reconceptualizing conventional notions of knowing and doing mathematics, interrogating instantiations of racism in the district and in school mathematics, considering the role of identity in mathematics teaching and learning, and pursuing ambitious instruction in culturally relevant ways. Given its context and foci, the project provided opportunity to observe changes in individuals' race consciousness.

## Sample and data collection

The project's research team interviewed district leaders, principals, and teachers to understand how the project and other district initiatives were playing out in schools and classrooms. Of interest for this analysis were sections of interviews in which participants were asked *If you were asked to observe another teacher's math classroom for one or more lessons, what would you look for to determine*

whether the instruction is equitable? Also, if responses to that question were not framed specific to race, we asked *What would you look for to determine whether instruction is racially equitable?* The sample included 25 practitioners, 6 of whom were people of color, and yielded a total of 62 interviews, which were audio recorded and transcribed. The 25 practitioners included 20 teachers, 3 principals, and 2 district leaders.

## Analysis

Our analysis focused on responses to the above prompts and any follow-up questions. In first identifying and coding the dimensions of practice listed above (i.e., role of the teacher, etc.), we noticed differences in whether and how individuals talked about race when describing those dimensions. To characterize those differences, we applied provisional codes drawn from literature on race consciousness, focusing on direct (or indirect) use of racial language and alignment of ideas with race cognizant ideologies (DeFino, 2022). To determine the degree to which individuals' ideas aligned with race cognizant ideologies, we coded the *rationales* they provided when justifying their descriptions of what they would expect to see in an equitable mathematics classroom and organized those rationales into categories that we established by drawing on the race consciousness literature. For example, if an individual said they would expect to see the teacher facilitating groupwork but suggested that lecturing is more appropriate for “minority” students, we would apply the code *indirect racial language* to account for the individual's use of the word “minority” to describe the students to whom they are referring, and the code *essentialism*, as their statement implies that all “minority” students require similar instructional supports (e.g., lecturing).

Next, we created a trajectory to model the development of individuals' race consciousness as reflected in their instructional visions. This involved creating levels within the race consciousness trajectory, with the top level representing instructional visions that include both direct racial language *and* explanations for why race matters for determining whether mathematics instruction is equitable that are well aligned with race cognizant ideologies. To create and order the levels, we identified changes in individuals' instructional visions over time and differentiated between those visions in terms of their degree of alignment with the top level. We then named each level and identified examples from interview data to illustrate the degree of race consciousness associated with them.

## Results

We present the results in the form of the trajectory in Table 1, with the highest level (4) representing the greatest degree of race consciousness. Distinctions across levels pertain to the presence of race in individuals' discourse, the directness with which they talk about race, and the extent to which they locate sources of an historical accumulation of racial inequity within systems. In addition to characterizing four distinct levels, we also identified qualitative distinctions within two levels. At level 2, individuals begin to employ race talk (directly or indirectly), but (a) remain superficial with respect to sources of inequity; (b) *essentialize* entire racial groups; or (c) *individualize* experiences, downplaying the importance of race. At level 3, discourses either (a) become direct or (b) explain sources of inequity, but not both.

Level	Description	Examples
4	Productively explains why racial inequities might exist in classrooms or schools more broadly and/or alludes to how such inequities might be addressed. This includes instances in which individuals	• “Let's say we had a class that was half white and half African American, where a teacher had the African American kids passing out pencils and getting paper and stuff, and was asking the white kids questions about the lesson, having them lead groups and things like that. <i>[The teacher] should make sure a diverse</i>

attribute inequities between students of different racial groups to teacher bias or to systemic or structural factors such as the tracking and labeling of students (Battey & Leyva, 2016; Gutiérrez, 2017; Martin, 2013).

*group of students are engaging in the same level of tasks and the same activities.”*

- “In an all-African American school, the equity comes in how [teachers] plan their lessons, what they expect that their kids can do...If you think that [students] can't do it, you tend to have low-level tasks. You give worksheets with the same thing. It's very much like they say, it goes back to drill and kill. Even when they do try letting students explore, it's still the one single path to one answer like they already know the answer.”
- “When I look at equity, *my lens is around race and gender and how are minority students engaged in the learning? So are they not given the option to check out? Are they encouraged to participate, to talk, to question what's taking place in the classroom? Are they leaders in the class?*”

Without employing the kinds of discourses associated with Level 2, either (a) uses direct race talk (DeFino, 2022) that alludes to indicators of racial inequity but does not include an explanation for why such inequity exists, or (b) employs indirect race talk or “race-proxy” language (Irby & Clark, 2018) that includes a description of sources or indicators of inequity among students of different *social groups* and/or recommendations for how to address such inequity. The social groups to which individuals refer may be defined by students’ native language, culture or cultural practices, or class or socioeconomic status (Bertrand, 2010; Castagno, 2008; Stark 2014).

