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Editors' Welcome

Andrew Porter, Kristien Zenkov, Holly Glaser, Michelle Lague, and Mark Helmsing

Every journal is ultimately a reflection of its audiences, and *The Teacher Educators' Journal* (*TTEJ*) is no exception. Our readers are those teacher education scholars and practitioners who see themselves in our publications and in the issues and individuals that are considered in the scholarship implemented and the strategies employed. In this issue of *TTEJ*, the authors of the six included articles recognize our journal as a space where they can consider some of the most challenging topics of our times and offer us insights and implications to guide our own studies and practices. They go further: they don't just examine these issues: they share counter-stories, counter-pedagogies, and counter-perspectives to help us actually see alternatives.

In this issue's opening article, "Teacher Mental Health and Well-Being in a Global Pandemic," Adkins-Cartee, Lissman, Rosiek, Donley, and DeRosia report on a naturalistic study of teacher mental health and well-being while teaching remotely during the earlier phases of the global COVID-19 pandemic. They employ what some might consider "counter" theories—feminist standpoint theory and intersectionality theory—as frameworks for centering the narratives and experiences of BIPOC educators. Brown and Robbins examine examples of counter-grading practice in their article, "Developing and Reconceptualizing an Equitable Grading System in Undergraduate Education." In an effort to promote equitable grading practices and support continuous learning in undergraduate education, these scholars analyze their own grading practices and discuss the implications of employing nontraditional grading practices in undergraduate education courses. In the final article in this section, "Pre-service Teaching Candidates Reflect on Science Identity through Narrative Podcasting," Gierhart and Van Valkenburgh use a single case study research design to analyze narrative audio podcasts in order to explore how teacher candidates develop insights about their science identities (potentially *counter*-identities) as they relate to current and future teaching.

The second half of this volume's articles employ the notion of "countering" to race-related issues in teacher education and schooling contexts. In their article, "Using Latinx Counterstories to Support Developing Critical Race Consciousness in Teacher Education," authors Gabriel, Aragon and Jennings use critical race theory (CRT) as a theoretical framework to study a professional development approach that involved presenting Latinx youths' own narratives and voices about their racialized experiences to participating educators, who then reflected on these Latinx youth's experiences in writing. Morton, McCorrison, Parrish, Byrd, Ferguson and Green examine the efforts of a regional teacher education program in the article "Teacher Engagement and Reflections of Attitudes," supporting pre-service teachers by providing intentional opportunities to engage with students from different racial and ethnic backgrounds while working in a science, technology, engineering and mathematics (STEM) summer enrichment program. And, finally, in "A Call for Change: Disrupting the White Supremacy Culture in Dispositional Expectations of Teacher Candidates," Stevens, Driskill, Huck, Abbott, Robinson, Barrett, Johnson, Polisseni and Rushforth employed qualitative methods and use critical race theory as a framework to critically analyze how the current dispositional expectations for teacher candidates reify white supremacy culture characteristics.

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Teacher Mental Health and Well-Being in a Global Pandemic

Mary R. Adkins-Cartee
University of Oregon

Dana Cohen Lissman
University of Oregon

Jerry Rosiek
University of Oregon

Kevin Donley
Georgetown University

Nicholette DeRosia
University of Oregon

Abstract

This paper explores the ways in which COVID-19 and the rapid shift to remote education has impacted teachers' mental health. Teachers play multiple roles in students' lives (Cross & Hong, 2012) and already face high levels of work stress. This study, which draws on interview data from a larger pool of interviews conducted with K-12 teachers nationally and internationally from 2020-2022, documents teachers' increased responsibilities for monitoring students' mental health and helping families cope with the consequences of the pandemic. This often-unacknowledged work was a source of stress and impacted teacher well-being. Black, Indigenous, and People of Color (BIPOC) teachers and white teachers who explicitly resisted white supremacy particularly experienced more elevated stress and responsibilities because of the disproportionate impacts of COVID-19 and the concurrent racial uprisings. Nevertheless, these teachers also demonstrated remarkable resilience in coping with their own and students'/families' needs.

Keywords: Teacher well-being, BIPOC teachers, teacher education

As COVID 19 struck in early 2020, physical school closures compelled significant changes to teachers' professional lives. Remote instruction required teachers to both learn and perform new instructional and technical skills simultaneously (Kaden, 2020). Lockdown,

working from home, and the need to separate work and personal life increased the already high levels of stress and burnout among teachers (McLean et al., 2020).

Teachers also addressed the diverse wellness and basic needs of families to support students emotionally and academically (Kaden, 2020; Trinidad, 2021). Educators were found addressing issues such as family food insecurity, help accessing remote education, health services, and mental health support—issues racially oppressed families faced disproportionately during the pandemic (See et al., 2020). Amidst limited guidelines and resources, these factors created compounding stressors for teachers (Trinidad, 2021). Therefore, a need has arisen to examine the factors impacting teachers' mental health and well-being during the COVID-19 pandemic. Given their crucial role in providing support to families--and particularly to racially and economically marginalized families--attention to teacher mental health is crucial to students' learning and well-being, as well as community well-being, during the pandemic and beyond.

As former PK-12 teachers we, the authors, were particularly attuned to teacher mental health and well-being. One of us (Mary) identifies as a white, genderfluid, femme-presenting, omnisexual, middle-class, middle-aged Ph.D. candidate with personal experience with mental health issues. Dana is an international Ph.D. candidate with a complex identity that exists at the intersection of immigration status and cis-gender, middle-class, and able-bodied identities. Dr. Jerry Rosiek is a full professor who identifies as a white, cis-gender male who is able-bodied, middle-class, and heterosexual. Dr. Kevin Donley is a post-doctoral fellow who identifies as an able-bodied, cis-het man with a middle-class, rural, white family background. Nicholette DeRosia is a Ph.D. candidate who identifies as a fat, able-bodied, cis-bi woman with personal experience with mental health from a working class rural white family. Among the five of us, we have 31 years' experience teaching in PK-12 public schools in the U.S. (Mary, Jerry, Kevin, and Nicholette) and

Israel (Dana). Our positionalities and political commitments inform our choice not only of topic but also to center the stories of racially marginalized teachers during the pandemic. While none of us identify as Black or Latinx, we specifically center the stories of these teachers who took part in this study for reasons we detail in the literature review and methodology below. While we acknowledge that this puts us as authors in a rather complicated position that risks complicity in white saviorism, we were entrusted with these stories as we conducted interviews with teachers about their well-being. Our only other option would be silencing or ignoring narratives concerning the intersections of race and well-being with which these teachers entrusted us, and to us, that was not an acceptable option. Following Sarah Ahmed (2017, pp. 93-94), our political commitment is to reducing harm when and where possible while also assuming our own complicity because this work takes place within larger systems built on harm. Our political commitment, then, is to maximize harm reduction in a violent society. As such, we center standpoint theory (see below) and affirm the importance of these narratives.

Literature Review and Rationale

Considerable research has been done on teacher attention to student mental health (Mazzer & Rickwood, 2015; Reinke et al., 2011). Certainly, attention to this issue has increased dramatically since the COVID-19 pandemic began. As of late 2019, a systematic review of the literature concerning teacher training in K-12 student mental health (Ohrt et al., 2020) found that teacher trainings that focus on increasing teachers' knowledge of student mental health issues do impact both teachers' literacy with and de-stigmatization of mental health issues in students. However, Anderson et al. (2019) found that while mental health training for teachers improved teachers' knowledge and attitudes concerning mental health, it did not necessarily improve student outcomes or teacher mental health, and the quality of support for implementing such

trainings varied widely. Jones et al. (2022) found that 37.1% of students experienced poor mental health during the pandemic, but those who felt connected to people at school (virtually or in person) had significantly better mental health than those who did not. Training in mental health literacy is still not a required component of most teacher education programs (Ohrt et al., 2020). Atkins and Rodger (2016) also found that teacher training in mental health is necessary but is not a usual part of teacher education; but again, their focus was teachers' awareness of and support for *students'* mental health.

Until the pandemic, less research had been done concerning *teacher* mental health (Chang, 2009; Dicke et al., 2015), and the connection between teacher mental health and student academic and non-cognitive outcomes (Arens & Morin, 2016). That said, even before COVID-19 began, alarms were being raised concerning the national teacher shortage (García & Weiss, 2019) and the need to address teachers' "working conditions and other factors prompting teachers to quit" (p. 1). Furthermore, according to O'Toole, "school-based mental health interventions tend to obscure broader social and structural inequalities. Mental health problems are firmly located within the individual child rather than within structures and networks of power and privilege" (O'Toole, 2019, p. 16). It is not a far leap to apply the same logic to the mental health interventions aimed at teachers; problems with teacher mental health and well-being are also located within the individual and not within structures and networks of power and privilege.

Individualistic vs. Structural and Systemic Teacher Well-Being

Literature on teacher well-being has burgeoned after the onset of COVID-19, as teaching has come to be understood as of the most stressful professions, comparable in rates of high stress to only nurses and physicians (Bottiani et al., 2019); however, the vast majority of this new literature still focuses on interventions individual teachers can make (American College of

Education, 2021). Teachers developing better individual routines in terms of food, sleep, exercise, mindfulness, etc. is the topic of much teacher wellness "self-help" literature (Boogren, 2019; Kanold & Boogren, 2021). In the face of systemic under-payment, low societal respect and support, under-resourcing and under-staffing of schools (particularly schools in low socioeconomic and majority Black, Indigenous, and People of Color [BIPOC] locales), and the need to teach children whose lives are impacted by racism, trauma, childhood poverty, lack of access to medical and dental care, and more (Bottiani et al., 2019), such "self-help" recommendations ring hollow at best, and maliciously victim-blaming at worst. Individualized self-help/wellness discourses operate as part and parcel of neoliberal devolvement of responsibility (Apple, 2000) for "structures and networks of power and privilege" (O'Toole, 2019) to the individual level, eschewing any collective, societal, corporate, or governmental responsibility for the conditions that create teachers' ill-being.

Teachers' Roles

Prior to the pandemic teachers were already tasked with caring for students' needs beyond academic instruction (Cross & Hong, 2012). Cross and Hong (2012) discussed the ecological systems surrounding teachers' role and identity. They described how students' needs impact teachers' feelings and professional identities. In this inherently interactive model, teachers' roles go beyond academic instruction and outside the physical structure of the classroom. Similarly, Kim and Asbury (2020) described how teachers were tasked with caring for students' well-being, food security and mental and physical safety during lockdown without any preparation or official support in many cases, which made teachers feel compelled to take on roles beyond teachers' official ones. During the pandemic, teachers' roles expanded even more beyond instruction

(Cross & Hong, 2012), even as their modes of interaction with students appeared to constrict to the virtual (Kim & Asbury, 2020).

Although such "role-comprehensiveness" is motivational for many teachers, it can also elevate work-related stress (Cross & Hong, 2012; McLean et al., 2020; Mérida-López et al., 2017). These stressors are compounded and complicated by institutionalized racism in schools. Teachers of students from racially oppressed groups are at risk for additional stress when they find it necessary to work against the grain of systemic bias, experiencing "marginalization by association" (Kim & Asbury, 2020; Stapleton, 2018). Since teachers of Color are often sought out by students of Color and other teachers of Color for mentorship and support, this stress burden can also fall disproportionately on them (Allen et al., 2016).

Emerging COVID-19 Research on Teacher Well-Being

Several themes emerge from research conducted as the pandemic unfolded. Teachers' well-being during the first wave of the pandemic (i.e., lockdown and school closures) yield several repeated themes. The first few weeks at the beginning of spring of 2020 were filled with the uncertainty of what was to come. Teachers' uncertainty revolved around what they would be expected to teach, the modality of teaching, and the support to transition to online learning during lock down. Lack of clarity in districts' and schools' expectations of teachers, and corresponding lack of systemic support was demonstrated by Chan et al.'s thematic analysis of open-ended questions on which teachers were asked to reflect. They were asked what could have supported their well-being during distance learning and teachers indicated needs for much greater clarity and support (Chan et al., 2021).

Along with uncertainty, the importance of relationships was also salient during distance learning (Simmons et al., 2019). Teachers' relationships with colleagues, with students, and with

families were abruptly disrupted and were a cause for teachers' negative stress. As the pandemic unfolded, the initial uncertainty abated, and teachers adjusted to distance teaching while navigating their own well-being (Kaden, 2020; Kim & Ausbry, 2020). Teachers had to balance professional and personal responsibilities now taking place in a single physical space (Jakubowski & Sitko-Dominik, 2021, 2020; Kaden, 2020; Kim & Ausbry, 2020).

Concerns for vulnerable students were also raised by teachers during the first COVID wave. Teachers were concerned about students in unsafe environments, students living in impoverished conditions (Kim& Ausbry, 2021), students with disabilities, English language learners (DeRosia et al., 2021), and students who identified as LGBTQIA living in hostile environments (Salerno et al., 2020). Students from historically marginalized groups especially at the intersection of low SES and disability were of special concern (J. M. Jones, 2021; Kim & Ausbry, 2020).

Connectedness of Teacher and Student Well-Being

For anyone who has worked in schools, the idea that teachers' and students' mental and emotional health and well-being are entangled should not be controversial. Harding et al. (2019) documented that better teacher well-being is associated with better student well-being, while higher levels of depression in teachers is associated with greater levels of psychological distress in students. The authors describe the complexity of teacher-student interactions and the bidirectional impacts on students' and teachers' well-being. Current literature examines teachers' well-being as a mediator for students' well-being and positive outcomes (Chan et al., 2021). Others (e.g., McLean & Connor, 2015; Freeman et al., 2011) have found that "teachers who report more depressive symptoms have been shown to have lower-quality classrooms, and to provide less frequent positive feedback to students" (McLean et al., 2020, p. 2).

Again, the move to remote instructional platforms in early 2020 altered relations between teachers, students, and families (Kim & Asbury, 2020). Based on the preceding literature it is reasonable to assume this would impact the dynamics between teacher mental health and well-being and student well-being (See et al., 2020). Preliminary literature that examined the impact of the sudden transition to online learning during COVID-19 revealed that teachers' concerns about vulnerable students also directly impacted teachers' well-being (Kim & Asbury, 2020). The current paper builds on the above literature to add to the complex portrait of the interaction of the pandemic lockdown, teacher mental health, and student well-being.

Anti-Racist Feminist Standpoint and Intersectionality Theory

This paper also builds on the work of anti-racist feminist standpoint theories in centering the narratives and experiences of BIPOC educators during the earlier phases of the pandemic. Standpoint theory holds that lived experience, particularly the lived experiences of marginalized peoples, are a valid and often more complete source of knowledge about how hegemonic power operates within societies (Collins, 1986; Harding, 1997; Harding, 2004; Moreton-Robinson, 2013). Women of Color in particular, due to their intersectional (Crenshaw, 1991, 2019) and interlocking marginalized identities *must* understand the workings of white supremacist patriarchal power in order to *survive*, while those with more privileged identities (e.g.--but not only--cis-het able-bodied, thin, younger white men) are able to remain ignorant of these power dynamics. Therefore, as we discuss below, we purposefully over-represent the experiences of the BIPOC teachers we interviewed, understanding that their experiences added crucial knowledge of how processes of racialization intersected with general stressors on teachers during the pandemic.

Furthermore, feminists generally and anti-racist feminists specifically have continually drawn attention to the body and embodiment in education. BIPOC feminists in particular have provided incisive analysis of the ways in which bodies "tell histories" (Walters et al., 2011) including continuing histories of settler colonialism and plantation slavery (Davis, 1981). Sonya Renee Taylor describes the hierarchy of bodies valued in current society (with cis-het, white, thin, able-bodied younger males at the top; Taylor, 2021). She states, "Relationships with our bodies are social, political, and economic inheritances. The nature of these inheritances has changed over time, the default body morphing and transforming to suit the power structures of the day" (Taylor, 2021, p. 42). Relatedly, Tricia Hersey traces "grind culture" and the pressure to be "always working" directly to the mechanization of the human body under plantation slavery (Hersey, 2022). Melissa Harris-Perry examines the way that shame and stereotypes of Black women in the United States creates a "crooked room" in which Black women must metaphorically attempt to stand up straight (Harris-Perry, 2011). And, from Judith Butler's *Bodies that matter* (Butler, 2011) and *Gender trouble* (Butler, 2006) to Donna Haraway's *Cyborg manifesto* (Haraway, 1991) to the burgeoning literature on posthumanism (e.g., Braidotti, 2019), the materiality of the body has come to be understood as a political site in the largely feminized (and female/womxn-dominated) profession of teaching and teacher education.

Teachers' Well-Being and Teachers' Racialized Burnout

Burnout is defined as a "prolonged response to chronic emotional and interpersonal stressors on the job" (Maslach et al., 2001, p. 397). Teachers' well-being is directly correlated with their feelings of burnout. Teachers who report higher levels of emotional exhaustion also report higher levels of burnout (Capone & Petrillo, 2020). It is also well-documented that "allostatic load" (or the biological impacts of stress on the body; Kelly-Irving, 2019) is

physiological, not merely psychological (although its origins can often be interpersonal and psychological); therefore, burnout is a thoroughly embodied phenomenon related to over-work and inability to complete the "stress cycle" in the body (Nagoski & Nagoski, 2020). The field of social epidemiology has also documented that, controlling for all other factors, the impacts of racialized stress on the body shorten BIPOC women's life expectancies as compared with the life expectancies of white women (Gravlee, 2009). Moreover, Isaac Prilleltensky's work in counseling psychology avers that justice and community well-being are essential to individual well-being, so much so that the two cannot be conceptually separated (Prilleltensky, 2005, 2012; Prilleltensky et al., 2016). Indeed, Prilleltensky asserts that "teacher stress not only impacts teacher health and job satisfaction negatively, but it also figures prominently in the nation's high teacher attrition rate" (Prilleltensky et al., 2016, p. 104).

Certainly, it is well-known by now that COVID-19 was an immense stressor on most, if not all, humans. Teachers experienced an intensification of stressors during COVID-19, many of which pre-existed the pandemic. BIPOC educators in the United States bore the brunt not only of the increased emotional labor of teaching during the pandemic, but also of experiencing particularly racialized stressors (Cormier et al., 2021), including those associated with bearing witness to and identifying with the 2020 murders of Ahmaud Arbery, Breonna Taylor, and George Floyd (Hill et al., 2020). Others (e.g., Berheide et al., 2022; Simien & Wallace, 2022) have found that college faculty of color experienced an intensification of already-disproportionate emotional labor during COVID-19, as many were asked to perform service labor on racial justice committees, committees for new and/or cluster hires, etc. While the contours of racialized emotional labor do not look exactly the same in K-12 education, K-12 faculty of color also experienced increased racialized emotional labor and "racial battle fatigue"

(Solomon et al., 2022) during COVID-19, including being asked to meet with children and families, problem-solve on behalf of white teachers and administrators, etc. while also bearing witness to the disproportionate impacts of COVID-19 on communities of Color and the U.S.'s racial reckoning (Souto-Manning & Melvin, 2022). Yet almost immediately, teachers were simultaneously told not to discuss issues of race or racism in K-12 classrooms (J. M. Jones, 2021), which has continued with Critical Race Theory bans from 2021to present. It is therefore also evident that BIPOC teachers experience increased allostatic loads/stress on the body in racially disproportionate ways. Indeed, the Southern Educational Foundation found that

> the proportion [of teachers reporting they planned to leave the profession] was significantly greater among Black teachers, many of whom experienced unique stress, anxiety, and racial fatigue… with nearly half reporting they were likely to leave their jobs by the end of the school year. This outsized impact on Black teachers affects all students as research has shown that while Black students particularly benefit from having Black teachers, all students benefit from the diverse perspectives teachers of color bring to the classroom. (S. Jones & Ali, 2021, pp. 4-5)

Teacher Practical Knowledge

Last--but certainly not least--we also ground this study in the teacher practical knowledge literature, which holds that teachers are important and unique sources of professional knowledge that cannot be generated by theory and/or generalizations alone. While we aver that teacher mental health and well-being are structural and systemic phenomena that are not reducible to individual teachers' psychology alone, research also affirms that teachers' practical and lived knowledge is irreplaceable (Clandinin et al., 2018; Clandinin, 2019; Cochran-Smith & Demers, 2010; Cochran-Smith & Lytle, 2015; Crag, 2018; Elbaz, 2018; Rosiek & Clandinin, 2016;

Rosiek & Gleason, 2017). In the context of teacher mental health and well-being, there is no better source than teachers themselves.

Methodology

This naturalistic study of teachers' experience of teaching remotely during the pandemic is located within a tradition of interpretivist research that describes what teaching actually is, not how it can be transformed into a preconceived ideal (Schwandt, 1998; Lincoln & Guba, 1985). It is also informed by the teacher practical knowledge literature, an area of scholarship that maintains important knowledge about educational processes can be gained by listening to teachers' practical experience of teaching (Elbaz, 1983; Clandinin, 1989; Rosiek & Gleason, 2017; Shulman, 1987).

Naturalistic studies of teaching, however, do not explicitly center the experiences of persons of Color, and as such they can be subject to the distortions of white supremacist ideologies that overlook or minimize the significance of racial difference in educational experience. This study, therefore, also draws on anti-racist feminist standpoint theory (Collins, 1986; Harding, 1997; see literature review) to provide a framework for over-representing and featuring experiences of both the BIPOC teachers in our study sample and BIPOC and white teachers' experiences serving BIPOC students and resisting white supremacy in schools. In this article we pay special attention to the impact of intersectional identities (Crenshaw, 2019)—particularly, though not exclusively, those of BIPOC teachers and white teachers who work with BIPOC students and resist white supremacy—on mental health and well-being during COVID-19. This is important both for the purpose of constructing an effective unit of analysis for this study, and as a move towards solidarity in the struggle for anti-racism. We seek to follow the leadership (axiologically and epistemologically) of women of Color, as anti-racist and anti-

colonial feminists (see above) and members and leaders of the Black Lives Matter movement have called for (Hagopian, 2020; Love, 2021).

We took a naturalistic approach to the study of these complex relations by listening closely to teachers' experiences of teaching during the pandemic (Lincoln & Guba, 1985). We took care to include and attend to the unique experiences of Black, Indigenous, and People of Color (BIPOC) teachers because of the "importance of intersectionality in research on social stratification and mental health" (Rosenfield, 2012).

During COVID-19, teachers in our study reported taking on the added role of supporting students' caregivers as they sought to facilitate distance/virtual education. This most often included instructional coaching, but also included offering emotional and material supports to families.

Data Sources

This paper draws on data collected for a larger project entitled Pedagogy of the Pandemic (POTP). The POTP project collected stories via semi-structured interviews from over 100 teachers from multiple states within the USA, Thailand, Israel, Mexico, Nicaragua, Brazil, Canada, and Spain. The research team included a full professor PI and over 30 graduate and undergraduate researchers who conducted, transcribed, and coded semi-structured interviews with teachers about their experiences teaching remotely during the pandemic. The study aimed at understanding teachers' experiences and pedagogy as the sudden transition to remote instruction in the spring of 2020 was underway (Chan et al., 2021; DeRosia et al., 2021; Kaden, 2020; Kim & Ausbry, 2020). We focused on teachers' resilience and ways that teachers' problem solved the challenges that emerged in the transition to distance teaching.

Interviews

Initial interview questions focused on issues of equity for multiple marginalized student populations such as students with disabilities, students in poverty, ESOL students, LGBTQIA+ students, Indigenous students, and more. After initial interviews, researchers on the project requested follow-up interviews to ask further questions about a variety of themes. Approximately 20 teachers were invited to such follow-up interviews and 15 accepted. Of these, four were conducted by the two lead authors for this paper, specifically focusing on impacts on teacher mental health and well-being during the pandemic. A total of eight interviews (four initial, four follow-ups) makes the data set for this paper (see Table 1).

We developed our follow-up interview protocol (see Appendix B) to focus specifically on teacher mental health. An example follow-up question included:

- What are your biggest concerns for teachers' well-being?
- Are you spending your own money on technology and supplies? If so, how much and on what?
- Do you know of teachers who are facing more general financial hardships due to the pandemic that affect their ability to work and their well-being? (Allow that respondent may not wish to discuss such things.)
- Are you facing childcare challenges?
- Our preliminary research suggests that the pandemic is increasing the emotional labor of teaching—caring for others, being concerned about their well-being, reassuring children, etc. (May need to explain emotional labor a little more.)
- Is that true for you?
- Do you have specific examples of this emotional labor?

All interviews were conducted via Zoom and lasted between 30 minutes and two hours. For teachers' demographics and years of experience please review Table 1.

Analysis

In our analysis of the interviews, we sought patterns that spoke to the meaning of teachers' lived experience in the full context of their lives. As Glesne put it: "Qualitative researchers often look for patterns, but they do not try to reduce the multiple interpretations to a norm" (Glesne, 2006, p. 9). Not reducing our data to 'norms' still allowed for reliability via thoroughness and honesty, and validity *because* we did not seek to reduce the irreducibility of human experiences and power relations (Smith, 2000).

Coding

Because stress of various types is widely recognized as correlated with depression and anxiety (Abós et al., 2019; Skaalvik & Skaalvik, 2018), we listened for stories about teacher stress. We utilized open and selective coding to note accounts of the stress of balancing home and work life amidst the compression of both into a single space; stress related to the uprising against racist police violence and inequitable impacts of COVID due to systemic racial oppression; stress related to physical health challenges of self or loved ones during COVID; and financial stress on self/family and/or student populations. Importantly, we wished to avoid telling only "pain narratives" (Tuck & Yang, 2014), as these can reinscribe deficit theories about teachers generally or about communities of Color. Therefore, we also intentionally listened and coded for teachers' resiliency strategies, such as coordinating with other colleagues and creative teaching via remote instruction, joy found in the teaching, and relying on community strengths to support teaching practice.

Participants

In total, the interviews selected for inclusion in the data analysis for this paper were eight of the over 100 conducted. These eight were selected because the teachers' experiences were illustrative of the types of stressors teachers faced during the pandemic--stressors exacerbated by, but not necessarily instantiated by, the pandemic's conditions. We include here a table of those participants on whose interview data we draw later in the paper, utilizing pseudonyms generated by a random name generator online.

Table 1

Teacher Demographics

Name/Pseudonym	Race	Gender	Years teaching	Level	Subject
Rose	White	F	3	middle	ELA
Abbie	White	F	33	high	ELA
Imogen	White	F	13	elementary	Elementary reading intervention specialist
Francesca	Latinx	F	17	high	Spanish
Eden	Black	F	16	middle/high	ELA
Aisha	Black	F	20	high	math
Tiffany	White	F	16	elementary	First grade
Ellen	White	F	28	middle	AVID/Instructional coach
Totals:	5 White, 2 Black, 1 Latinx	8 F	Mean 18.25 Median 16.5 Mode 16	High: 4 Middle: 3 Elementary: 2	ELA: 3 Spanish: 1 Math: 1 Elementary: 2 Instructional coach: 1

Trustworthiness

Sampling was opportunistic and used snowball methods (Tracy, 2019) to expand the pool of respondents. As a consequence of this sampling approach, no claims can be made that the teachers interviewed are a representative sample. Smith (2000) states, "A trustworthy account is one 'worth paying attention to, worth taking account of'…. A trustworthy account is one that demonstrates 'the quality of goodness'" (Smith, 2000, p. 142). The stories included here of teachers' mental health and well-being highlight similarities in structure and narrative across teachers' experiences as the pandemic unfolded, even if these experiences were not universally shared by all teachers. As such, they also provide insights that are "transferable" (Guba & Lincoln, 1982, 1994; Lincoln and Guba, 1985).

Results and Discussion

Our main findings include the ways in which teachers became aware of student mental health concerns and coordinated support, even in the absence of official guidance at the onset of the pandemic. However, finding themselves in this role certainly impacted educators' mental health and well-being as well. Further, educators experienced impacts on their personal lives, but found multiple means of enacting their resilience, particularly in resisting white supremacy.

Educators Interfacing with Student Mental Health and Coordinating Support

Seven of the eight teachers grieved the lack of in-person relationships with their students, struggled to find healthy work-life balance, and sometimes received mixed expectations from administration, yet found ways to ensure they monitored students' mental health and provided care by making themselves available to students and by coordinating with other teachers (Kaden, 2020). (One teacher [Aisha] who did not share these exact struggles was a small business owner

who had already run an online tutoring and educational company for some time). According to Rose:

> Teachers are always on the front line of students' mental health, no matter how many resources we provide, just due to the relationships [we have with students]. And it's not because teachers don't refer kids to guidance counsellors… students have to have met so many criteria to be able to meet with that mental health counsellor.

For Rose, assisting students with mental health as the pandemic unfolds has

> been both a joy and a burden…. You feel so honored that a kid trusts and thinks that much of you…. But on the flip side of that… you become a mediator between kids and the mental health professionals, which sometimes can make you feel small because you want to invest in [the kids], and you feel like you should be able to help them. But you also want to make sure you're not getting caught up in the red tape of what if… they didn't get the help they needed, and it's because you fell down on the job? So that's an increased stress and strain, but also a huge honor.

Rose's experience highlights the fine line educators navigated between a commitment to support students in extreme circumstances and the limits of their competence and capacity to provide support. Such situations were often experienced as a moral trap (a concept we explore in later work, under review) where teachers felt they had no good options. Teachers' training does not include counseling skills; however, the nature of their relationships with students mandates they engage in forms of crisis management and counseling. This is a form of emotional labor for which teachers seldom receive training (Atkins & Rodger, 2016; Ohrt et al., 2020), and furthermore, the impacts of such emotional labor on teachers are rarely accounted for.

Abbie, Rose, Francesca, Imogen, and Eden all described, in various ways, taking responsibility for student mental health during the pandemic regardless of whether schools were supporting students' mental health. Abbie stated:

> I don't think we've responded to [student mental health needs at the school level]. I haven't had any emails… saying "if you're having students struggling with anxiety…" We've just kind of found out by saying, hey, you teach so-and-so, and I just want you to know, they're really hurting, and reach out to them. It's all been on a teacher level.

Abbie's comment points to another layer of the moral trap some teachers endured during the stay-home orders: knowing the boundaries of their skills and training while facing the systemic barriers that prevented students from accessing the support they needed in a timely manner.

Teachers not only played roles typical of other professions, but they also coordinated with other teachers to support students and each other. Imogen stated:

> We have a network-wide meeting… And essentially, [these meetings] were for sharing ideas and maybe seeing, "Hey, can you plan this Language Arts lesson, and I'll plan this math lesson and then I'll plan this science lesson and then we'll just share, and you can modify it… for your class, but at least we're not all planning every single lesson every single day." …But it's kind of turned into that plus, "Hey, how are you doing today?"

As indicated by this teacher, collaboration was initially a platform to share knowledge and resources; however, this progressed to include deeper emotional student and peer support. While teachers' resiliency created peer support, we now have data to support that the limited official support from districts had a negative impact on teachers' well-being and may contribute to feelings of burnout and the corresponding higher percentage of teachers who reported that they would leave the profession by the end of 2020-2021 school year (S. Jones & Ali, 2021).

Impacts on Educators' Personal Lives

Teachers also continued to meet a multitude of new work-related challenges while also dealing with immense stress in their personal lives. Francesca stated:

> I think if I get sick, it's fine. I think I'm strong enough… My husband, I worry about him… he has diabetes, too. And that's an underlying condition. So it's that stress you have on you… And you still have to have …a positive attitude with your students when you're looking at them through the camera, because you cannot make them feel more uncomfortable than what they might be already feeling. They… may have their own worries, their own situations at home.

Francesca's experience illustrates the conflicting responsibilities of keeping her own family safe while feeling obligated to support her students (See et al., 2020).

Educators who are also parents reported experiencing unique hardships during the pandemic. Eden, middle school administrator and mother of three stated:

> I think the biggest impact that the pandemic has had has been forcing us to spend so much time at home, and when you are used to working outside of the home--and you feel like what you do makes a difference, and it's a pretty significant part of your identity--it makes it really difficult … And you have to figure out how to manage this work identity with your identity at home as a mom and as a wife… So that's been the most difficult thing during this pandemic.

The challenge of working from home with young children present has not been unique to the teaching profession during COVID-19 but has undoubtedly compounded all the other stressors on teacher mental health discussed in this paper. Furthermore, as a female/womxn-dominated profession, teachers have already been working in a patriarchal society in which womxn still

undertake a disproportionate amount of child-rearing, emotional, and domestic labor (Ciciolla & Luthar, 2019), and COVID-19 only intensified this burden.

Educators' Resilience

Despite all this, teachers continued to find ways to engage students creatively and compassionately via remote instruction, to check on students' physical and mental health, and to provide basic necessities to students and their families. Rose described the following:

> Home visits have been a huge deal right now…. Just saying, "Are you alive over here? Are you okay?" …And, you know, we were able to make contact with every student in our district. So that was a really big deal…. [Students] got what they needed, which I think is a huge accomplishment. And a lot of that was on the part of the teachers.

Teachers showed up for their students in multiple ways while sometimes lacking administrators' guidance and support; they found ways to "make it work" (Kim & Ausbry, 2020). Rose felt empowered and was conscious of the opportunity to put the focus back on her knowledge, skills, and abilities gained through experience:

> As a teacher, I think that—honestly—I think classroom teachers, [are] better equipped to handle this than the administrators …. Because every day you have to monitor and adjust; you figure out a way to make it work…. We're used to differentiating; if you're a good teacher, you're used to not having all the supplies and having to figure out how to make it work…. Now, the good thing is, if… this is truly your passion, and your calling, you did that. You found ways to reach your kids.

Complimentarily, for some teachers, resilience also focused on having more time for self-care. Imogen also stated:

> In terms of our family, we actually have been healthier; we're getting more physical activity and we're getting more sleep.... It's like summer rejuvenation. I feel guilty saying that, but it's true.

However, in many ways, Imogen's experience reflects the high level of work-related fatigue experienced by teachers pre-pandemic and the need to create more time for sleep, exercise, and general self and family care than teachers usually get. Indeed, according to the Southern Education Foundation, "teaching is ranked as one of the worst professions for physical health, psychological well-being, and job satisfaction, which leads to high turnover rates" (S. Jones & Ali, 2021, p. 2). Thus, while the pandemic created many stressors, it also--for some--created a much-needed space for respite from the general state of over-work educators endure.

Impacts on Educators Working against White Supremacy

We chose to center the narratives of teachers of Color and white teachers who resisted white supremacy. We found that these teachers faced increased stressors due to fear of discrimination and disproportionate impacts of COVID-19 on communities of Color. Although the racial uprisings were impossible to ignore, coping with the pandemic made it less likely that schools would acknowledge or address these significant political and cultural events. This silence could leave BIPOC teachers feeling doubly isolated. To illustrate: Aisha, who identifies as African American/Black stated:

> We have a federal administration that is making light of the pandemic. And we're currently at over 120,000 deaths [as of the time of the interview]. And so when you look at the psyche, and there are a disproportionate number of deaths of those who are African

> Americans, and then I watch on television, a Black man who's been killed by the policeman, but then you expect me to be normal. Right? And so, where is the empathy? Where's the empathy?

Aisha's story elucidates a long-standing problem in the recruitment and retention of teachers of Color: that of white-dominated schools not only not valuing or centering the experiences of teachers and students of Color, but actively silencing, erasing, or otherwise ignoring both their joys and pains. As Jason Baez stated, "safe space for critical conversations, our history, and identity and voice" are crucial to BIPOC teachers' (in Baez's study, male teachers of color) retention and well-being in schools (Baez, 2021, p. 111). It should come as no surprise, then, that after COVID began, BIPOC teachers, and Black teachers in particular, reported in the Rand Corporation's 2021 State of the U.S. Teacher Survey that no less than half of Black teacher respondents expected to leave the profession by the end of the school year in which they were surveyed (S. Jones & Ali, 2021, p. 5).

Other BIPOC teachers, especially those who identified as immigrants, also experienced stress due to travel restrictions and inability to see family and friends. Francesca, who identifies as Latinx, stated:

> Well, [the pandemic] has had a really strong effect on me personally because my family, my friends, everybody's back in Colombia…. The summer is the time that I look forward to going to see them every year…. But beyond that point, it's more the uncertainty of what's happening and what may happen to them. What happens if they get sick and I don't get to see--[emotional pause]. Yeah, it's really stressful.

The unpredictable nature of the pandemic was exacerbated for Francesca by the additional stress of not being able to visit her family and friends if they faced imminent health risks. Francesca's

case illustrates the disproportionate stress impacts COVID created for educators with family and/or close friends in other countries, but again, COVID created a more extreme case of a worry those educators likely already experienced.

Because of her embodied positionality as an African American woman, Eden described the impact of school de- and re-segregation (Hagopian, 2020; Rosiek & Kinslow, 2016)--also exacerbated by, but not created by the pandemic. She stated:

> I remember making some phone calls to parents during [the beginning of the pandemic], and parents were like… this really makes me feel like y'all care. Like--we've got parents who don't feel like we care…. And that is one thing I'll say--I'm not saying that schools need to be segregated by any means, but… my mom went to [school name], which was an all-Black school in [town name]; she graduated valedictorian from this little tiny school where all the teachers were African American, and all the students were African American, and every teacher knew your mom and your daddy and they went to church together… it was a village, right? Everybody was a part of getting this kid to the next level. We don't have that anymore.

This comment illustrates a point made by Vanessa Siddle Walker and others (Hagopian, 2020; Walker, 2009): that the racial integration of schools often disempowered Black communities in unanticipated ways. This administrator connected her own family's experience of the support Black children got in all-Black schools pre-desegregation to the disconnection and distrust of white-dominated schools post-integration (Hagopian, 2020, pp. 30-31). In many cases, racial integration resulted in Black students having a far lower percentage of Black teachers and ultimately being put into the care of white teachers who often did not have connections to or understandings of their communities. In Eden's case, the 1:1 contact made by administrators

during COVID both illustrated that families of color had doubted schools' care and that schools run by predominantly white teachers and administrators did not offer families of Color the connections, care, and community that segregated all-Black schools had (due to anti-Black racism and Black teacher pushout post-integration).

Further, the work of disrupting systemic oppression was objected to by administrations even when white teachers took a stance for social justice. For example, Tiffany (a white anti-racist teacher) reported that her administrators cited the COVID-19 pandemic as a reason to omit addressing the history of racism in social studies curricula:

> I'm just starting this unit, and [administration] wrote back and said, don't do it. I was like, excuse me? The school board said not to do anything, the wording they used was "stressful." … They were like, the school board doesn't want us to do slavery, internment, anything that might cause students stress during this time. And I talked to my team—I didn't talk to my principal; [my principal] attacks my team. And we decided to do it anyway. Even though we have been directly told not to do it. Oh really? We can't not do it. That is white supremacy, when we try to avoid subjects because we think they're going to be difficult for kids. And we did [the unit] anyway.

This incident illustrates how the pandemic intensified inequity in schools, not just by having disproportionate impacts on communities of Color, but also by amplifying the influence of institutionalized white supremacy on curricula. In this case it made it necessary for teachers to resist administrative directives at the risk of trouble. Such professional stressors only added to the general stress caused by the pandemic. The burden of resisting white supremacy while risking her job is an example that could explain why BIPOC teachers reported higher level of stress and related feelings to leave the profession (S. Jones & Ali, 2021).

Importantly, teachers found ways to support BIPOC students during COVID and the racial uprisings even considering the empathy and support they did not receive themselves. Ellen (who was white but taught many BIPOC students) shared:

> This summer [2020] was horrible for me because I knew that a lot of my AVID students were in the heartbeat of the riots; I mean, that was like their daily life…. we called for extra prep time for the teachers, (but)… it was for the kids. We wanted them to be ready for school. So I really appreciate that we stepped into that decision. I would have been more impressed with our district had they called it what it was… If they had said… we're doing this for our kids of Color.

These reflections highlight the ongoing systemic negligence of the lived experiences of students and teachers of Color, and BIPOC and anti-racist white teachers' resistance and resilience in the face of terrible events. Indeed, in not calling the schools' actions what they were (support for students of Color who may have needed more time between participating in the racial uprisings of summer 2020 and being ready to come back to school for the fall), the school partook in discourses of colorblind racism (Leonardo & Dixon-Román, 2018; Sondel et al., 2019) even as they attempted to do something positive to support students of Color.

Implications and Significance for Teacher Education

Results from this study support the idea that we need to shift from an individual approach to well-being to a systemic approach to supporting teachers' well-being. This study also contributes our understanding of the impact of COVID-19 on teachers' mental health and how it mediates students' well-being and outcomes. These teachers' stories illustrate the connection between teachers' well-being and teachers' burnout. The pandemic has provided a window through which we can see the significance of teacher mental health as a policy issue, especially

as it impacts student mental health and achievement. This study contributes the following insights to literature on teacher well-being and mental health: 1. There is a need for ongoing structural support of the embodied emotional labor of teaching; 2. There is a need for financial, policy, and structural support for both student and teacher mental health, which are connected.

This study confirms that teachers often find themselves compelled to care for student mental health and well-being (Cross & Hong, 2012). Indeed, they often serve as society's first responders to both student emotional needs and mental health crises. Therefore, there is a need to examine what professional skills related to this work should be included in teachers' training. The Southern Education Foundation found that "only 13 percent of university preparation programs included at least one course that focused on relationship skills, six percent included a course on self-management, and one percent included a course on self-awareness" (S. Jones & Ali, 2021, p. 9), even as the teaching profession is, if nothing else, fundamentally relational. Furthermore, teachers could benefit from understanding the challenge of the emotional labor involved in teaching ahead of time and learning to identify when they may need individual or systematic support.