- (3a) When I go through my gradebook, [if] I'm seeing that the majority of my African American students are failing and all of my white students are passing, then there's something that's not equitable there.”
- (3a) “If the subgroups – African Americans, your non-language – or non-English-speaking students – are all trying to work on the math problem that you're trying to get kids to do, at whatever level it is.”
- (3b) “So if I had a student in my room that is of a different culture from someone else and I'm creating a lesson and I have to create the worksheets to go with the lesson, I would probably include something that is relevant to that culture...”
- (3b) “I would say anything that you could tie it into their world [would be equitable]. And often times our textbooks do not tie it into their world. And I know that there's some problems that have to do with amusement parks, so we tie it into amusement parks that they are familiar with. I know a lot of our-the names that are in our problems...are names from all over the world. So I guess you could say [that's equitable].”

Level	Description	Examples
2	Employs direct or indirect race talk (DeFino, 2022) that (a) does not allude to common sources or indicators of racial inequity such as recommendations of instructional practices that are superficial in that they are unlikely to address such inequity (e.g., organizing racially diverse small groups); (b) promotes essentialism (Frankenberg,	<ul style="list-style-type: none"> <li>• (2a) “You know even just the seating. Are all girls clumped in an area and all boys clumped in another? Are, you know, the <i>ethnicities</i>? And I know here with ELL it is sometimes an advantage to put a number of the ELL kids together simply because someone who speaks better English is often a translator. Is their purpose when they're – no matter what the group of students is, is it – was it thought through why students are where they're at? Or is it convenient for many different reasons for the teacher to just have those kids, you know, wherever?”</li> </ul>

1993), implying that students belonging to the same social or racial group have similar learning needs or require similar instructional supports; or (c) conveys a denial of or skepticism about the significance of race. The last of these includes cases in which individuals employ *individualism* discourse (Bonilla-Silva, 2006), which is often reflected in arguments that students are individuals with *unique* abilities, learning needs, or other characteristics and that such idiosyncrasies—and *not* students’ racial group membership—sufficiently explain students’ classroom experiences (Cavendish et al., 2014; Oakes et al., 1997).

- (2b) “Something I don’t like but I’m coming to believe is that if you lecture, it does seem to alienate some minorities.”
- (2c) “I think there’s a tendency to look at certain kids a different way like, “Oh, they’re from this type of life.” But [students’ type of life] doesn’t have any effect on their intelligence. *If we’re able to get the kid to focus, it doesn’t matter what walk of life they’re from.* So I think honestly, if I’m looking for someone that would be really having a good job with equity, it would be someone that really doesn’t focus on the race in the room at all... You want to incorporate things, to get things of their interest. But that comes more from just talking to the kid. *That has nothing to do with their race.*”

Characterizes equitable mathematics instruction without using direct or indirect race talk (DeFino, 2022) and without acknowledging inequities that may exist between students belonging to different *groups* defined by socially constructed characteristics often associated with race or ethnicity (e.g., class, language).

- “I feel that, um, I would see that the teacher is talking to all [small] groups. Questioning, the same way, not giving one group answers, and the other group questions. Calling on kids from all groups and not just the ones that we know are gonna give the answers that we’re hoping for.”
- “I look at, are all the kids comfortable in the classroom? Do they feel safe? Do they feel like they can answer or talk to the teacher when they need help?”

**Table 1:** Levels of race consciousness within visions of equitable instruction.

## Discussion

The larger project from which this analysis emerged took up race and racism as explicit foci in professional learning settings with teachers (and in the research team’s broader efforts to situate the project institutionally). Thus, as alluded to previously, it provided an opportunity to observe changes with respect to individuals’ race consciousness. The trajectory presented here is one of a set intended to capture teachers’ and others’ visions of equitable mathematics instruction. In our analysis we considered embedding attention to race and racism within those others trajectories, but ultimately decided to model the development of this construct on its own as a starting interpretive framework for understanding other aspects of individuals’ equity-related discourse.

We imagine the trajectory we have developed could be helpful for others working to understand or support individuals’ development of race consciousness in (mathematics) education, including work with in- and pre-service teachers, leaders, or even policy analysis. While, in scope, “instructional vision” does not explicitly extend to structural and systemic aspects of schooling, our hope is that increased race consciousness might at least help move our field past the heretofore dominant equity discourses and push more critical dimensions in the mainstream.

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