Rose described her role as a mediator between children's needs and mental health supports. Teachers need to know how to identify students' needs and be knowledgeable of community partners when referrals are in need. However, the time lag from identification to provision of services can be detrimental to both students' and teachers' well-being. Thus, teachers may need to provide some level of counsel, which indicates a need for explicit training. In addition, teachers need to learn to assess for life-threatening mental health risks thus requiring suicide prevention first responder and intervention training. These skills are not only significant to provide the necessary support to students, they are extremely significant to teachers' self-

efficacy; providing these supports can therefore also protect teachers' well-being. The need for teacher training on these issues is another indicator of the need for systemic approaches and policy initiatives to promote and protect teachers' well-being.

Emotional labor is a salient aspect of the level of stress teachers experience. The stories teachers shared in this study demonstrate how emotional labor plays a significant role in teachers' experiences as they navigated the new modality of teaching at the beginning of the pandemic. Teachers reported on the challenge of work-life balance and caring for their students while supporting their families' and their own needs. This imbalance is not unique to the pandemic, and it explains a portion of overall emotional labor. Teachers could benefit from more explicitly understanding--via teacher preparation programs--the challenge of the emotional labor involved in teaching ahead of time and learning to identify when they may need individual or systematic support. Furthermore, this study indicates that much more robust systemic support for mental health (e.g., counselors available at schools for teachers in addition to students) would benefit both teachers and students. Having such counselors on site and explicitly available to teachers would decrease the burden of emotional and invisible labor involved in having to seek out and vet counseling on one's own.

Narratives from this study reveal teachers' resiliency. Teachers' ability to show up for students despite districts' lack of support suggests the need to provide teachers with both increased autonomy and increased support to perform their roles. One means of accomplishing this would be for administrators to facilitate and support professional learning communities (PLCs) and promote teachers' leadership in addressing their students' well-being. While teachers in our study created their own opportunities, their efforts emphasize the pervasively individualized approach to teachers' well-being rather than the systemic one that is needed.

Implications for Retention of BIPOC Teachers

This study set out to understand teacher mental health at the outset of the pandemic. Some of our findings concerned the impact of systemic racism on student well-being and teacher mental health. Although institutionalized white supremacy is a mental health hazard in all contexts, and not only for BIPOC but for all persons, it is nonetheless important to consider the implications of these impacts in the context of this study. These include a need for personnel in schools to be trained in practices of not only being accountable for supporting BIPOC teachers but also for creating environments in which BIPOC teachers can thrive. This can include teacher education that prepares all educators to be advocates and/or allies working against the arguably permanent state of institutionalized racism in schools and society (Bell, 2018). The creation of "rejuvenation spaces" (Mosely, 2018) specifically for Black teachers (and all BIPOC educators) is another avenue that could be explored much more systematically to support BIPOC teachers' well-being in schools.

This study contributes to literature on the inequitable emotional labor teachers of Color inevitably take on in school systems permeated by structural white supremacy. In response to such concerns, Rios and Longoria (2021) have advocated for policies that help sustain BIPOC teachers' identities and full selves in schools as an asset-based approach to BIPOC teacher retention. Furthermore, our findings indicate that any counseling staff hired to be on-site for teachers should hold anti-racist commitments. While anti-racism is a fairly universal aspect of psychological training at this point, it would be especially paramount in counselors available for BIPOC teachers.

As more anti-Critical Race Theory (CRT) bills are passed across the United States, it is incumbent upon administrators and white colleagues to ensure that BIPOC teachers stop bearing

an inequitable burden of emotional, mental, and physical labor in advocating for solutions to these problems while honoring the unique standpoints and knowledge BIPOC teachers inevitably have. As this paper is being edited on January 20, 2023, Florida governor Ron DeSantis has banned the Advanced Placement African American studies course from high school curricula (Migdon & Daniels, 2023). While the impacts of this particular ban are still developing, our findings indicate that there will likely be a larger emotional toll on BIPOC educators, who will continue to need empathy, material support, and spaces of rejuvenation. Anti-racist white educators will also need support—while continuing to support their BIPOC colleagues.

Teacher education has increasingly paid attention to culturally relevant and culturally sustaining pedagogies (Ladson-Billings, 2014). In the recruitment and retention of teachers, practices that help BIPOC teachers sustain their identities (Rios & Longoria, 2021) matter immensely for well-being and retention. As Addy et al. state, “Empathy is an attribute that has been considered as necessary for culturally responsive pedagogy to be effective” (Addy et. al, 2021, p. 37). Further, they state that “teaching holistically is a strategy that supports student persistence and ultimately retention in higher education” (Addy et. al, 2021, p. 39). In the words of educator Aisha, “Where’s the empathy?” Our findings indicate a need for empathetic engagement with and listening to the needs of BIPOC teachers (by administrators, colleagues, and policy makers) that is not yet taking place on a systematic scale. While “empathy” is not necessarily a “measurable” intervention, it is a necessary one, we believe, as it is a crucial underpinning for any additional interventions made in specific contexts. Further, empathy cannot be engaged in such a way as to frame BIPOC teachers as having merely “individual” problems with or reactions to systemic racism and white supremacy. In some media, systemic problems are represented in ways intended to evoke only empathy for individuals instead of empathy for the

experience of the impacts of systemic ills (Varma, 2019). This is not the type of empathy our findings indicate. They indicate a kind of empathy that not only understands systemic conditions but also engages solidarity (Varma, 2019).

Implications for Teacher Education Amidst "Aftershocks" of COVID-19

We contend that as the "aftershocks" of COVID continue (teacher shortages, anti-CRT bills, the deficit discourses of "learning loss" that continue to circulate and blame the victims of structural neglect instead of the failure of societal institutions [The editors of Rethinking Schools, 2023]), it is more paramount than ever that teachers experience the empathy of solidarity. It is equally paramount that districts, states, and the federal government continue to increase substantial resourcing and funding for mental health priorities for *both* teachers and students, as well as communities. Indeed, human well-being, particularly in our local and immediate communities, cannot be disaggregated to the individual level alone (Prilleltensky, 2005).

Students returning to full-time in-person instruction in the wake of the (still ongoing) COVID-19 pandemic are struggling with mental health concerns, increased anxiety and depression, suicidality, and self-harm at higher rates than before (Meherali et al., 2021), which is predictive of long-term impacts on students' mental health. Teacher well-being impacts both student well-being and academic achievement. It is clear that, in the words of the Abolitionist Teaching Network, "If the teachers are not well, how can we expect the students to be well?" (Abolitionist Teaching Network, 2022). We need a workforce of well teachers fully equipped to handle students' needs.

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Appendix A: Initial Interview Protocol, Spring 2020:

Pedagogy of the Pandemic

Interview Protocol

Prior to the interview:

- The participant should have received the informed consent form.
- They should have replied with an email providing their consent.
- Any questions asked by email should have been answered by email (unless last minute.)

Prior to the recording:

- Make greetings, and express thanks for participation. Perhaps chat about how person is coping with the social distancing. Be human.
- Summarize research using a version of the following:

As you know I am part of a research team at the University of Oregon conducting research on the effects of the COVID-19 pandemic on k-12 teaching. We want to know what you are seeing and feeling as a [teacher, aid, principal, district administrator, state policy maker, etc.] Our goal is to learn how school systems are adapting to these extraordinary circumstances. We will be looking at the effects of the pandemic on the teaching of specific subjects, on educational equity issues, on teacher professional development, on conversations about education reform, assessment, teacher autonomy, and other things that we cannot anticipate but people like you will tell us about.

We do not anticipate this research being controversial in any way, however, as a standard procedure we will keep your responses to us anonymous. As explained in the consent form, I sent you, once this interview is transcribed, your name will be taken off of it, and the video will be deleted. You also have the right to opt out of questions and to stop participation in the research at any time.

Do you have any questions about our research you would like to ask before we begin?

Notify participant: I am turning the recording on now.

1. Researcher: state your own name, date, and “pedagogy of the pandemic interview.”
2. Would you state your name and where you work for our records.

- If teacher—you may have to prompt for grade level and subject area.
- How long have you worked in this position? As a teacher?

3. Your professional work as a teacher takes place in the context of your full life as a human being. Therefore, before we begin talking about your professional work, I'd like to ask about the impact of these times on you more generally. How are you doing? How is the Covid-19 pandemic affecting you, your family, and those your care for? You may respond to that question in any way that makes sense to you, or you are welcome to pass.

- In case the question seems confusing, you may further explain that:
- Teachers' lives are often ignored or erased in public discussions of the work of teaching. We don't want to be a part of that general pattern.
- The pandemic has now forced the practice of teaching into teachers' homes. So the overlap between professional and personal spaces has expanded. We want to acknowledge that and talk about how this is part of the new work teachers are being asked to do.

4. I will start with an open-ended question: How has the epidemic affected your work as a teacher?

- What educational experiences, if any, are you being asked to provide?
- What are you actually doing, whether it is mandated or not?
- What are your biggest concerns for students?
- Which students are you most concerned about and why?
- What are your biggest concerns for teachers?
- What equity issues are affecting teachers? For example…
- Such as access to technology,
- Teachers' dis/abilities,
- Teachers' financial hardships,
- Teachers who share identities or have special connections with students having increased emotional labor?
- Are there any supports in place to respond to these needs?

5. Has your district or school organized any alternative form of educational service for students? If so, what? [Be prepared to explain that while you may know some of the things happening it is better to hear it in their words.]

- How is it going? How are these changes affecting you and your students?
- What supports for these alternatives have the district put in place? Time, expert advice, mew materials.
- How does this differ from the supports always offered to teachers?
- What supports are still needed?
- What professional development or training as been provided?
- Has the teachers' union been involved in decision making about these alternatives or resource development?

6. Are you in conversation with other teachers about how to respond to student educational needs during this pandemic?

- Who are these conversations with?
- What are you talking about?
- Who organized the conversations?
- Have they led to any specific actions or preparations?
- To what degree have teachers had to rely on one another?
- If a great deal, ask if this is preferable to receiving more direction?
- How are or could the district assist with this teacher-to-teacher collaboration?

7. Do you see differences of opinions emerging in your school, district, or state about how to handle the educational challenges of the pandemic?

- What are these differences?
- Who are the parties in these discussions and what stances are they taking?
- Why do you see them taking that stance?
- To what extent are practicing teachers being included in the development of a response?

8. What equity considerations do you see being raised by alternative approaches to teaching being used?

- Are there particular students or groups of students you are worried about?
- Let's think about different a variety of different student demographic groups and see if you have thoughts about how students in those groups are being affected by the changes in schooling happening.
- How are economic and income differences influencing (likely to influence) student experience of the changes happening?
- How is linguistic difference influencing student experience of the changes happening?
- How is dis/ability influencing student experience of the changes happening?
- How is racial identity influencing student experience of the changes happening?
- How are Indigenous students uniquely experiencing the changes happening?
- How is gender identity influencing student experience of the changes happening?
- How is sexuality identity influencing student experience of the changes happening?
- How is parent education level influencing student experience of the changes happening?
- Any others we might ask or think about?
- Are there particular students or types of students you are worried about, not adequately described by those broad categories?

9. What do you wish you or the district were able to do for students in this pandemic? What would have been an ideal response? What is preventing that response?

10. What do you think the impacts of the pandemic will be for students

- of your grade level specifically?
- What could be done to lessen these effects?
- of your subject matter area specifically?
- What could be done to lessen these effects?

11. What do you think will be the challenges when students and teachers eventually return to in-person classes?

12. What questions have we not asked that we should be asking?

- Ask the question they recommend.
- Tell them this reply will be taken back to the research group and may be incorporated into future interviews.

13. Do you have any questions for us?

14. Is there anyone actively involved in these kinds of conversations that you would recommend we interview? Educators who are particularly active in conversations about developing an educational response to the pandemic?

- Would you be willing to be interviewed again if we wanted to follow up with you as we learn more?

Appendix B: Follow-up/New Interview Protocol, Winter 2021

Pedagogy of the Pandemic

Winter 2021 Interview Protocol

Prior to the interview:

The participant should have received the informed consent form.

They should have replied with an email providing their consent.

Any questions asked by email should have been answered by email (unless last minute.)

Go to https://zoom.us/signin. Use Duck ID. Go to Settings-->Recordings and make sure website settings are enabled as follows:

Record active speaker with shared screen

Add a timestamp to the recording

Display participants' names in the recording

Optimize the recording for 3rd party video editor

Audio transcript

Push SAVE for the above.

Allow cloud recording sharing

Automatic recording-- Record in the cloud

Push SAVE for the above.

Viewers can see the transcript

Prior to the recording:

- Pause recording
- Make greetings, and express thanks for participation. Perhaps chat about how person is doing, coping with the social distancing, health of their family, etc. Be human.
- Summarize research using a version of the following:

As you know I am part of a research team at the University of Oregon conducting research on the effects of the COVID-19 pandemic on k-12 teaching. We want to know what you are seeing and feeling as a [teacher, aid, principal, district administrator, state policy maker, etc.] Our goal is to learn how school systems are adapting to these extraordinary circumstances. We will be looking at the effects of the pandemic on the teaching of specific subjects, on educational equity issues, on teacher professional development, on conversations about education reform, assessment, teacher autonomy, and other things that we cannot anticipate but professionals like yourself will tell us about.

- We do not anticipate this research being controversial in any way, however, as a standard procedure we will keep your responses to us anonymous. As explained in the consent form, I sent you, once this interview is transcribed and analyzed, your name will be removed from it, and the video will be deleted. You also have the right to opt out of questions and to stop participation in the research at any time.

Do you have any questions about our research you would like to ask before we begin?

Begin recording – DO NOT FORGET.

Notify participant: I am turning the recording on now.

1. Researcher states their name, the date, and "pedagogy of the pandemic interview."

2. Would you state your name and where you work for our records?

- If teacher—you may have to prompt for grade level and subject area.
- How long have you worked in this position? As a teacher?

3. Your professional work as a teacher takes place in the context of your full life as a human being. Therefore, before we begin talking about your professional work, I'd like to ask about the impact of these times on you more generally. How are you doing? How is the Covid-19 pandemic affecting you, your family, and those your care for? You may respond to that question in any way that makes sense to you, or you are welcome to pass.

- In case the question seems confusing, you may further explain that:
- Teachers' lives are often ignored or erased in public discussions of the work of teaching. We don't want to be a part of that general pattern.
- The pandemic has now forced the practice of teaching into teachers' homes. So the overlap between professional and personal spaces has expanded. We want to acknowledge that and talk about how this is part of the new work teachers are being asked to do.

4. I will start with an open-ended question: How is the pandemic affecting your work as a teacher this year?

Possible follow ups...

- What educational experiences are you being asked to provide?
- In person, by remote, hybrid?
- If remote, from home?
- Full curriculum or modified?
- What changes do you see occurring to your course content, whether it was mandated or not?
- Can you give a specific example of topics or lessons that will be or have been significantly transformed by the shift to remote teaching?
- What are your biggest concerns for students?
- Which students are you most concerned about and why?
- Can you give specific examples, without revealing identifying information about a student?
- Have you set up alternative means of communication with students to support them? (Ex: emails, phone calls, online office hours)

5. What supports are being provided to teachers by the state, district, or school administration? [Be prepared to explain that while you may know some of the things happening it is better to hear it in their words.]

- What material supports have been provided?
- What professional development support for remote teaching have the district put in place?

- Time to collaborate? expert advice? new materials?
- How does this differ from the supports always offered to teachers?
- What supports are still needed?
- Have teachers been involved in decision making about identifying necessary supports or resource development?
- If yes, can you give specific examples of teachers' inclusion in these decision-making processes?
- Have the teachers' union played a role in these decisions?

6. What kind of conversations and collaborations have you had with other teachers about how to respond to student educational needs during this pandemic?

- Who are these conversations with?
- What do you find yourself talking about the most with other teachers?
- Do you offer one another general emotional support? If so, how?
- Do you share curricula or teaching ideas?
- Can you give specific examples of ideas you have gotten from other teachers that you have used?
- How organized are these conversations?
- Are they spur of the moment conversations?
- Weekly vent and debrief?
- Organized conversations focused on teaching techniques?
- Organized by teachers themselves? Can you provide examples?
- Organized by administrators or other organizations?
- Have any of these conversations led to any specific actions or preparations? Ask for examples.
- To what degree have teachers had to rely on one another for figuring out the transition to remote instruction?
- If this is happening, ask for examples.
- Try to encourage a full story of the collaborations—ask how it started, who initiated, how long it lasted. What they like most about it? If it ended, why?
- How could districts assist with this teacher-to-teacher collaboration? What would such assistance look like?

7. What does family engagement and connection look like in your school/district/classroom?

- What have you done to build relationships with vulnerable students' families during the pandemic? How have you engaged students' families?
- Is there time allotted in your daily schedule specifically for relationship and rapport building with families and students? Some districts are calling this "care and connection."
- What message is being communicated from the district level about the importance of relationships and family engagement?

8. Equity related questions

- How is the transition to remote teaching affecting ESL students?
- Ask for stories about particular students or instances, if they have any.
- Has there been any discussion or effort at your school to identify unique impacts of the pandemic on immigrant communities and ESL students?

- How is the transition to remote teaching affecting students with IEPs?
- What specific challenges are students with IEPs faced with during remote learning that are not present when in person?
- Ask for stories about particular students or instances, if they have any.
- How is the transition to remote teaching affecting LGBTQ students?
- Has there been any discussion or effort at your school to identify unique impacts of the pandemic on LGBTQ students?
- Has there been any discussion of the impact of remote teaching on Trans students?
- § Are students able to control how their name is displayed in the virtual classrooms?
- § Are there conversations about, and efforts around preventing outing students in unsupportive contexts (parents who are unsupportive, peers who do not yet know, etc.)?
- Ask for stories about particular students or collaborations with teachers, if they have any.

- How is the transition to remote teaching affecting low-income students?
- Do your students have access to technology that enables remote teaching?
- How are you and your school responding to the economic insecurity influencing your students' lives? Housing? Food?
- Ask for stories about particular students or collaborations with teachers, if they have any.
- How is the transition to remote teaching affecting Indigenous students?
- Has there been any discussion or effort at your school to identify unique impacts of the pandemic on Indigenous communities and students?
- Ask for stories about particular students or collaborations with teachers, if they have any.
- How is the transition to remote teaching affecting Black students?
- Has there been any discussion or effort at your school to identify unique impacts of the pandemic on Black communities and students?
- How do you see the protests about and public focus on police violence against Black people affecting your Black students? Is this discussed with students as a part of your curricula? In what way?
- Ask for stories about particular students or moments in class, if they have any.
- Has there been any discussion or effort at your school to identify unique impacts of the pandemic on Latino communities and students?
- How is the transition to remote teaching affecting Latino/a/x students?
- How do you see the protests about and public focus on police violence against people of color affecting your Latino students? Is this discussed with students as a part of your curricula? In what way?
- Ask for stories about particular students or moments in class, if they have any.
- Are there particular groups of students or personality types that you are concerned about who are not adequately described by those broad categories?
- What are your concerns?
- Ask for stories about particular students or moments in class, if they have any.

9. What are your biggest concerns for teachers' well-being?

- Are you spending your own money on technology and supplies? If so, how much and on what?
- Do you know of teachers who are facing more general financial hardships due to the pandemic that affect their ability to work and their well-being? (Allow that respondent may not wish to discuss such things.)
- Are you facing childcare challenges?
- Our preliminary research suggests that the pandemic is increasing the emotional labor of teaching—caring for others, being concerned about their well-being, reassuring children, etc. (May need to explain emotional labor a little more.)
- Is that true for you?
- Do you have specific examples of this emotional labor?

10. What opportunities for connection, care, and love have arisen during the move to remote teaching that are different than the in-person teaching?

- What gestures of kindness, support, care, have you seen since the move to remote/hybrid teaching?
- Have you seen an increase in conversations educational equity, dealing with children as whole human beings?
- Are there book clubs, work groups, community conversation opportunities coming out of this time at your school?
- Who is organizing these groups?
- Who is participating?

11. What questions have we not asked that we should be asking?

- Ask the question they recommend.
- Tell them this reply will be taken back to the research group and may be incorporated into future interviews.

12. Do you have any questions for us?

13. Is there anyone actively involved in these kinds of conversations that you would recommend we interview? Educators who are particularly active in conversations about developing an educational response to the pandemic?

- Would you be willing to be interviewed again if we wanted to follow up with you as we learn more?

Developing and Reconceptualizing an Equitable Grading System in Undergraduate Education

Rebecca D. Brown
Ball State University

Kirsten R. Robbins
Ball State University

Abstract

Grading approaches differ in undergraduate higher educational settings, but most often reflect traditional systems that support an unbalanced power dynamic that does not acknowledge or support continuous learning. These practices are then taken up by pre-service teachers and applied within their future classrooms with children. Using Critical Theory and Transformative Learning Theory, we analyzed our own grading practices for the purpose of designing and implementing a more equitable approach to assessment. The process led us to think about what we want grades to represent and what matters most to us as educators. The paper includes our process and the challenges we have faced. We hope it is a valuable resource for educators who are considering adjustments to their grading systems.

Keywords: equity, grading, teacher education

Equitability within grading systems has long been a challenge both in higher education and K-12 schools. While literature exists on different grading methods, there is limited, but increasing research on the development and implementation of equitable (oftentimes, nontraditional) grading practices, specifically in the undergraduate higher education setting of teacher education. Additionally, while pre-service teachers (PSTs) may be exposed to different grading approaches through their university courses, many still experience the traditional 0-100, A-F grading scale as the ultimate measure of their learning, reflecting traditional systems that support an unbalanced power dynamic that does not acknowledge or support continuous learning. This conflicts directly with the current push to create teachers who use more socially

just practices in their own classrooms, as what is being modeled for them in the higher education classroom often does not align with research in the field. The purpose of this paper is to (a) examine the design, implementation, and evaluation of new, more equitable grading practices; and (b) discuss the implications of employing nontraditional grading practices in undergraduate elementary education courses.

Literature Review

The purpose for developing and reconceptualizing grading systems in undergraduate education is a direct result of the prolonged use of historical practices that continue to marginalize specific groups of people and impede their learning. The power dynamic resulting from these practices, and the lack of cultural competence that accompanies them, continues to support a system of distrust and disregard.

Grading in Undergraduate Institutions

Grading has a long history of being a way in which teachers and schools measured students against one another. In higher education, grading practices began at Cambridge University in the 16th century, and those practices were later brought to higher education institutions in the United States (Smith & Smith, 2019). Grading practices at universities varied, and a student's final standing in a class could include things like conduct and chapel attendance in addition to quality of course work (Smith & Smith, 2019). Grading practices moved to K-12 schools with the advent of the common school movement in the 1800s (Feldman, 2018; Schinske & Tanner, 2014; Tyack, 1974). Grading practices were used to sort students into classes with others of similar academic ability and to signal future employers about their potential. The design of the grading system (which came from the Prussian model; McClusky, 1920; Tyack,

1974) was not meant to motivate students, and instead taught students that "mistakes are unwanted, unhelpful, and punished" (Feldman, 2018, p. 30).

Traditional grading methods tend to reflect dominant societal thinking, creating an unbalanced power dynamic in the higher education classroom (Costello, 2002; Gair & Mullins, 2002; LeCompte, 1978; Minor, 2020; Sensoy & DiAngelo, 2017). This power dynamic is not just limited to the pre-established teacher-student hierarchy; it also includes dominant norms and power structures that lead to implicit bias and lack of cultural competence. Part of this is because, while many teachers and professors may argue that grades represent student learning, studies have found that grades often reflect a student's adherence to behavioral norms (e.g., Brookhart et al., 2016; Duncan & Noonan, 2007; Giroux, 1978; LeCompte, 1978; McMillan, 2001; Minor, 2020; Zeidner, 1992).

One issue with grades reflecting a student's adherence to a teacher's expectations of behavioral norms is that most teachers are white (often women) and middle-class (Schaeffer, 2021). An expectation of white and middle-class ways of knowing and being can mean that students from marginalized populations are unfairly penalized for their ways of being (Costello, 2002; Crabtee & Sapp, 2003; Ferguson, 1982; Gair & Mullins, 2002; Minor, 2020), which can mean that their learning is not recognized in their grades. As a result, some scholars argue that grading practices can be both racist and classist (Feldman, 2018; Gair & Mullins, 2002; Minor, 2020).

Consequently, grades are generally a representation of more than just learning. In the past decade, research on grading systems applied in higher education settings has shown the growing variability that results in a standard A-F letter grade. From what grades represent (Randall & Englehard, 2010; Walvoord & Anderson, 2011) to what techniques are used to generate grades

(Brookhart, 1999; Sadler, 2005), researchers have been questioning the appropriateness of grading systems for several decades, arguing that "grades now serve a potpourri of inappropriate purposes" that include behavior, compliance, and participation (Randall & Engelhard, 2010, p. 1372). For this reason, it is important for educators to question their grading practices and define what grading represents in their classroom. It is within this context that we utilized a critical approach to theory and pedagogy to inform our analysis and action discussed in this study.

Defining Grading

One could argue that the term *grading* is applicable to any situation in which an individual is evaluating or assessing another individual, which is why we choose to use the terminology of *nontraditional grading*. In using this term, we expand beyond the typical assignment of points or a letter grade and include the process and dialogue in which we develop an understanding of student learning. Nontraditional grading includes the use of feedback to assist students in acquiring and honing skills, considering individual growth throughout the semester, focusing on student learning, and using what we learn to continue improving our practices. We have been asked why we do not use the term "ungrading," which is the term used by Susan Blum (2020) in her book on the subject. The reason is that we feel that the term implies a specific set of practices, and we do not want those expectations to be placed on our own application of nontraditional grading.

At the university level, students often consider grades to be the final letter (A-F) that they are assigned for each course at the end of a semester. Scholars have found that many universities require professors to report single letter grades for each course, which creates a situation in which professors have to find a way to take all the information they gain about students learning and combine it into a single letter (one that will stand up to critique; Brookhart, 2011; Lipnevich

et al., 2020). Our own university requires a letter grade to be assigned to each student in each course at the end of the semester. However, we have freedom in how we arrive at that final letter grade, provided we can represent our practices accurately on our course syllabi (to avoid a successful grade appeal).

Critical Approach to Theory and Pedagogy

A critical approach to theory and pedagogy framed our educational choices for several semesters prior to our decision to implement a nontraditional grading system. Initially inspired by Michael Foucault's (1979, 1980) ideals on the power-knowledge and discipline-punish relationships, as well as Henry Giroux's (1988) presentation of transformative intellectuals, we began to critique the ways in which educators evaluate students and the implications of those approaches. Foucault questioned both the physical structures of schools and the intentions of educators, applying a panoptic view of spatial control in which "each pupil … occupies sometimes one rank, sometimes another," creating conditions in which schools socialize individuals to norms that benefit the controlling group (1977, p. 147). This idea of fluid yet ambiguous ranking caused us to question whether our own grading practices enforced the conformity to dominant values or disrupted patterns of oppression (Apple, 1977; Freire, 1970; Kellner, 2003). This was especially important for us to consider because we are white, cisgender women. We wondered, specifically, how were our students unconsciously ranked within our classes and what part did our grading practices play in creating those ranks?

To embody Giroux's (1988) assertion that "both teachers and students be viewed as transformative intellectuals" (p. 100), one must question the balance of power in the classroom that prizes dominant norms. The power held by (mostly white) educators, even as intellectuals, in determining grades contributes to a socialization of norms that work against the transformative

endeavors that should be taking place in schools. If we view traditional grading systems as "the ultimate discipline instruments by which the teacher imposes his desired values, behavior patterns and beliefs upon students" (Giroux & Penna, 1988, p. 39), it becomes evident that a change towards a more dialogical approach to evaluation is needed in order to avoid the (un)conscious result of reinforcing the normalization of reward and punishment (Foucault, 1979; Freire, 1970; Jardine, 2005). As educators in a teacher education program, we are aware of the impact of our grading practices not only on our students, but also on their future students. In order for our students to be change agents, they need to work toward removing from their teaching any practices that might serve to reinforce dominant norms, as those can work against liberatory aims. If our practices can create a space in which authority is tempered, a greater focus on learning collectively and working against systems of power can occur (Giroux & Penna, 1988; Sensoy & DiAngelo, 2017).

The use of a nontraditional grading system models a step toward transformative practices to our learners, promoting that students can and should be part of assessing what learning they have achieved and how they have shown that learning, even when it does not match dominant expectations. Research by Feldman (2018) and Guskey (2020a; 2020b; Guskey & Link, 2019) heavily influenced our work as we pieced together how our practices would be determined and implemented. Embracing the idea that "grading should be something we do with, not to, students" (Jung, 2020), we reviewed findings on various alternative grading systems that focused on student learning and involved students in the evaluation process. In our opinion, this first necessitated the removal of a 0-100 grading scale, ensuring that any student could be successful in our courses by not being mathematically prohibited from success (Feldman, 2019). While we did spend some time researching alternative point-systems, such as the 4-point scale, contract

grading, and standards-based grading, we ultimately decided to remove points and percentages from our practice altogether. While the research provided on those systems (Feldman, 2020; Guskey, 2020b; Guskey & Link, 2019; Katopodis & Davidson, 2020) did demonstrate higher probabilities of achieving better grades, we decided that inclusion of those practices would still stifle student learning through either the rank-ordering of points (4-point scale and, in some cases, standards-based grading) or the miscommunication of what the grade represents. Contract grading tends to represent work ethic and compliance more than quality of work (Katopodis & Davison, 2020), whereas standards-based grading tends to place value only on specific parts of learning rather than the entire process at times assigning points to the achievement level (Feldman, 2019; Guskey, 2020b).

To begin planning, we chose to focus primarily on process, progress, and product (Guskey, 2020a, 2020b; Tomlinson, 2013), which is described in more detail in the next section. It is worth mentioning that we knew this would mean more attention and intention with providing individualized feedback for the purposes of learning and growth (Hope, 2020), which in turn would change not only our approach to evaluation but also the amount of time it would take to do so. However, it was important to us that we implement a system which honored the reality of how learners learn by equalizing the emphasis on summative assessments. Through blurring the lines of process, progress, and product, it is possible to value student achievement even if they remain below grade level.

Holding onto the idea that that "education is not a neutral process," (Ross, 2018, p. 372) and that the evaluation of student work is often a normalized, biased judgment by the teacher, we concerned ourselves with creating a more equitable approach to grading within the constraints set by our institution (Giroux & Penna, 1988; Jardine, 2005). We wanted to move away from the

idea of grades as discipline or grades as motivation and toward a system that would hopefully do more to honor each student's unique journey in a course. We wanted to avoid rewarding only students who conveyed their learning in ways that align with dominant norms and punishing those whose efforts did not conform to those norms. This aligns directly with our vision to create "transformative intellectuals" (Giroux, 1988) as we help them learn to be more equitable and socially just educators. Since we are required to submit grades for each course we teach, we had to work within that system, rather than doing away with grades entirely. This provided us with the opportunity to model for our students how to work within the barriers of a system and still support transformative approaches. Through this practice, we attempt to spotlight the power dynamic that exists in classrooms and how that mirrors societal power structures and assist our students in developing ways to disrupt it.

Developing an Equitable Grading System

Developing a new grading approach necessitated a year of intentional reflection on our purpose and expected outcomes for the courses selected for this study. Conversations began during the Spring of 2020 during an informal review of our teaching practices for a specific block of courses focused on classroom management, organization, and instruction in the elementary education classroom and reading and language instruction in the elementary classroom. On average, we met two to three times a week to share information on our teaching experiences regarding both the content for that week as well as our interpretations and application of rubrics and other grading practices.

During the Summer of 2020, our focus shifted in our discussion from the theoretical into the practical. This involved an increased focus on reading research both in culturally responsive teaching and equitable grading practices. This work continued through the Fall 2020 semester

with the intent to implement our new approach for the Spring 2021 semester. As we started to formulate our plan, we were informed not only by scholarship from the field, but also by our answers to questions we were asking each other. Some of the questions we pondered were: What does it mean to get an 'A'? Is it fair if students get 'A's who have not all done the same amount and quality of work? What if students do not come to class? What if we do not agree with the grade our students give themselves? We used our discussions about questions to help guide our decision-making to ensure that our grading practices were something we could live with and defend. Our plan for our initial implementation included increasing our intentionality in creating assignments, allowing students unlimited revisions on assignments, and finding a way to work with students on a final grade.

To begin, we reviewed course assignments and learning outcomes, both verifying the necessity of the assignment and assuring students could adequately demonstrate their learning through the requirements (Table 1). Informed by Guskey (2020a, 2020b), we then took the course assignments and categorized them into three classifications – process, progress, and product (Table 2) – allowing each student to demonstrate learning in their own unique ways by choosing the presentation format. The selection of these categories stemmed from our desire to expand the representation of the final letter grade required by the university to include other measures of student learning. Rather than just reflecting snapshots of learned content (one and done grading), we tracked process and progress for our students as they regularly received and applied feedback from assignments (Goodwin & Rouleau, 2020). This allowed us to better understand our students' approaches to work and learning, resulting in more individualized and accurate reflections of their knowledge (Brookhart et al., 2016). Additionally, our students maintained a weekly conceptual map reflecting on their learning and providing information on

how they were connecting ideas and applying it to the field. None of these categories received a grade but tracking them and the students' responses to feedback helped us acquire a larger picture of the students as learners. Using this information, we were able to help students set goals in the course and push their learning further.

Table 1

Example of Assignment Alignment to Learning Outcomes

Learning Outcome	Assignments
Investigate the various roles and relationships required of a teacher.	Classroom management observation
	Determining Teacher Response assignment
	social comprehension lesson & activities
	self-assessments
Demonstrate knowledge of instructional strategies.	Lesson plans
	practicum experience
	teaching videos
	teaching reflections

Table 2

Example of Assignment Alignment to Grading Policy

Process	Progress	Product
first drafts of lesson plans	lesson plan revisions	final drafts of lesson plans
practice teaching videos	teaching video annotations	final teaching videos
creation of teaching module	response to feedback	final teaching module
teaching observations	teaching reflections	reflection course artifact
seminar participation	application of learning	discipline philosophy artifact

Throughout the semester, we gave extensive feedback on assignments, with the expectation that students would address the feedback and resubmit the assignment as many times as needed to ensure high quality work and demonstrated learning of course outcomes. Within Canvas (our LMS), we marked assignments as complete or incomplete. Once an assignment was submitted that met the criteria, it would receive a mark of complete. If an assignment were listed as incomplete, students could revise and resubmit until the assignment was marked as complete. An example of how this was communicated to students can be found in Figure 1.

Figure 1

Example of Syllabus Statement on Grading Policy

Grading Policy:
This is an integrated experience, and there are several components to the work we will complete throughout the semester. Assignments will be categorized and evaluated by 3 criteria and will carry equal weight. This approach includes multiple grades that are intended to provide a broader, more complete demonstration of student learning. It also provides a more equitable approach to grading.

Process Criteria	Progress Criteria	Product Criteria
describes student behaviors that facilitate or broaden learning	*shows how much student have gained or improved over time*	*shows how well students have achieved specific learning goals, standards, or competencies*
• *enable* learning: formative assessments, homework, quality class participation • *extended learning:* collaboration, responsibility, communication, perseverance, peer-evaluations • *compliance*: attendance, completion of work	• assignment revisions • teaching adjustments in real-time • reflections • self-assessment	• summative assessments • clinical/field performance

Assignments for this course will receive ample feedback and either a grade of complete or incomplete. An incomplete grade on an assignment indicates that revisions are necessary and must be addressed until both the instructor and the student agree that the assignment has met the expectations. At that time, the grade will be changed to complete.

During the first few weeks of class, students will engage in discussions to finalize the grading criteria for the course and individual assignments. Students will engage in self-assessment, peer conferencing, and instructor conferencing to monitor progress through the course. Course artifacts, which have established rubrics, cannot be edited.

At the start of the semester, we explain the grading system to students and, as a class, we talk through what different grades might look like in action. At the midpoint of the semester, we met with each student individually to talk about how they felt they were doing and set goals for the remainder of the semester. In subsequent semesters, we increased the number of individual meetings based on student feedback. At the end of the semester, we had individual conferences with each student in which we asked them to share evidence of their learning and tell us what grade they felt they earned. Prior to those meetings, we had numerous class discussions about what earning each grade might entail. For example, in one class there was a discussion about whether someone who had some incompletes could still argue that they had earned an 'A'.

Our primary focus during the Spring 2021 semester was maintaining transparency with our students regarding our own process and progress, as well as developing a learning environment focused on student learning, not on earning a particular grade. As such, we eliminated assigning points, percentages, and letter grades to assignments and focused instead of providing targeted feedback to each student as necessitated by the assignment. We talked openly about expectations and students' experiences with and expectations of grading in the past, involved students in decision-making, and engaged students through individual conferences. We also talked about the problems with reinforcing dominant norms in schools and the ways in which that inhibits social justice efforts.

We have continued each semester to engage in nontraditional grading practices with our courses due to the overall positive feedback provided by our students. While some have mentioned experiencing some anxiety in the beginning over the absence of grades, there is a shared understanding between the students and us of why we engage in a nontraditional grading approach. Students have expressed the removal of grades provides them with the freedom to fail

forward, changing their focus from achieving a particular grade to allowing themselves to take creative risks with their planning and push beyond the unspoken boundaries of traditional ways of teaching and assessing. One student shared,

> the grading method you use has been a huge proponent of my engagement. It has taken a huge amount of stress off to know that as long as I am completing the work well, I will get credit. I have been able to better focus on the quality of my work, than worrying about whether or not I'll score well. It was an adjustment at first since I had never had a class graded this way, but I'm feeling more intrinsically motivated than I've ever had before.

Another offered this perspective:

> I wish all of my classes were nontraditional grading. I honestly know like a lot of my professors don't give like structured rubrics as like, detailed as [author] did. So it's very like, okay, I know that you're grading this, but you're not telling me what you want. So it's very stressful, very frustrating.

Providing unlimited opportunities to revise and resubmit also confirms for students that we value the progression of knowledge – that their understandings are not defined by a single assignment or moment in time. The trust that develops from this practice is essential to their learning and productivity. At the end of the semester, some students admitted that they did not trust initially that things would go the way we said they would (lots of feedback and unlimited revisions), but that with each round of feedback, they felt more comfortable with the process. Questions like "can we really fix this and turn it in again?" stop, and questions that are asked are related to the best ways to tackle feedback.

This is not to say that every student has loved the non-traditional grading. A few students remain convinced that we actually are keeping grades somewhere and just not sharing them. One commented “why are you hiding the grades instead of keeping them on Canvas?” Another student complained that she uses grades as a way of measuring her self-worth and that the absence of grades left her without a sense of value. These are problems to consider as we move forward. But the negative comments are very few in comparison to the number of students who have positive things to say after the experience.

Evolution of Our Practice

Although we have only been implementing our nontraditional grading practices for four semesters, we have experienced an evolution in our practice. Each semester brings us a new group of students and changing course loads. This impacts not only the challenges we encounter but also how we adapt to new situations. Questions that we ask ourselves revolve around the content of the course and what the final grade should represent. We also decide how to present our practice to each class and involve students in the process. It is important to us that students understand our reasoning but also recognize their ability to impact the responsiveness of our approach in real time.

Challenges We Encountered

We confronted a few tensions as we struggled to think through what grading meant to each of us. While there were many areas in which we were aligned, there were some questions for which we have different viewpoints. For example, there was disagreement over the extent to which objectivity is possible and/or desirable when deciding on end of the semester grades. One of us believes it is not possible to rid grading practices of subjectivity, while the other desires more objective boundaries. We also have continued conversations regarding if it is possible to

remove the power dynamic of the traditional teacher-student hierarchy. While we both agree that you cannot remove the power dynamic entirely, the level at which we are each worried about this differs. We have really had to push ourselves and our commitment to not enforcing dominant norms. It has taken us out of our comfort zone, and it is easy to slip back into bias toward traditional white ways of knowing and being. For example, we struggle with letting go of the desire for students to complete every assignment because it is our assumption that it is necessary for students to meet the objectives for the course. But it may not be. Recently, we have been discussing the depth of engagement within a single assignment. In this discussion, one of us has embraced the idea that you cannot make people learn, you can only present the information. The other struggles with a minimum expectation of what constitutes a demonstration of learning. A lack of philosophical agreement can create difficulties when trying to work with colleagues on a system for grading.

Reflection and Change

Because the university requires grades to be submitted for each student, we had to figure out how to translate the choices we were making into grades that we could justify at the end of the semester. This may have undermined somewhat our attempt to move away from such a system. We recognize that each semester will require additional reflection and work, so that we can remain responsive to our students and their needs.

Over the course of several semesters, based on conversations with each other, feedback from students, and additional readings that we have done on equity and grading practices, we have made slight changes to our practices. One thing that we have learned in attempting non-traditional grading in different courses is that a one size fits all approach does not work. What

worked well in a methods class was not appreciated in the same way in a Social Justice in Education class. So, we have adjusted over time depending on who and what we are teaching.

Discussion

Designing and implementing a new assessment system is a process that cannot and should not be rushed. Intentionality and frequent reflection are needed to ensure alignment with learning outcomes and responsiveness to student learning. This is especially important when you are trying to implement a system that works against dominant norms. Transparency of the process and actively seeking student feedback are both essential to successful implementation. It is important to note, however, that transparency is limited to what is known at that time and must incorporate some vulnerability on the part of the instructor.

Our research suggests that this works best if the students have trust in the instructor and the process, which can be difficult in the beginning as relationships are not yet established. As educators, we found that the best way to build trust was to be open about our process and to do the things we said we were going to do, even when it was difficult. Giving extensive feedback, accepting revisions, and then giving more feedback is a lot of work. If we were unable to give students feedback on the pre-established timeline, it was important to apologize, explain why, and adjust other deadlines accordingly.

Instructors must be confident in their grading decisions based in a commitment to social justice, while remaining open to questions and being honest with responses. This honesty helps to build further trust. It also opens the door to conversations around beliefs and values and what that means for teaching. This helps within the class, but it also provides opportunities for our preservice teacher students to consider how their own beliefs might inform their future practices.

In using equitable grading practices, it is our hope that our students will consider taking up non-traditional grading practices in their own future classrooms. None of the students who experienced our non-traditional grading practices have their own classrooms yet, so we do not have any data related to whether our former students are trying to use equitable grading practices themselves. However, when we have asked our students whether they might use similar practices in their own future classrooms, many say that they would definitely allow endless revisions, but they do not think an administrator would allow them to take up any other alternative grading practices. We have encouraged them to advocate for more just practices, but only time will tell if they will be change agents in their future schools.

Conclusion and Implications for Future Research

There is no perfect grading system, and educators cannot apply a "one size fits all" approach. Likewise, what works for one teacher may not work for another. In designing and implementing a nontraditional approach together, we have found that our continuous discourse aids us in progressing our attempts at bias-resistant grading. Asking each other difficult questions and disagreeing about some of the answers has helped us to interrogate our beliefs and motivations more fully. Including our students in this journey provides us with the opportunity to hear different perspectives and engage in collaboration with real-time results. This is important because it helps to understand if we are being sufficiently transparent when we talk about our practices (and if the impact our practices are having are the ones we are hoping for). It also provides a check for us that we are not reverting to an insistence on white ways of knowing and being. For education to be liberatory, it must end practices of prizing dominant norms, which traditional grading practices generally do.

It is also important to note that we teach courses that include 25-30 students. We have not tried to implement nontraditional grading practices in larger, lecture-style courses. We recognize that the intensive feedback model might be too much to maintain with a large class. More research needs to be done to understand how to translate the practices we have taken up for use in large, lecture-style classes.

Another area of our work that needs further study is the impact of our practices on students of Color and students from other marginalized groups. Most students in our classes are white, cisgender, and female. While we talked to all our students about our grading practices during our class discussions, the students who attend our focus group sessions after the semester have all been white. It is important for more targeted research to be done to assess the responses of students from marginalized groups. Our arguments for the liberatory nature of our practices are still largely theoretical as we do not have data beyond classroom discussions about the response to our practices from BIPOC students or students from other marginalized groups. It is possible that what we see as a departure from a focus on white ways of knowing and being is not enough of a move away from dominant norms to make a difference to students. As white educators, that is always going to be our struggle.

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Pre-Service Teaching Candidates Reflect on Science Identity through Narrative Podcasting

Aaron R. Gierhart
Columbus State University

Jessica VanValkenburgh
Columbus State University

Abstract

This case study was completed in Fall 2021 with elementary and middle grades pre-service teaching candidates. The goal of the study was to engage candidates in storytelling and reflection of their science identity. Science identity is important as science discourse is historically not diverse. Candidates completed a narrative podcasting assignment within their science methods coursework that asked them to draw upon their experiences. Students were then invited to participate in a focus group during which the authors gathered more insight regarding the candidates' previous experiences and ideas for future teaching. Carlone and Johnson's (2007) Model of Science Identity was used as a framework for this study, which conceptualizes science identity within three intersecting components of *performance*, *recognition*, and *competence*. Conclusions and implications include using reflection in coursework to increase candidates' awareness of bias, support their science identity development, and investigating how narrative podcasting can impact current teaching practices.

Keywords: teacher education, identity, science education

Teaching is a dialogic endeavor; practitioners constantly dialogue with a myriad of factors, including personal beliefs and lived experiences; they must negotiate the reverberations of personal ideals and teaching philosophies with authoritative forces and dominant trends in making the daily decisions of designing and implementing instruction (Gierhart & Seglem, 2021). In recent years, science and scientific progress has been countered by political skepticism, misinformation, and disinformation (Avraamidou & Schwartz, 2021), making the work of science educators even more complicated and confusing.

Podcasting assignments and engagement may strengthen and amplify candidates' voices (Gonzalez et al., 2021), which holds increased value for students who have felt left out or jaded by their past science education experiences. Classroom practitioners draw upon a lifetime of experiences across personal and academic experiences in how they conceptualize and design instruction and make the daily decisions of teaching (Britzman, 2003). By 'performing' their stories and science narratives in a public-facing form of media, they can disrupt dominant forms around who can be part of the larger discourse of science forging greater equity in postsecondary education settings (Conquergood, 1995). Perhaps even more importantly, candidates can begin "Designing [revised] social futures" (New London Group, 1996, p. 81) and tell new 'stories' of science for themselves and their future students, navigating feelings of frustration or discomfort (Varghese et al., 2019).

The purpose of this study was to understand how candidates in our science methods courses developed insights about their science identities as they relate to current and future teaching through the completion of a narrative podcasting assignment. While most science identity research has focused on students' intentions for pursuing a science-related career, there is little research in the area of science identities and how candidates perceive their science identities (Stets et al., 2017). Podcasting, as a form of contemporary media production, is a fruitful area to research as an approach for teacher education and professional identity development given how identities have become increasingly mediated by social media and digital technologies, especially when identities may seemingly clash across sociocultural contexts (Bates et al., 2020).

The research question for this study was: How do elementary and middle grades pre-service teaching candidates develop insights about their science identities through planning and recording narrative audio podcasts?

Literature Review and Framework

Carlone and Johnson's (2007) Model of Science Identity was used as the theoretical framework for this study. This model frames science identity within the three intersecting components of *performance, recognition,* and *competence*, all of which are mediated by one's core identities of race, ethnicity, and gender. This framework has been widely utilized in science and STEM identity research and scholarship since its publication and, according to Google Scholar, has been cited over 2,000 times as of this writing.

One scientifically *performs* by engaging in science practices (Carlone & Johnson, 2007), acting and being scientific within the conventions of the scientific community (Gee, 2015b). Engaging in this "identity work" is impacted by "historically legitimized norms, rules, resources, and practices that play a role in the cultural production of what science is and what it means to be a science person" (Calabrese Barton et al., 2013, p. 66). Candidates can increase their pedagogical self-efficacy and motivation to engage in science through authentic, real-world experiences, such as science-oriented service-learning projects (Roberts et al., 2020) or authentic science inquiries (Gierhart, 2022).

Closely related to performing one's identity is receiving *recognition* as being scientific (Carlone & Johnson, 2007). Students may participate in the "big D Discourse" (Gee, 2015a, p. 2) of science by engaging in authentic scientific inquiries, developing understanding of what scientists do, how they do it, and receiving feedback and recognition as being 'scientific' (Lucas & Spina, 2022). Receiving recognition can prove challenging for those attempting to enter or

seek induction into a specific community if their other core identities are not viewed by current members as a 'fit' (Teng, 2019) on top of how teachers' personal and professional identities may conflict with expectations in public education settings (Gee, 2017). Acceptance is also subject to biases and hegemonic norms, including current politicization of scientific knowledge (Avraamidou & Schwartz, 2021).

Science discourse has historically been prohibitive of the equitable participation non-White and non-male populations, especially when considering the disparities of sociocultural and gender representation that have persisted in science and STEM programs of study and career paths (Fry et al., 2021; National Science Board, 2021). Possessing a steadfast science identity, especially by those who are racially or ethnically diverse, can contribute to persistence and achievement (Chen et al., 2021). Rodriguez et al. (2022) noted that peer networks and organizations can "address issues specific to [one's] experiences and roles" (p. 195) to support identity development.

Finally, *competence* is demonstrated through "knowledge and understanding of science content [which] may be less publicly visible than performance" (Carlone & Johnson, 2007, p. 1191). While social recognition is critical to developing a science identity, one must also develop "self-recognition [through] deep understanding and alignment with the learning of STEM concepts [and understanding] one's place within the STEM community" (Rodriguez et al., 2017, p. 13). Educators feel more agency if they are involved in making decisions that impact daily classroom work (i.e., curricular revisions, school policies) (OECD, 2020). Specifically regarding science, candidates should understand what it means to be scientific (Gee, 2014) by engaging in scientific inquiry themselves (Gierhart, 2022).

Professional identities, such as being ‘scientific’ or a ‘teacher of science,’ may be challenged by how policies are created and implemented, especially if those policies clash with one’s professional or sociocultural identities (Karousiou et al., 2018). Historically, females have been adversely impacted by dominant norms in science and STEM discourses and made to feel that they would not be as successful in advanced coursework (Educational Research Center of America, 2016), resulting in less representation and participation in these types of career paths (Fry et al., 2021; National Science Board, 2021).

As a multimodal teacher education activity, narrative podcasting was a fruitful approach to foster candidates’ reflection on science and science education experiences, expressing components of their science identities (Norsworthy & Herndon, 2020). They were able to look back on their time as K-12 science learners and project towards their future teaching and the ways their students would engage in scientific inquiry (Muchnik-Rozanov & Tsybulsky, 2021). Furthermore, podcasting is an effective way to share stories across networked spaces, including those relevant to matters of practice, social issues, and coursework (Hatfield, 2018).

Also, through multimodal, nontraditional approaches in teacher education coursework, such as podcasting, students can construct “aesthetic” (Eisner, 2005, p. 96) understanding of their past experiences with science and science education and how they can reframe their students’ science narratives as a central emphasis in their instruction. By telling their stories, the candidates constructed meaning of how they scientifically performed, were recognized, and felt or demonstrated competence (Gierhart, in press). Finally, finding and exercising one’s professional voice in authentic, meaningful ways is critical to successfully inducting and retaining candidates in the teaching profession (University of Georgia, 2022) and creating more

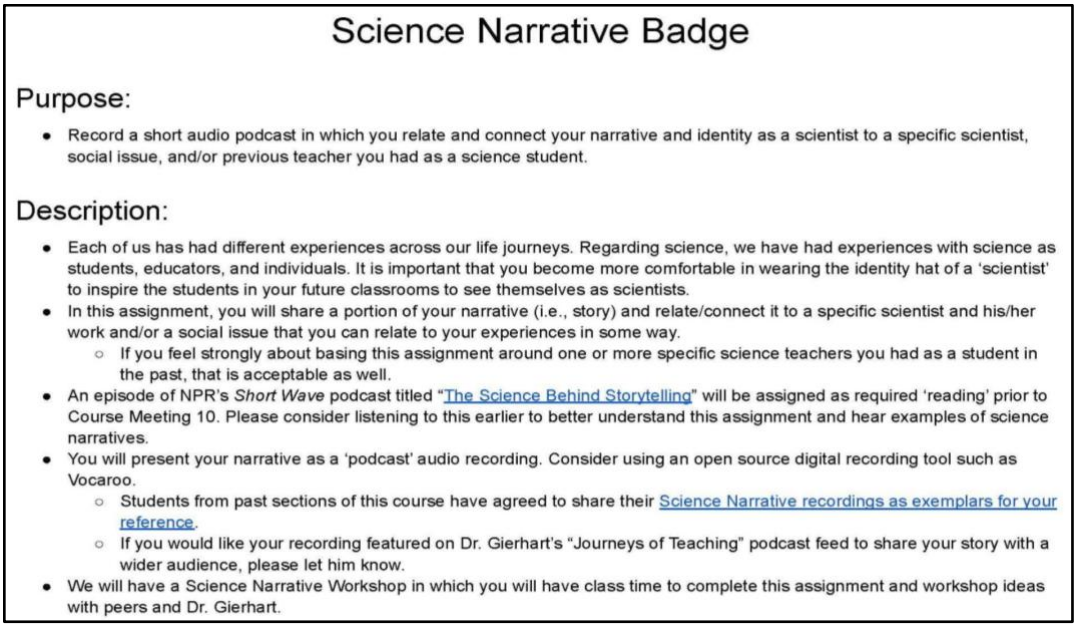
welcoming, polyphonic working environments for practitioners (Naot-Ofarim & Solomonic, 2016).

Research Design

In Fall 2021, we implemented a podcasting assignment with elementary and middle grades pre-service teaching candidates that we developed during a professional development fellowship. In this assignment (Figure 1), we sought to leverage a popular form of contemporary digital media production—podcasting—as a means of engaging candidates in narrative storytelling and reflection. Recording and publishing narrative podcasts allowed the candidates to share their science and science education experiences, reflecting on how they intended to teach science with *their* current and future students (Gierhart, in press). We refer to the candidates' recordings as *narrative podcasts*, in that they are using this digital media format to tell stories they perceived as particularly impactful on their journeys within the discourses of science and science education (Webster & Mertova, 2007).

Figure 1

Podcasting Assignment



Science Narrative Badge

Purpose:

- Record a short audio podcast in which you relate and connect your narrative and identity as a scientist to a specific scientist, social issue, and/or previous teacher you had as a science student.

Description:

- Each of us has had different experiences across our life journeys. Regarding science, we have had experiences with science as students, educators, and individuals. It is important that you become more comfortable in wearing the identity hat of a 'scientist' to inspire the students in your future classrooms to see themselves as scientists.
- In this assignment, you will share a portion of your narrative (i.e., story) and relate/connect it to a specific scientist and his/her work and/or a social issue that you can relate to your experiences in some way.
  - If you feel strongly about basing this assignment around one or more specific science teachers you had as a student in the past, that is acceptable as well.
- An episode of NPR's *Short Wave* podcast titled "The Science Behind Storytelling" will be assigned as required 'reading' prior to Course Meeting 10. Please consider listening to this earlier to better understand this assignment and hear examples of science narratives.
- You will present your narrative as a 'podcast' audio recording. Consider using an open source digital recording tool such as Vocaroo.
  - Students from past sections of this course have agreed to share their Science Narrative recordings as exemplars for your reference.
  - If you would like your recording featured on Dr. Gierhart's "Journeys of Teaching" podcast feed to share your story with a wider audience, please let him know.
- We will have a Science Narrative Workshop in which you will have class time to complete this assignment and workshop ideas with peers and Dr. Gierhart.

In preparation for this project, we assigned the candidates episodes from Aaron's seasonal *Journeys of Teaching* podcast as 'required readings' in which guests shared stories and discussed how they developed their current teaching practices. We also required them to listen to a 2020 episode from NPR's *Short Wave* podcast, "The Science Behind Storytelling," which positions storytelling as a way to make others' lived experiences in science and science education more relatable.

Candidates worked independently or in groups to write an outline before recording their podcasts on Vocaroo (an open source recording tool). They shared ideas with instructors and peers to receive feedback, discussing what their stories meant to them and how they wanted to narrate them in their podcasts (Evans et al., 2021). The students invested about 2-3 hours of time between planning, discussing, recording, and sharing their podcast recordings; some chose to include intro/outro music and do some editing so that their episodes were more professional-sounding, though this was not a requirement for the assignment.

While all of the participants in this study chose to publish their recordings on Aaron's *Journeys of Teaching* podcast feed, they were not required to do so. The value of this assignment was not necessarily having an authentic audience - though this was perceived as motivating for the participants and a chance to engage in public-facing advocacy (Guggenheim et al., 2021) - but rather an opportunity to engage in a discourse in a safe environment about the profession they sought to enter and a content area they would teach (Bjorkland, Jr., et al., 2020). This project aligns with Standards 4 (Professional Development) and 7 (Public Advocacy) of the Association of Teacher Educators (2008) Standards for Teacher Educators.

Recording and sharing - either amongst their peers and instructor or with a wider audience - their stories allowed the teaching candidates to reflect on the positive and negative

experiences they have had with science and science education they will draw upon as they design and implement instruction with their own students in the future. Science education is part of the larger discourse of science, which is framed by specific norms, practices, and power structures that result in individuals being accepted or rejected to varying degrees (Lave & Wenger, 1991).

A single case study was conducted in order to describe and understand the candidates' podcasting experiences in our elementary and middle grades science methods courses during the Fall 2021 semester at a mid-sized state university in Georgia (Yin, 2010). Students were informed that their decision to participate in this study would not impact their course grades (Glesne, 2010). All participants were assured pseudonyms would be used after initial data collection.

We purposively solicited candidates enrolled in our courses to participate in this study due to their completion of the focal assignment (Andrade, 2021). Studying a single case, as opposed to conducting a multiple case study, allowed us to more immediately examine the candidates' experiences and learning outcomes of this assignment to inform our own future practices and coursework design efforts (Merriam & Tisdell, 2016). Also, case study research has the potential to make the experiences and challenges of specific groups more comprehensible to those in positions of authority, informing future decisions and efforts (Teram & Ungar, 2017).

Ultimately, three total candidates between our two courses consented to participate; Annie and Tommy were enrolled in Aaron's elementary science methods course, and Laurie was enrolled in Jessica's middle grades science methods course. The elementary education candidates (Annie and Tommy) were enrolled in a block of undergraduate coursework in the Fall 2021 semester requiring 90 field hours in an elementary classroom.

The middle grades participant, Laurie, was a Master of Arts in Teaching student who was enrolled in a science methods section cross listed with an undergraduate course. She completed 60 field hours in a middle school classroom. Participant demographics are included in Table 1.

Table 1

Participant Demographics

Name	Age	Race	Gender	Program of Study
Annie	21	White/Caucasian	Female	Elementary
Laurie	42	White/Caucasian	Female	Middle Grades
Tommy	40	White/Caucasian	Male	Elementary

Multiple data sources were collected to describe the case with validity and rigor (Yin, 2017). Each participant's podcast was transcribed and relevant work samples from their coursework were referenced, as needed, to corroborate or reframe later analyses (Song, 2020).

Additionally, a 45-minute focus group interview using a semi-structured protocol with open-ended questions was conducted and transcribed at the end of the Fall 2021 semester. The purpose of the focus group was to gain additional insight about the participants' experiences of preparing, recording, and publishing their podcasts and the insights they developed about their science identities (Lahman, 2022). Follow-up questions were posed, as needed, for additional probing (Cyr, 2019).

The transcripts were coded in three rounds of increased specificity to better understand the case (Chalkey et al., 2022; Williams & Moser, 2019). We began with open coding by annotating and highlighting hard copies of the transcripts, followed by axial coding in which the initial codes were revised and organized in a digital spreadsheet. Finally, selective coding was

conducted, applying Carlone and Johnson's (2007) Model of Science Identity deductively to describe the ways participants perceived and expressed their science identities through *performance, recognition,* and *competence* (Flick, 2022). Select transcriptions of the participants' podcasts and responses in the focus group are included in the "Findings" section to illustrate results (Lahman, 2022).

Limitations

Identity research sometimes uses purposive solicitation and respondents are chosen subjectively, which can lead to a smaller sample size (Klar & Leeper, 2019). This research was limited by sample size as only a single case of three agreed to participate and results are only generalizable to this group of participants. It would be ideal to repeat data collection with future cases of teaching candidates who complete the podcasting assignment to strengthen the validity of findings (Merriam & Tisdell, 2016). However, learning from the stories of these participants can be helpful in understanding specific lived experiences as they relate to supporting teaching candidates' development of science identity along with pedagogical content knowledge (Clandinin & Connelly, 2000; Gierhart & Seglem, 2021).

It can be assumed that all candidates in this single case had similar experiences with higher education courses (science and otherwise) due to being enrolled at the same institution (Flick, 2022). Our methodology is similar to other identity research studies, though we chose to collect oral narratives as opposed to written ones (Adler et al., 2017).

Findings

The research question for this study was: How do elementary and middle grades pre-service teaching candidates develop insights about their science identities through planning and recording narrative audio podcasts?

Since this article is in a written format, it is important to depict the content of the audio podcasts each participant published as well as their experiences of planning and recording them. Therefore, each participant's podcasting experiences will be presented with references to how they expressed or reflected on the *performance*, *recognition*, and *competence* of their science identities (Carlone & Johnson, 2007). Findings will be summarized and disseminated in the "Conclusions and Implications" section.

Annie

Annie recalled her experiences as a middle and high school science student when she began to lose interest in science:

> I began noticing in middle school that my teachers would start leaning more towards lecturing. In freshman year, my teachers would [lecture and] move on to a new topic until it was time for a test. After the test, that process would start over. When I was in high school, I think we only did two experiments. I would find myself bored in science class because we always knew what was coming and that pattern never changed. It made me feel sad because [I] always enjoyed science [in elementary school], and now I was finding myself almost dreading coming to science class. I don't want my [elementary] students to ever feel like I did.

In the field, Annie noticed science was deemphasized compared to other elementary content areas. "It kind of breaks my heart," Annie noted on her podcast, "because students are not getting that interest sparked."

Annie perceived her science competence as low, based on her middle and high school experiences coupled with her waning interest over time. However, she concluded her podcast by expressing a resolve to be better than her own middle and high school science teachers:

> I wanna' spark my students' interest and love for science like my elementary teachers did. But I also wanna' make time for science and include the hands-on aspect so students can get involved and don't [feel] bored. I wanna' create these very meaningful science lessons so that my students are getting more out of it than just knowledge.

In the focus group, Annie explained that talking through her podcast plans and stories with her peers was helpful, providing recognition of the value of her stories. "I remember one of [my classmates] told me [to share] an experience related back to [my] topic," Annie recalled. "Tommy [also] helped make me more comfortable and confident with what I was talking about" (personal communication, December 6, 2021).

Annie was not going to initially publish her podcast; however, she decided that if someone "had a similar experience, they could relate to [my story] and [realize that they] could so something, even small, [to] help students have a better [science] experience" (personal communication, December 6, 2021).

In an end-of-semester written reflection, Annie described her intention to utilize non-traditional assessment approaches in her science teaching:

> I can relate to [traditional testing cycles] personally and that is why I do not want to have my classroom operate this way. It takes away so much from the learning experience that students have. I do not want my students to feel bored or feel as if science is rushed or not important. It does not need to feel "routine."

Annie transferred this resolve to her field-based teaching, as she designed and implemented a hands-on lesson with first grade students in which they simulated water cycle phases using shaving cream, food coloring, and water. Despite perceiving low competence based

on her past science experiences as student, Annie performed her science identity through teaching, resolving to *break the cycle* of uninspired science teaching.

Laurie

Laurie began her podcast by sharing that she was not a great student during her school years until she developed a love and competence for science:

> To put my feelings around science simply would be to say that I love science. I was a difficult student for my teachers, and I always felt like I couldn't do well in school. Once I found science class, that all changed. This was my place to shine. It was one of the few classes that would hold my attention, and I would actively seek out more information to learn on my own. I learned through science that connections can be made to science everywhere.

During the focus group, Laurie explained that her love of science continued to flourish when working towards an Animal Science postsecondary degree, mentioning, "I definitely do view myself as a scientist and I think we're all born that way" (personal communication, December 6, 2021).

On her podcast, she went on to speak towards middle grades students and her self-perceived competence as a science educator:

> By the time the students meet and reach the middle grades, they've had many science experiences — some good and some bad. So, my job is to ensure my students make the connections to science and confidently put themselves in the role of a scientist. Students are trying on different hats, trying to define themselves, and their sense of wonder and exploration is changing. I want to [harness] that energy and openness of these students and help them develop the skills needed to continue on their scientific journey.

Later in her podcast, Laurie discussed the value of students making connections to relatable scientists, noting that "students will relate to scientists who are similar in background. [They] also greatly benefit from seeing a diverse group of scientists."

Laurie then connected her experiences and opinions to her role as a science educator:

> Science goes beyond the acts of observation and conclusion. It's failing, discovery, and learning how to process the information that comes our way. So, here's my chance to help students to organize their methods and create structure in their processes.

Laurie completed her podcast by affirming her passion for science and students stating, "I hope that [my] passion sparks wonder and a continued love of the sciences and provides a home for my students to shine."

Throughout the focus group, Laurie mentioned how her partner at home encouraged her reflection on her background for this assignment. Jessica gave Laurie similar feedback when discussing initial plans for the podcast. Laurie mentioned one detail she omitted from her podcast, because it helped shape her as a scientist: her connectedness to nature (this information was shared during the focus group but she was not comfortable sharing it associated with her real name with a larger audience). Laurie's background and connection to nature was evident in her coursework as she created lessons that allowed students to work outside and do investigations in nature.

Tommy

In his podcast, Tommy recounted his experiences with his son, who is on the Autism spectrum, and reflected on the type of science teacher he aspires to be:

> When we're teaching science, you really [need] more [investigations]. You really have to do a lot of collaborations, observations, data [collection]. A neurotypical student can

> handle all these processes. An atypical student might have issues in different areas. When it comes to sensory issues, we have to start thinking about how these students [are] going to collaborate with others if they have issues communicating in general or deal with their sensory issues. Or what if working in groups is just too much for them?

Tommy provided more context in his podcast about his family's journey with his son and how they have learned to support his needs:

> We got him into Applied Behavior Analysis, speech therapy, and occupational therapy. So, all those things were just very individualized for him to be as successful as he's become. If he didn't have those tools and those resources, he wouldn't be doing as well as he is. And so I'm carrying that mentality over to teaching [because] I want to have a classroom that is inclusive. (personal communication, December 6, 2021)

Tommy explained that he published his podcast to share his experiences with other parents and educators, showing them the importance of individualized support and accommodations:

> These [supports] aren't necessarily a negative thing. [They] are just [ways] of helping every child. Even if they have a learning disability or a physical disability whatever the case may be, all students are different in some way. If we can just get people [to] look at kids, [we can ask], "How do we help them individually?" (personal communication, December 6, 2021)

Tommy received recognition from his peers and Aaron in class as he prepared his podcast regarding the validity of the stories and how he applied them to his future teaching:

> Obviously me and Michael (pseudonym) have a pretty good friendship, and I would bounce a couple of ideas off of him. Of course I [shared] ideas [with] Dr. Gierhart. I felt

> that my direction was going to be [about] how passionate I am about my son and making sure that those types of kids get a fair shot. (personal communication, December 6, 2021)

Tommy incorporated his resolve for supporting diverse science learners' needs in an action plan assignment, reflecting on how he would apply the Universal Design for Learning (UDL) Guidelines (CAST, 2018) in his future teaching and classroom environment. He noted, "The reason I want to be a teacher is to help make the lives of my students better. [UDL] is a great way for me to assess myself on creating an inclusive environment."

Discussion

The three participants reflected on and expressed their science identities in terms of performance, recognition, and competence. We will discuss findings from each of these components of Caroline and Johnson's (2007) Model of Science Identity. Finally, we will detail the conclusions and implications of this study.

Performance

Each candidate discussed the concept of performance, considering how they would use hands-on science learning experiences with their current and future students. Annie implemented a hands-on lesson with first grade students in which they simulated the water cycle. Laurie remembered her science education experiences being an opportunity to feel inspired and successful and develop methods and process skills for engaging in the sciences. Tommy drew upon his experiences as a parent to his son and resolved to foster equitable science participation with all of his students.

Taking time to reflect upon and share experiences candidates perceive as critical to their 'relationships' with academic content is critical, as these are the stories they will draw upon, consciously or otherwise, in making the daily decisions of designing and implementing

instruction (Gierhart & Seglem, 2021). Regardless of the decision to publish, the intentional, explicit act of planning and committing their stories to recorded audio can serve as an opportunity for making sense of their experiences with different areas of the curriculum (Hatfield, 2018; Norsworthy & Herndon, 2020). By telling their stories, they acknowledge their own performance of science, recognizing their place in the fields of science and science education (Gee, 2015b; Gierhart, in press).

It is also noteworthy that each participant connected their stories to their current and future teaching, expressing intentions for designing and implementing impactful and inclusive science instruction. Annie and Laurie, in particular, transferred goals they expressed on their podcasts towards the facilitation of engaging, hands-on science inquiry in the field during that same semester.

Recognition

Laurie implicitly shared feelings of recognition of her science identity through her previous science education experiences, eventually earning a postsecondary science-oriented degree; however, the participants did not share stories or reflections about recognition of their science identities in terms of being explicitly scientific.

Yet, each participant recalled feeling recognition from their instructors and peers during course meetings as they prepared their podcasts prior to recording. They shared ‘drafts’ of the stories they wanted to tell and received feedback from their instructors and peers about the value of their narratives and how they might narrate them. By receiving recognition and feedback about their narratives, they were able to view themselves as part of the larger discourse in the science and science education communities (Teng, 2019), reinforcing their identity development as science educators (Rodriguez et al., 2022).

Competence

The participants expressed their scientific competence through experiences that they perceived as foundational or impactful, particularly during their time as science students. Annie did not see herself as being scientific, disenchanted by the cycle of lecturing and tests during her middle and high school years. Conversely, Laurie perceived herself as a challenging student, eventually finding her niche in science classes and earning a postsecondary science degree. Despite divergent science education experiences, both women pledged to ensure their future students would develop a passion for science.

Each participant elected to publish their podcast, noting that they were motivated to share their stories with a wider audience to potentially make a difference in how listeners perceive science education (Guggenheim et al., 2021). These individual decisions to publish are indicative of feeling enough of a sense of competence to position their stories within the larger, public-facing discourse of science education (Rodriguez et al., 2017). This was particularly notable for Annie, who felt jaded by science after her less-than-engaging experiences during her middle and high school years and found a new resolve for teaching science in hands-on, engaging ways (Karousiou et al., 2018).

Conclusions and Implications

Findings from this case study are not generalizable beyond the sample of three participants; however, the stories they shared in their podcasting assignment reinforce the importance of reflection in pre-service teacher education coursework. All participants in this case reflected upon their experiences, connecting them to current and future teaching (Muchnik-Rozanov & Tsybulsky, 2021). Having teacher candidates recognize and explore their biases may

foster a generation of teachers that are more aware of the *why* behind their pedagogy (Gierhart & Seglem, 2021).

A primary goal of teacher education is to prepare future *professionals*; however, elementary and middle grades teaching candidates are often charged with teaching multiple content areas and must be prepared to facilitate their students' engagement in the discourses of those disciplines. The discourses of science and science education have historically excluded non-White, non-male individuals from equitably participating (Fry et al., 2021; National Science Board, 2021). Allowing teacher candidates to gain experience with science discourse, while reflecting on their own experiences, may very well support their facilitation of more equitable science learning experiences for future generations of students.

Podcasting as a form of reflection can support identity development within and across content areas as they project towards future action in clinical settings (Muchnik-Rozanov & Tsybulsky, 2021). Podcasts are an easily recorded and shared form of contemporary digital media, conducive to active student engagement; candidates are aware of a potential or intended audience without having to speak in front of that audience in real time (Bjorkland, Jr., et al., 2020; Thomas, 2017). In addition, they can speak out in favor of or against their previous experiences with science and science education, advocating for teaching approaches that effectively engage and motivate students (Guggenheim et al., 2021) and disrupting dominant preconceptions and who can be 'scientific' (Conquergood, 1995; Gonzalez et al., 2021).

We recognize that this study was limited to a single case of three participants (Merriam & Tisdell, 2016), which limits the generalizability of the findings of this research. However, by sharing the design of the podcasting assignment and outcomes perceived by the teaching candidates' themselves, other teacher educators and educator preparation programs can utilize

this study as a framework for similar assignments and projects (Teram & Ungar, 2017). Conversations students have as they plan their podcasts before recording are incredibly valuable as they reflect on stories they want to share, how they want to narrate them, and what the stories mean to them as they consider their future work as science teachers (Evans et al., 2021; Hanna et al., 2020).

Podcasting can bolster students' voices (Gonzalez et al., 2021), especially those who may have been previously silenced or excluded from science discourses. Approaches to teacher education, such as the public-facing podcasting assignment we have described, are socially just and culturally relevant, allowing teaching candidates to engage in "performance as kinesis" (Conquergood, 1995, p. 138) and disrupt hegemonic norms in the discourses of science and science education. It is critical that teacher educators provide opportunities for candidates to examine and forge their own professional identities, which are constructed and situated in a social, dialogic manner, amongst the discourses of content area communities (i.e., science) (Eisner, 1979).

While this investigation explored the identities of future science educators, future research could be completed to understand how certified science educators view their identities. Teacher preparation programs may benefit from understanding how the identity built through science experiences, even at the postsecondary level, can impact pedagogical practices throughout one's career. Researchers and practitioners should also investigate how narrative podcasting can impact observed classroom teaching practices with an emphasis on equitable science teaching and learning.

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Utilizing Latinx Counterstories to Support Developing Critical Race Consciousness in Teacher Education

María L. Gabriel
Independent Researcher, CO

Antonette Aragon
Colorado State University

Louise B. Jennings
Colorado State University

Abstract

This study examines responses of educator participants to realities and current experiences of Latinx student educational experiences. Latinx student's counterstories of racialized experiences are used through four distinct teaching formats: frequency charts, student quotes, voice clips, and poetic counterstory. We interrogate how participants responded to youth's experiences and the relationship between the counterstory formats and the development of critical race consciousness. Findings demonstrated the use of voice clips and poetic counterstory were critical in creating empathy needed to move toward racial understanding and action. This transformative study develops future teaching approaches and professional development to increase awareness of student's racialized experiences.

Keywords: teacher education, critical race theory, critical race consciousness

Most teachers' lives are worlds apart from students of Color (Kailin, 1999), creating tectonic schisms of understandings as many educators resist fully grasping the effects of racism perpetuated by schools and communities. We are three educators dedicated and committed to offering racially just principles of practice related to teacher education. We believe that building awareness and empathy are the first steps to moving toward foundational understandings of equitable and anti-racist pedagogical practices. Additionally, although Critical Race Theory (CRT) has been misunderstood and unfairly scrutinized in public education, we find that explicitly leaning on CRT tenets can increase the opportunity for creating critical consciousness (Ladson-Billings, 1995) among staff serving PK-20+ students. As educators in the U.S.

reckoning with the national awakening to institutional racism from 2020-2023, we, two Latinas and one European American women researchers, felt it imperative to consider ways to address the culture gap between Black, Indigenous, and People of Color (BIPOC) students served and those who serve them. We, along with many teachers in PK-24 settings were asking "how do I respond to difficult diversity issues when I'm teaching?" We continued to grapple with the question "how do we effectively cultivate a critical consciousness (Ladson-Billings, 1995) among teachers?" We believe that applying a CRT lens to educator professional development is a useful tool for creating empathy and racial understanding among educators.

Therefore, we studied an approach to professional development that involved presenting Latinx youths' own narratives and voices about their racialized experiences–what we refer to as counterstories–to participating educators, who reflected on these Latinx youth's experiences in writing. We examined these educators' written reflections to better understand how they were making meaning of these youths' racialized experiences. Our findings make visible both openings and barriers to educators' critical race consciousness, particularly related to Latinx students. We demonstrate what we learned and the hopes we have for building educators' critical race consciousness in these trying times we live and work in.

Literature Review

This study is grounded in the need to acknowledge and deconstruct dominant ideologies, policies, and practices impacting Latinx students. We share the voices through different formats including audio recordings of Latinx students to educators so they hear the students explain how they are perceived, treated, and experience unsafe feelings in their schools. Therefore, we endorse the perspective that educators need to cultivate critical consciousness (Ladson-Billings, 1995, 2014) and go a step further in advocating for critical race consciousness (Carter, 2005;

2008). Because race and racism are core to our study, the teacher education approach we examine here is grounded in foundational tenets of CRT (Bell, 1992; DeCuir & Dixson, 2004; Delgado & Stefancic, 2017; Taylor et al., 2023).

Critical Race Consciousness

Ladson-Billings' (1995) seminal article in which she coined the term *culturally relevant pedagogy* focused on developing students' academic achievement, cultural competence, and "…critical consciousness – a broader sociopolitical consciousness that allows them to critique the cultural norms, values, mores, and institutions that produce and maintain social inequities" (p. 162). Dorinda Carter (2008) further developed this notion of critical consciousness by centering race, arguing that those possessing a "critical race consciousness . . . demonstrate an awareness and understanding of race as a potential barrier to their schooling and life success. They also understand the historical and current impact that racism has in perpetuating social inequality in America" (p. 14). We view critical race consciousness as a critical understanding of the asymmetrical power relationships existing between BIPOC and Whites in the United States. Without comprehending the racialized experiences of students of Color, many educators may believe we live in a post-racial society (Spring, 2022), failing to learn – through continued awareness, understanding, and critique of racial inequality – critical consciousness (DiAngelo, 2018; Kendi, 2019; Ladson-Billings, 2006). In our work, supporting the development of a critical race consciousness is enhanced by grounding in CRT.

Critical Race Theory and Counterstories

Critical Race Theory (CRT) underscores the permanence of institutionalized racism in our society (Delgado & Stefancic, 2017; Ladson-Billings & Tate, 1995; Taylor et al., 2023), the belief that one race, the White race, is dominant and superior through a system of power,

ignorance, and exploitation used to oppress BIPOC (Solórzano & Yosso, 2002). CRT asserts that race and racism are central factors in the experiences of BIPOC. Recognizing the reality, permanence, and impact of racism on our society and on students of Color is a difficult process, particularly because dominant ideology strongly denies this reality. Additional tenets of CRT include challenging dominant ideology and claiming racial objectivity through countering dominant cultural, meritocratic and colorblind equal opportunity status (Solórzano, 1998; Solórzano & Yosso, 2000). Colorblindness, a concept often practiced in teacher education, includes seeing racial and ethnic differences as irrelevant to education (Sensoy & DiAngelo, 2017).

Further, CRT counters dominant cultural assumptions related to culture, language, and intelligence, contradicting White majoritarian ideologies asserting deficits among Communities of Color (Yosso, 2005). Deficit thinking proliferates educational systems and blames the victims for the shortcomings of the education system's failure. (Esmail et al., 2017; Gabriel et al., 2016; Valencia, 2010; Yosso, 2005). The six types of blaming proposed by Valencia (2010) include: (1) blaming the victim, (2) oppression, (3) pseudoscience, (4) temporal changes, (5) educability, and (6) heterodoxy. Engaging in these strategies to assert deficits leads to deficit thinking, blaming the victims for the shortcomings of the education system's failure to provide appropriate education (Aragon, 2016; Gabriel et al., 2016).

Moreover, CRT centralizes the experiential knowledge of BIPOC. Delgado and Stefancic (2017) refer to the sharing of lived experiences of color as the "notion of a unique voice of color," adding that "the voice-of-color thesis holds that because of their different histories and experiences with oppression, black, American Indian, Asian, and Latino writers and thinkers may be able to communicate to their white counterparts matters that whites are unlikely to

know" (p. 11). One method often utilized in counterstories is through the "persistence of racism from the perspectives of those injured and victimized by its legacy…[by] bring[ing] attention to those who courageously resist racism and struggle toward a more socially and racially just society" (Yosso, 2006, p. 10).

When CRT is used in research, it grounds race and racism front and center in all aspects of the study and challenges conventional and dominant ideology (Azzahrawi, 2023). Centering race and racism in teacher education and professional learning is often unaddressed since it is difficult to discuss and creates charges in people. Hambacher and Ginn (2021), in their systematic review of literature, showed that teacher education and professional development typically utilizes general "multicultural or diversity" notions focused on culture or such social identities of gender, dis/ability, or social class (Hambacher & Ginn, 2021; Milner, 2017; Sleeter, 2017). This review of the literature only identified 39 peer reviewed articles between 2002-2018 of which professional development was "race visible" (Hambacher & Ginn, 2021, p. 329). They found that the majority of these race visible programs focused on curriculum, pedagogy, and few were focused on participating teachers' racial understanding and power. We purposefully situate our work as one of the few examples of teacher education and professional development studies centering race, racism, and teachers' racial understandings which include student voice. After additional review of literature, we found that typically student voice is presented to educators in professional development programs through written formats such as case studies (Bourke & Loveridge, 2016; Cook-Sather, 2006). We address this gap in the literature by utilizing typical text data presentations such as frequency charts and student quotes, but also adding unique data sets such as recorded voice clips and poetic counterstory into teacher education and professional development to build racial consciousness.

Methodology

We examined how educators' encounters with Latinx students' racialized experiences and counterstories may have influenced their understanding of the role of race in education through a "basic interpretive qualitative study" (Merriam, 2002, p. 6). Our research design involved participants writing reflective responses as they were presented with Latinx youth counterstories in a PD session, then analyzing those written responses through thematic analysis. The first author, María, presented to two groups of educators the Latinx youth's counterstories based on her original doctoral research where she examined Latinx youth narratives regarding their own racialized experiences (Gabriel, 2011). Drawing upon these Latinx students' narratives, María produced four different forms of counterstories, including data frequency charts, student quotes, voice clips, and poetic counterstories. Participants in this study recorded their reflective responses to these four different counterstory formats. The authors applied inductive coding via thematic analysis (Boyatzis, 1998; Braun & Clarke, 2006) engaged through a CRT lens to critically analyze explicit and implicit meanings of participants' responses to the racialized experiences expressed by Latinx youth.

This study is guided by the following research question: How might the varied presentation formats of Latinx youth counterstories support, constrain, and/or further develop educator's critical race consciousness? We seek to make visible participants' efforts to grapple with Latinx racialized experiences in the school system and their communities.

Setting and Participants

Data collection was in two different settings, a professional development (PD) session for nine educators and a guest presentation to a combined group of two graduate education courses of twenty educators for a total of 29 participants. The study participants are considered a

convenience sample since they were engaged in this research based on the instructors' interest in the topic. Given the geographical context of the study, the participants' race and ethnicity included Latinx and White. See Table 1 for a demographic summary of all participants, enumerated by group.

Table 1

Demographics of Participant Groups

	Hispanic/ Latinx	White	Hispanic/ White	Female	Male
Group 1	3	6		7	2
Group 2 - MA		6	1	6	1
- PhD	2	11		10	3
Total	5	23	1	23	6

Both settings and participants are described accordingly below.

Group One: Professional Development Setting

As the equity and diversity coordinator for a mountain west region school district (MWRSD) that was a predominantly White institution, María, a Latina, offered the PD session to employees in the district. The district served 27,000 students preschool through twelfth grade (PK-12). In the year of the study, 26% of students in the district were identified as minority according to state demographics. The minority label used by the state included American Indian, Asian, Black/African American or Alaskan Native, Hispanic or Latino, Native Hawaiian or Other Pacific Islander, and Two or More Races, Due to the focus of this paper on Latinx youth,

we highlight that 17.6% of the student population identified as Hispanic or Latino and 4% of teaching staff identified as Hispanic.

In Group One, nine school district employees attended the two-hour PD session, most receiving district-approved PD credit. Three participants were classified staff and six were licensed educators with one to thirty years of experience. The classified staff did not have a license and held roles such as Paraprofessional. The licensed educators included licensed teachers. Three participants were Hispanic/Latino and six were White. Two identified as male and seven as female.

Group Two: Graduate Education Setting

The second and third authors are professors at the same institution who each taught a graduate course in critical multicultural education in the same semester. Antonette, a Latina, taught a master's level course and Louise, a European American woman taught a doctoral seminar. These courses were taught within a School of Education at a predominantly White land grant institution in a predominantly White region of a mountain west state. The students in the two graduate programs largely lived within an hour of the university and several also commuted from cities within a three-hour radius. The master's course included seven pre-service and in-service educators. They included six females and one male; all identified as non-Hispanic/Latino except one identified as both Latina and White. The doctoral course included 13 students who were all employed full time as educators, including teachers, administrators, and counselors. Eleven students identified as White (ten females, three males) and one male and one female identified as Hispanic/Latino. Both graduate level classes were in one room to participate in the same professional development that María earlier delivered to Group One.

Data Collection

María led the professional development sessions. Participants were first asked to introduce themselves and their professional experience working with Latinx students. Then an overview of CRT was explained and the Latinx student counterstories in four different formats were presented/read/heard: frequency charts, student quotes, voice clips, and a poetic counterstory (Gabriel, 2011, 2015, 2016). (These four formats are described in further detail in the findings section). Given the positionality of the researchers as two professors and one district-level administrator whose work centers on equity and antiracist pedagogy, we were concerned that our positions of power and Latina identities of María and Antonette might hinder authentic responses. Therefore, we took steps to ensure trustworthiness and credibility of data collection. We sought to build trust with the time allowed in each session. We assured participants that their responses would remain confidential and that we sought their honest feedback, reminding them that they could withdraw from participation with no adverse consequences at any time. Participants individually wrote responses on a reflection sheet and consented to voluntarily share their anonymous reflections. Their hand-written responses were typed up by student assistants who did not know the participants and who created pseudonyms for them. We were concerned that participants would write socially desirable responses, however, we found their responses to be authentic, making visible how they grappled with the difficult process of understanding how race and racism was experienced by the Latinx youth.

Data Analysis

The participating educators' written responses to the four formats of students' counterstories were analyzed using inductive coding and thematic analysis (Boyatzis, 1998; Braun & Clarke, 2006) that drew on CRT and Critical Race Consciousness in multiple phases.

The data were examined through three analytic questions: 1) What is the nature of the participants' responses to each of the four formats of data? 2) In what ways do participants respond to the racialized content of the youths' reported experiences? and, 3) Is there a relationship between the format of data shared and participants' awareness of racism?

Throughout the analysis, we focused on the meaning making process. We three researchers first read through the entire data set several times, writing individual analytic memos that we shared with each other noting patterns and outliers regarding the participants' responses to the students' counterstories. We then coded the data for markers of response type within and across the two groups for the first two analytic questions. For Question 1, codes included emotional responses (sub-codes: angry, sad, shocked), unemotional responses, and statements of impact. For Question 2, codes included empathy, doubt, naming racism, noting racism without naming it, minimizing, excusing, putting onus on target, deflecting blame, raising questions, and calling for action.

Because Group 2 had been studying anti-oppressive educational theories and practices for six weeks before the session, we anticipated differences between the two groups. However, while Antonette and Louise had hoped for more significant growth in racial understandings and de-centering whiteness among their students at this point in the semester, they found little variation between the two groups. We understand from CRT that the effects of race and racism and long-term embedded socialization about race keep people pinned in their worldview, as we will examine in detail in the findings section. For several reasons, then, we decided to present the findings for the groups collectively rather than comparatively. First, we found little variation in the responses of the two groups. Second, our analytic process was on the meaning making processes of the participants rather than a comparative examination. Third, given the small sizes

of each group, we were concerned that breaking down the findings by group could compromise the protection of participants' identities. In the end, we found that combining the groups in our report provided a more in-depth analysis than a comparative approach could have afforded.

There were key patterns of the nature of the responses to each format of student data and we sought to characterize the shifts in emotional response and knowledge of race/racism in naming our themes. Table 4, *Participant Responses to Latinx Student Data*, presents the themes in the results section. The trustworthiness of our qualitative methods (Glesne, 2015) was checked through our interpretations and conclusions against the data and we sought alternative explanations through negative case analysis. Discrepancies were discussed and resolved through our consensus.

Findings

In this section, we provide written responses by participants based on the four distinct presentations of Latinx counterstories (known here forward as counterstory). Participants shifted from direct interpretation of Latinx numerical data to more empathetic reflections when hearing auditory voices of Latinx youth. Meaning making by respondents was analyzed.

Frequency Charts: Resistance

The first set of Latinx data presented to participants included a traditional quantitative data set of four frequency charts that provided numbers of documented occurrences of racialized experiences indicated by Latinx youth (Gabriel, 2011). The frequency charts were shared on screen for the participants to view and provided numeric representations of the frequency of Latinx students' (N=105) racialized experiences. Ninety-four of the 105 students referenced 100 experiences when they or someone known to them were racialized in their schools or their

broader community. One of the frequency charts revealed the verbalized racialized experiences as shown in Table 2.

Table 2

Frequency of Verbalized Racialized Experiences

Said/Verbal	Total
Racial comments	30
National origin "Go back…"	8
Language	6
Skin Color	4
Income	1

Source: Gabriel, 2011, 2015

Racial comments were associated with the use of racial slurs or comments related to perceived racial grouping, whereas the other themes fit directly under the following headings: national origin [such as] "Go back…," perceived spoken language, skin color, and perceived family income of the Latinx youth. The frequency charts unveil the normalcy of racism in the lives of middle and high school Latinx youth while describing experiences "that Whites are unlikely to know" (Delgado & Stefancic, 2017, p. 9), showing the 'permanence of racism' (Bell, 1992).

Participants provided surface level attention, while lacking emotion in their written responses to the frequency charts. For example, several remarked that the data were "interesting." Mateo found the frequency charts "simple to read and follow," leaving him and three others wanting to know more. Several questioned the credibility, noting that the data "can be manipulated." A few participants referred to some of the racialized content of the youths' experiences. Francisco related to the chart noting the data "really put numbers to the day-to-day

frequency of racist acts Latino students face … and as I have lived it …. However, these charts don't speak to the severity nor the pain associated with such numbers."

Colorblindness was expressed as participants diverted or dismissed attention from race to another social identity. Rachel asked, "How does this data look when SES [socio-economic status] is considered?" Two other participants focused on gender differences since there were more female than male youth reporting experiences of being targeted. Kristin suggested that the issue was bullying, not racism. Participants observed the frequency of Latinx racialized experiences yet resisted their veracity of such common occurrences.

Student Quotes: Encounter

Second, Latinx quotes were presented, adding more context to the numbers in the frequency chart. Table 3 was shared to participants on a presentation slide and read aloud by María.

Table 3

Student Quotes of Verbal Racialized Experiences

Said/Verbal	Example
Racial Comments	"That guy turned and yelled 'beaners' with anger, like hating Hispanics"
National origin	"A problem I confronted was when a student at my school thought it was okay to make fun of immigrants."
"Go back…"	"A white student made the comment of 'all Mexicans, illegal or not should go back to Mexico'."
Language	"My teachers said I couldn't do the work because I talked Spanish."
Skin color	"…we were picked on and called black because of our skin color. They would tease us for being darker skinned than them."
Income	"…My teacher answered the student saying, 'Most Hispanics don't have money to spend on little things like glasses'."

Source: Gabriel, 2011, 2015

The counterstory quotes provoked a range of emotions. Many participants wrote that the quotes were "powerful" for a variety of reasons; and several found the data from the frequency charts combined with the quotes were helpful in learning about the Latinx racialized experiences. For 19 of the 29 participants, the counterstory quotes provoked emotions expressed as anger. Brittney stated, "It enrages me that these students cited instances where teachers were at fault – saying students couldn't do the work because of language rather than helping/supporting them in their efforts to learn, despite a language barrier." Other participants also made implicit statements of anger, such as, "would this [treatment] have been tolerated if it were a White child?" Sophia expressed sadness "that in the 21st century people think it's okay to say" these stereotypes. Francisco expressed some "raw emotions," of sadness and anger as he felt the quotes showed the pain of Latinx children and also illustrated that racism "happens more than we

admit." Francisco's "raw emotions" were coupled with a feeling of powerlessness, of being "up against an unchanging system."

The participants' emotional responses to the student quotes correlated with a recognition of the racial content as they began to explicitly name racism. Eight participants named racism as a reality, such as Mateo, who stated that the quotes "...validated my experience with students I work with, in the sense that 'racism,' 'prejudice' exist[s] [here]." Emma concluded that the quotes are "proof racism is alive and well in [the] U.S. no matter how many people say it is a thing of the past."

As powerful as these quotes were, many participants struggled to fully accept the reality of racism in the youths' lives. Nearly half expressed doubt and evaded the authenticity of these youths' quoted experiences. Rachel mused, "for some of the quotes, I am wondering what the evidence is that it is because of race. Is it possible there were other factors?" More concerning, Kristine continued to dismiss the youths' experiences:

> It's interpretation and perception. It is obvious that there are racism issues. Sometimes youth play the 'race card' for pity or to make an authoritative figure look bad. If youth aren't teasing/harassing you about skin color, they will find something else. It's what happens. I would be curious to find out what/how White students would respond (on an issue that they are picked on) or a disabled student.

Kristine's reference to playing the "race card for pity" and suggestion that "it's what happens," dismisses these youths' racialized experiences and shifts attention to White and disabled experiences with bullying.

Voice Clips: Empathy

A unique aspect of this study was the inclusion of voice clips recorded from student focus groups. The four voice clips shared provided a full auditory description told in the voices of Latinx students. Below is a transcript of one of the voice clips shared:

> There was that one experience when we got off the bus one day, off the school bus. There was this guy who was chasing us with a big branch, or stick. He was swinging it and said, 'You little Mexicans, I know you tagged up my shed.' He thought we had spray painted his shed and he was swinging the stick at us. So, I guess judging just because we are Mexican or other that we had something to do with what happened to his stuff. I guess there was gang writing or something and he was stereotyping that just because we are Mexicans we are in gangs (Gabriel, 2011, p. 130).

Intonation, emotion, and feeling were heard in Latinx voices of the audio clips. The voice clip as a counterstory heightened emotional responses in the participants. Witnessing the description of racism in the Latinx voice appeared to create an empathic moment.

Six participants responded akin to Samantha, who explained, "To have the experiences shared aloud—in their own voices—gave great weight to the experience. It happened—let me tell you about it—gives more feeling and emotion to the experience when you hear it." Participants' responses were often specific to individual clips of students' stories, connecting with the students. Nine of the participants were emotionally moved, such as Mateo, who stated that he sensed the "hurt, the pain" in the students' voices. Three highlighted the power in hearing actual voices, such as Tomás: "very powerful way for data to give 'voice' to stories many prefer not to hear—or take time to hear." Similarly, four described the voice clips as 'honest', including

Judy: “honest testimony very compelling and genuinely moving.” In earlier counterstory formats, participants tended to resist and doubt the honesty of the students.

A critical mass of the participants discussed the relationship between the voice clip format and the racial content. Two Latinx participants expressed deeply painful reactions to the racism youth faced. Francisco emphasized “my heart hurts for these students. I have been there and it angers me to know that our children are now facing the same problems I once, and still, continue to encounter.” Fernanda discussed how “words matter,” and interactions are internalized by Latinx youth and impacted for a lifetime. She was concerned as to how the “mean” interaction of a teacher toward a Latinx student might begin to change the student and impact “the education of this child.”

The participants focused on painful realities of racism in general heard in the voice clips. Several expressed a desire to take anti-racist actions to alleviate society and schools of racism. Many participants identified specific racist statements, behaviors, and choices in curriculum. The witnessing of racism seemed to awaken some racial empathy. Emily wrote, “This teacher’s approach is unacceptable and racist,” and Debra commented the “type of training we give teachers who put students in these types of situations are highly problematic and discriminating.” Like Debra, many participants tied their recognition of racist acts to recommended actions.

However, several participants employed one of the six characteristics of deficit thinking proposed by Valencia (2010), ‘blaming the victim.’ Educators can find themselves putting the onus of racism on the target, such as Nicole who suggested we “need to offer students a way to stand up for themselves.” These may be well-intentioned ways to advocate for support of Latinx youth, but places responsibility on marginalized youth to learn to deal with racism individually rather than requiring the educators to address institutionalized and systemic racism. Mark placed

responsibility on parents, suggesting "many students are influenced by their parents so education about diversity needs to start there," without recognizing the responsibility of schools to address racism regardless of parental influences.

Overall, participants' 'witnessing of racism' by listening to Latinx voices heightened emotions of anger, sadness, and powerlessness which contributed to an empathetic response to racism. Many participants revealed a developing awareness of racism as they engaged in questioning strategies.

Poetic Counterstories: Call for Action

Poetic counterstory was presented visually and vocally to participants. Data poems were developed by the first author, María, (Gabriel, 2011, 2015, 2016) using Latinx students' written statements and transcriptions from focus group interviews with Latinx students (Koelsch & Knudson, 2009; Lahman et al., 2010). The poems demonstrate the permanence of racism from the perspective of Latinx students. For example, the below poem described numerous racial comments and racial slurs made by students during a class discussion and the teacher's inaction in acknowledging or addressing racism in the classroom.

<u>Role of Schools in Addressing Racism</u>

The teacher is

standing there

and watching.

She hears.

That teacher—

She's only watching.

She doesn't tell

students to stop.

She's only watching—

(From data poem: She's Only Watching, Gabriel, 2011)

This poetic counterstory conveys the students' experiences of being othered and oppressed within school contexts without school personnel intervening. Participants appreciated this unique counterstory format. Susan stated, "[I] love this as a form of making 'data' personal and powerful as poetry speaks to people on a different level." Debra noted, "it got to the heart of the matter in a powerful way." Heather stated, "These speak to me" and added that the research poems could capture more information at different levels. Judy seemed to understand the constructive process of creating the poetic counterstory, commenting, "This is a creative way to both summarize and illuminate points for action." Participants began to express their concerns and desire for action to address overt and covert racism exemplified by the poetic counterstory and the teachers' lack of action, discussion, value, and education.

Participants addressed the powerful interaction of silence, socialization, and racism articulated through this poetic counterstory. When teachers watch and do nothing to stop racist behavior, "the silence in the classroom is perpetuating/normalizing up racism," observed Emma. Zachary wrote, "Not telling kids to stop is actively taking part, reinforcing stereotypes, enabling racism in the classroom almost with permission from the teacher." Students rely on teachers to prevent all facets of racism, overt and covert in action, deed, vision, and voice. "But instead [teachers are]…tolerating/perpetuating it!" exclaimed Brittney. Lucia questioned why teachers are not intervening and stopping racism: "I think most of the time teachers don't know how to deal with situations mainly because they need to go through their process of 'peeling the onion' of their own beliefs." Such analysis is profound, yet teacher education programs often do not

provide adequate critical multiculturalism or anti-racism training as part of the curriculum to learn how to reflect, deconstruct, and become competent social justice agents of change against racism (Hardee et al., 2012).

Some participants felt inspired as they saw racism in the poetic counterstory, and they were moved to make a call for action against racism that sometimes included themselves. For example, Rachel asked: "How can we require these types of classes so that all educators have this critical lens and perspective? How do we overcome racism in our schools?" Betty wrote: "The data poem creates or inspires a nearly visceral reaction. [It] also makes me want to do more to change things, to make…[education] even just a little better. Am I just watching, or do I/will I say something?" Reflectively, the participants finally saw racism, they recognized their own need to continue to cultivate personal awareness of racism. They demonstrated a desire to critique these racialized experiences by questioning and yearning for anti-racist action and culturally responsive experiences for Latinx students in schools.

Emerging Critical Race Consciousness through the PD sessions

Our findings revealed a gradual progression of awareness and acknowledgement of racism among participants as they responded to each format of the Latinx students' counterstories. Table 4 demonstrates the three analytic questions, the counter story format, and the themes found in the participant responses.

Table 4

Participant Responses to Latinx Student Data

Counterstory Format	Frequency Charts	Student Quotes	Voice Clips	Poetic Counterstories
Response to the counterstory format	Distant but interested	Emotions provoked	Emotions heightened	Reflective
Response to racial content	Racism dismissed	Racism named	Racism witnessed	Racism seen
Awareness of Racism	Resistance	Encounter	Empathy	Call for action

Participants first examined the frequency charts. They remained distant with surface level examination to the numeric data and their written reflections dismissed Latinx racialized experiences. Next, participants contemplated the student's racialized written quotes. The naming of racism by participants provokes some emotion when they read the written quotes. Generally, many participants experienced an encounter of youths' racialized experience, but for some it seemed unfamiliar. Hearing recorded audio clips was the third data presented revealing both heightened emotions as participants briefly witnessed racism and expressed some empathy. The responses to the fourth and final poetic counterstory created new insights about racialized experiences which led to reflective responses. Many participants saw racism in new ways and some desired action on behalf of the Latinx students.

Discussion

In this section we consider the implications of the findings for teacher education. Racial awareness is developed through critical consciousness that delves into the interrogation of systemic power, reality of student lives, and their complex identities (Lee & Lee, 2020). The

findings demonstrate the progression of educators' critical race consciousness when they are exposed to students' racialized experiences embedded within their counterstories. Some understanding, acknowledgment of individual and institutional racism emerges. A beginning level of recognition of cultural competence was beginning to grow, and this is an important aspect of culturally relevant pedagogy (Ladson-Billings, 1995). The Latinx voice clips when used at the second half of the PD, pivotally highlighted movement in the educators to witness, see, empathize, and begin to decenter White emotions and values (Matias et al., 2014) by acknowledging the negative impact racism has on Latinx students' lives. Participants stated that listening to the actual voices of young people connected them to the painful reality of their racialized experiences. Listening to the students' voices seemed to humanize the learning experience in a way that numbers and text could not.

As indicated in the findings, some participants still voiced resistance, wobbling between utilizing deficit thinking and victim blaming, yet most were emotionally impacted and began to empathize with racialized experiences from hearing the students' voices. This emotional engagement at this point in the session seems to have helped prime the participants to hear the poetic counterstory from a stronger empathetic stance. The poetic counterstory situated in a classroom environment created a deeper connection to the emotional impact of these students' experience of systemic racism in schools. This provoked many of the participating educators to express a desire for change and a call for action. The use of poetic counterstory is a powerful strategy that should be noted for further research and practice of teacher education for both pre-service and in-service teachers.

Our findings underscore the entrenched nature of racism and its effects in educational institutions. While it is hard for any of us to set aside our worldviews and socialized perspectives

about race and racism due to their intercentric nature, there are often time parameters for professional learning. Professional development sessions are often constrained to hour-long sessions that do not allow for the depth of unlearning and learning required (Delpit, 2012; DiAngelo, 2018; Jennings & Smith, 2002). However, in our study, the additional layers of voice clips and poetic counterstory as qualitative data sets supported new potential growth in participant critical race consciousness in a relatively short amount of time. In our experiences as professors and a district Diversity Equity Inclusion Justice (DEIJ) leader, we tend to see in PD sessions the use of case studies and student quotes that can fall flat without emotionality. In this study, we found that the pre-service and in-service educators were personally moved with the use of multiple student voices in the poetic counterstory. We recommend that professional development opportunities include the connection to student voices, particularly through voice clips and poetic counterstories that bridge the emotional impact of the emotional impact of youths' racialized experiences with classroom and educator and educator practices that produce these experiences. We look forward to future research building on this important study.

An implication of this research is a call for in-service and teacher preparation programs to utilize CRT in their methods, required readings, and analyses; applying CRT perspectives to support the development of critical race consciousness is critical to build the capacity of future teachers to see, value, and support BIPOC students (Gabriel, 2013; Lee & Lee, 2020). We understand that developing critical race consciousness requires time and intention. Our findings underscore the importance of continuing professional development efforts that support educators in deconstructing and nurturing their racial understandings. It is therefore critical for teacher educators to become clear about how injustice is reproduced and maintained in schools through negative racialized deficit perspectives of BIPOC students, and model teaching that critically

examines racism so that pre-service and in-service teachers may engage in antiracism (Hambacher & Bondy, 2016; Ladson-Billings, 2014; Sealy-Ruiz & Greene, 2015). Rather than shy away from CRT due to political backlash and misinformation, this study demonstrates the need to embed CRT through teacher preparation education courses and ongoing professional development; doing so is critical for educators to sustain the heightened critical conscious emotionality and interest in uncovering and responding justly to racialized experiences of BIPOC learners, particularly Latinx students. We believe that as teacher preparation programs and school districts continue to utilize CRT, antiracist pedagogy, and student voice throughout an educator's experience, they can support more equitable and socially just educational practices.

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Teacher Engagement and Reflections of Attitudes Toward Students, Race, and Self following STEM Summer Enrichment

Benterah C. Morton
University of South Alabama

Sarah K. McCorrison
University of South Alabama

Christopher W. Parrish
University of South Alabama

Kelly O. Byrd
University of South Alabama

Susan N. Ferguson
University of South Alabama

André M. Green
University of South Alabama

Abstract

This article explores critical studies in education by examining avenues through which teacher education programs problematize racial mismatch in K-12 classrooms. More specifically, the article describes the efforts of a regional teacher education program to support its pre-service teachers by providing opportunities to engage with racially diverse populations of students. This was accomplished through an elementary and middle school STEM summer enrichment program serving over 500 students from Title I schools. Pre-service teachers were surveyed about their experience and reported how they perceive students, race, and themselves within the context of a Title I school setting. Findings, centering on the exploration of pre-service teachers' attitudes, suggest the need for pre-service teachers to be engaged with diverse school settings and populations during their teacher education programs.

Keywords: STEM; Teacher attitudes; Culturally responsive teaching; Summer enrichment

Racial demographics are changing in public education across the U.S. and trending toward an increase in the percentages of students of color (USDE, 2017). By contrast, the demographics of teachers are changing, but at a much slower rate. At the time of this study, 80%

of public-school teachers were White, yet less than 50% of the students were classified as White (USDE, 2017). These demographics position the teaching workforce as a mismatch with most of the students being taught. Considering the potential implications of racial mismatch on student academic growth (Gershenson et al., 2016; McGrady & Reynolds, 2013), teacher education programs need to prepare pre-service teachers to work in diverse environments and with diverse populations of students, particularly with students of a different race or ethnicity.

This article describes the efforts of a regional teacher education program to actively support its pre-service teachers by providing intentional opportunities to actively engage with students with different racial and ethnic backgrounds from themselves. The purpose of this paper is to examine teacher attitudes about students, race, and self while working in a science, technology, engineering, and mathematics (STEM) summer enrichment program. The findings center on the exploration of the attitudes of the pre-service teachers as they engaged with the students in a Title I school in an urban setting.

Literature Review

Teacher education programs are charged with providing rigorous training, internships, and residencies for pre-service teachers to transform them from pre-service teachers into in-service teachers (Ladson-Billings, 2000; Morey et al., 1997). These programs are an integral part in the cycle of developing educators who can prepare children to take on important roles in society (Ladson-Billings, 2000; Morey et al., 1997). The role teacher education programs play in preparing pre-service teachers is implemented differently across the country based on the diverse needs of the city, state, or region the pre-service teachers will serve (King & Butler, 2015; Ladson-Billings, 2000; Morey et al., 1997). One area of inconsistency is multicultural education and diversity curriculum (King & Butler, 2015). The discrepancies in academic outcomes

between students of color and their White counterparts (Battey et al., 2018) has led researchers to identify numerous factors leading to disproportionate student achievement outcomes (see Banks et al., 2001). Teacher training is only one of those factors, and it can be addressed by enhancing the focus of teacher education programs (King & Butler, 2015; Ladson-Billings, 2000; Morey et al., 1997). To that end, more in-depth training is needed for pre-service teachers in working with diverse populations of students.

The current inconsistency in implementation of multicultural education and diversity courses in teacher education programs has the ability to maintain the current ways of teaching that consistently results in large populations of students of color achieving at rates lower than their White counterparts (Akiba, 2011; Battey et al., 2018; USDE, 2017). Further, knowing how to teach and connect with students from diverse ethnic backgrounds is crucial, especially during a time when 80% of the K-12 public school teaching force consists of middle-class, White women (USDE, 2016; USDE, 2017), and over the past 50 years, student demographics in public schools have shifted from a predominantly White to a more diverse student enrollment (Darling-Hammond, 2018; Snyder, 1993; USDE, 2017).

Racial Mismatch Between Pre-service Teachers and Students

The contrasting demographic makeup of public-school teachers and the students they serve has resulted in large-scale racial mismatch (McGrady & Reynolds, 2013) in classrooms across the country. Racial mismatch, as situated by McGrady and Reynolds (2013) and Warren (2015), adds to the academic achievement gap between Black students and their White counterparts. This connection is seen in scholarship that notes that teachers' beliefs about their students' academic abilities, which are often tied to race (e.g., stereotype threat (Steele, 1997,

2018)), rooted in whiteness, influence teaching and thus student outcomes (Akiba, 2011; Battey et al., 2018; Saphier, 2016).

Furthering the research on racial mismatch, Morton et al. (2020), explored its effects through the cultural inability of me (CIM) framework. CIM is described as "a culture-created inability that primarily manifests as mental or cognitive limitations to a person's ability to engage authentically with persons with varying degrees of cultural difference" (p. 127). This theory posits that all teachers working in situations of racial mismatch have an inability to engage in educational excellence with people different from themselves. Further noting that while the inability does not have a solution, there are accommodations to lessen its impact on students' academic outcomes (Morton et al., 2020). While these accommodations do not solve CIM, they can offer access to the tools and dispositions necessary to engage with others in educational excellence. CIM is strongly linked to implicit bias (Greenwald & Banaji, 1995; Greenwald et al., 1998), which is evident when educators engage in educational settings with preconceived beliefs about their student's academic ability (Staats, 2016). The bias manifests in many ways including instructional grouping of students (Skaalvik & Skaalvik, 2010; Tenenbaum & Ruck, 2007) and through the inconsistent implementation of curriculum based on teacher beliefs and not student data (Lyons-Moore, 2014). While CIM may appear to be a hopeless prognosis, scholars note that there are accommodations for this inability that supports educators in being more culturally responsive in their practices. As racial mismatch between teachers and students is studied more, the implications on student achievement becomes more evident (Gershenson, 2016). Nevertheless, misconceptions held by teachers about students' academic ability continues to be one of many important issues that complicate teacher education and teaching in general (Gershenson, 2016).

Teacher Perceptions of Self, Students, Race, and Preparation

Providing multiple field experiences that provide pre-service teachers opportunities to engage with diverse populations of students is vital to the preparation of teachers (Coffey, 2010; Miller & Mikulec, 2014; Sleeter, 2008; Warren, 2018). Doing so helps to develop pre-service teachers' self-awareness and their understanding of the sociocultural and economic issues affecting the lives of students from diverse racial and ethnic backgrounds (Roofe, 2015). Pre-service teacher's self-awareness can be compared to Warren's (2018) application of empathy through perspective-taking which allows the pre-service teacher to develop "new views, knowledge, and understanding of racial and cultural difference" (p. 176). Because teacher education programs consist of mostly White females (USDE, 2016; USDE, 2017), Warren (2018) suggests providing field experiences in which they [the teachers] are the racial minority, engaging with students from "cultural communities different from their own" (p. 176), which allows the pre-service teacher to adopt the students' perspective to better understand the culture that is different from their own.

Sleeter (2008) acknowledges that before a White teacher can successfully teach students of color, they need to be critically aware of the dominance of their identities and fully believe that their students deserve to see many kinds of people modeled in class. Further, it is important for "pre-service teachers to examine their own backgrounds and experiences to identify assumptions, beliefs, and values, as well as cultural contexts in which they grew up, which impact[s] on how they understand schooling and students" (Sleeter, 2008, p. 114). Learning across multiple field experiences that engage with diverse populations of students provides pre-service teachers with access to opportunities to learn from and about others. Additionally, they are provided with opportunities to develop the self-awareness needed to begin understanding

their own backgrounds. Once teachers fully understand their own backgrounds, they potentially have better footing to be able to understand the importance of students from diverse backgrounds (Warren, 2018).

As many pre-service teachers have had limited experiences interacting with people from culturally diverse backgrounds, there is a need to connect theory to practice by immersing pre-service teachers in classrooms that allow for diverse experiences working with students and teachers in diverse school settings (Mathur et al., 2017; Miller & Mikulec, 2014). Mathur et al., (2017) suggests a need to examine field experiences within teacher education programs to determine if pre-service teachers are provided experiences in high-poverty schools with diverse populations. Field experiences throughout the teacher education program should provide opportunities for pre-service teachers to examine their own definition of diversity and teaching (Miller & Mikulec, 2014) and to examine their role in ensuring equity for all in our current education system (USDE, 2016). The foundation to work through critical self-reflection (i.e., activities that provide opportunities to explore how personal beliefs and actions impact others) should be explored during coursework leading up to and throughout field experiences (Sleeter, 2008; Warren & Coles, 2020). Milner (2003) offers race reflective journaling and critically engaged racial dialogue as examples of critical self-reflection practices. During these activities, pre-service teachers reflect on and discuss their past and current experiences on race. By doing this, individuals may discover factors of "who they are as racial beings" (p. 177) and how that impacts their teaching of students from diverse backgrounds.

Additionally, an important focus within teacher education programs is the development of content and pedagogical content knowledge for pre-service teachers. However, to be an effective teacher, the classroom must be conducive to learning which includes classroom

management (Bradshaw et al., 2018). A perceived lack of knowledge of and preparation for classroom management is especially prevalent among pre-service and beginning teachers (Jackson et al., 2013; Putman, 2009). Field experiences in classrooms in which pre-service teachers can observe and implement research-based classroom management practices – with the support of culturally responsive mentor teachers, and culturally responsive university faculty – are necessary to influence changes in pre-service teachers' beliefs and self-efficacy related to effective classroom management (Putman, 2009).

Given the need to provide opportunities for pre-service teachers in teacher education programs to engage with culturally and racially diverse students, it may be beneficial to create specific experiences that are representative of the schools in which they will be working (Warren, 2018; Warren & Coles, 2020). This study responds to this call to action guided by the question: How do pre-service teachers perceive their students, race, and themselves while working in a STEM summer enrichment program in a Title I school?

Method

This qualitative study is the product of a STEM-infused summer enrichment program for second grade through eighth-grade students taught by pre-service teachers. The purpose of the enrichment program was two-fold: (1) to provide students opportunities to engage with STEM content and minimize learning loss over the summer, and (2) to provide pre-service teachers an opportunity to engage in a practicum experience with the support of an experienced mentor teacher. To determine how participating pre-service teachers viewed students, race, and themselves, teachers' perceptions were examined via survey at the completion of the program. The surveys asked open ended questions allowing participants to provide more elaborate

responses. These responses were then analyzed, coded, and arranged by themes. Participants, data collection, and data analysis are described below.

Participants

Forty-two pre-service teachers (16 of which completed follow-up surveys), current students and recent graduates of a predominantly White Southeastern four-year public institution, worked as teachers in a STEM summer program that primarily served Black students from Title I schools across the local district. The STEM summer enrichment program took place in the Southeast region of the United States on an elementary school and middle school campus. Thirty-two of the pre-service teachers (38 female and four male) taught at the elementary level (grades 2-5) and 10 taught at the middle school level (grades 6-8). Of the 16 participants (81% female and 19% male completing the survey), eleven (69%) were White and four (25%) were Black.

Across the district, students from Title I elementary and middle schools were invited to participate in the program. There were 832 students registered for the program, with 590 elementary students and 242 middle school students. The highest one-day attendance at the elementary level was 332 with a daily average of 290 students. The highest one-day attendance at the middle school level was 123 with a daily average of 115 students. The racial makeup of students was 99% Black. This is not representative of the district demographics which included 39.7% White, 49.7% Black, 4.4% Hispanic/Latino, and 6.2% as other for the previous academic year (National Center for Education Statistics, 2018; ALSDE, 2018b).

The invited students were from Title I schools that were also identified by the state as receiving a grade of C (70-79) on the state's accountability report (ALSDE, 2018a). According to school district leadership, many of the invited students at the middle school level had

experienced one or more academic years without a certified teacher of mathematics, which has unfortunately been a trend across the region for over a decade.

Study Context

The duration of the program was four weeks. Students attended the program Monday through Thursday, totaling 26 days, from 8 am to 3 pm. Students at both campuses, elementary and middle school, rotated through reading and STEM-based classes daily. They also participated in physical education and C.A.S.E. (character, art, and self-esteem) enrichment several times each week. C.A.S.E. in this context focused on providing outlets for artistic expression and building the students' self-esteem and self-worth.

The participants facilitated the learning experiences within the program for each of the daily experiences. For each grade level, there was a team of two teachers for each of the content courses—reading, mathematics, science, and mathematics and science extension (STEM). Of the 32 elementary teachers, four were secondary mathematics pre-service teachers, facilitating the fourth and fifth grade mathematics content. Of the ten middle school teachers, three provided daily instruction in English Language/Arts, three provided science instruction, and four facilitated STEM extension learning experiences. The participants were paired with a content specific mentor. The mentors were selected by the supporting teacher education program because of their content knowledge and proven track record of success in the classroom. Both teachers and mentors were supported by content experts from the sponsoring university through weekly professional development sessions covering a variety of topics (e.g., understanding the cultural proficiency continuum, discipline management, cultural self-reflection, building self-esteem, etc.).

Data

As the purpose of this study was to determine how the pre-service teachers perceived students, race, and themselves, a qualitative research design was employed (Johnson & Christensen; Leavy, 2014). An open-response survey was completed by the participants using the Qualtrics platform. To encourage honest responses from participants, requested demographic information was minimal; therefore, researchers did not connect participants to content area or grade level taught. See Table 1 for a list of survey questions specific to each of the three categories of students, race, and self. Sixteen participants completed the survey.

Table 1

Survey Questions Arranged by Category

Category	Questions
Students	Overall, what did you learn from the students that you did not know before you participated in this program? Now that you have had this experience, what surprised you the most about the students of the program? Now that you have had this experience, what surprised you the least about the students of the program? Describe your overall experience working with the students of the enrichment program? In your opinion, are there things or behaviors about urban students that are misunderstood? (Yes/No) Please explain your response. How would you describe the behaviors and attitudes of the students you worked with over the summer to a random person on the street? Please express anything else you would like us to know about the Summer Enrichment Program participants.
Race	When starting the program, were you concerned that your race would have an impact on how the students treated you? Please explain your response. Based on your experience this past summer, to what degree were you prepared to teach students from urban areas? Please explain your response. Prior to the start of the program, what were your concerns regarding your teaching ability (if any) in regard to interacting with students from urban areas? Did the program assist you in addressing those concerns? Please explain your response. Would you voluntarily seek out job opportunities in urban settings now that you have had this experience? Please explain your response. To what extent did the Summer Enrichment Program prepare you to work with diverse populations?
Self	What surprised you the most about yourself after having this experience? What would be one lesson that you have learned from your experience? Give an example of one eye-opening experience from the Summer Enrichment Program? In what ways has this experience helped you to grow? In what areas do you feel that you still need assistance?

Analysis

Survey responses specific to each of the three categories—students, race, and self—were each independently, inductively open-coded by two researchers, with each survey question response being viewed as one unit of coding (Corbin & Strauss, 2008). The two researchers then compared their open codes within each category and grouped similar codes into themes; this produced a set of themes specific to each category. Coding one category at a time, the researchers then independently assigned one or more themes to each unit of coding within that given category. After re-coding the responses within each category, the researchers compared assigned themes and were able to reach consensus in all cases. Lastly, themes within each category were examined to identify patterns within the participants' responses. It is important to note here that one limitation of this study was revealed in the design of the survey questions. As a result of the design, the re-coded themes derived from analysis mirrored those of the survey. Some of the primary codes included themes related to students (e.g., behavior, background and experience, academic level, and ability); race (e.g., preparedness to work with student from diverse ethnicities and backgrounds, concerns of reverse racism, classroom management); and self (e.g., confidence, teacher responsibilities, preparedness to address classroom management). Researchers worked to identify other themes and, in this search, identified that the questions were more leading than intended. Nevertheless, the findings still provide implications toward positive outcomes from similar enrichment programs.

Findings

After the summer enrichment program ended, teacher perceptions of the students, the role of race in teaching, and themselves were examined. Perceptions specific to each of these larger categories are discussed below. Interwoven within the findings are interjections where primary

code themes revealed teachers' negative perceptions of student behavior and unproductive framings of student ability.

Students

A few responses described the students' behavior as "friendly" and "wonderful." Further, one participant stated that "They weren't perfect, but they were some of the best kids I've taught!" Similarly, participants recognized the mix of behavior in a single classroom and commented that they had not yet experienced "that much behavior mixed into one room before." Student characteristics beyond behavior included ability level and need for special education services. Participants described being surprised by how many of the students were low-achieving, and that some of the students could not even read. Still, others expressed concern about not knowing which students typically received special education services and not having access to that information or the students' individual education plans.

Although some students were described as low-achieving, participants described the expectations they had for all program participants to learn, and that they just needed to meet the students "where the students were." Another participant stated, "All students can be successful in learning math with time and dedication." Across these responses, participants communicated a commitment to supporting students in their learning, regardless of students' prior content knowledge and skills.

This commitment to connecting and supporting students was further evidenced as participants discussed the relationships they developed with their students. One teacher stated that although there were some issues, they enjoyed being with their students every day. Another participant described occasionally thinking about students after the program had ended.

Beyond specific characteristics of students, participants often discussed the learning opportunities that were afforded from working with the students. Most broadly, participants described the impact of the overall experience on their learning stating, “I learned many things about myself as a teacher being groomed,” and, “It was a good learning experience for me because it prepared me for my classroom.” Other participants provided more specifics about which aspects of the STEM summer enrichment program enhanced their learning. Most commonly, participants attributed the variety of learning abilities and student behaviors as providing the greatest opportunity for learning; “I believe this program was very educational. It helped me to work with students from all backgrounds and gave me experience in a small setting with support.” Other participants noted an improvement in classroom management skills from participating in the summer enrichment program. Learning was also attributed to the support provided by the administrators and mentors within the program—the opportunity to work with students with varied backgrounds and academic abilities, coupled with a mentor and administrator support, that provided the greatest teacher learning opportunities.

Alongside the presented findings there were findings about the perceptions of students’ behavior, background, and academic experiences that represented teachers’ negative perceptions of student behavior and unproductive framings of student ability. One instance of a teacher’s negative perception of student behavior can be seen when the participant reports, “The most surprising thing about my students was that they weren’t as bad as people labeled them to be.” Comments like this indicated that there were some preconceived notions about the behavior of the students attending the enrichment program. In another instance a participant attributes the students’ behavior and ability to the students’ home life, further expressing that “many of them have absent parents.”

Race

Multiple participants expressed an ability, confidence, or preparedness (or lack thereof) in teaching in predominantly Black learning environments. Some participants felt confident and prepared in their teaching and classroom management in the summer program. Other participants had prior experience teaching in diverse environments which led to their confidence stating, "I am teaching students in an urban area, and I have gained classroom management skills I use every day here" and "I went to school in an urban area and spent time prior to this program teaching in an urban area."

Beyond teacher ability and confidence, participants varied in how they perceived race impacting their teaching. For some participants, race had minimal impact on their teaching and students' learning, stating, "I don't believe that race impacted the students as much as some people want to believe. I think all children just want to feel safe and trust the adult that is supposed to be teaching them." Another participant was comfortable with their race but was more concerned with their teaching strategies and being successful in helping students understand the concepts being taught. One participant discussed the topic of reverse racism, stating, "Since the program focuses on urban students, reverse racism is a real possibility. Just like there is racism towards African Americans in an all-White community, there is also racism towards Whites when they step into an urban community." Other participants believed race had an impact on their teaching and students' learning and felt like students would relate to them more because they were the same race. Another participant described the difficulty she had in her classroom because she was a young, White woman, and she felt the Black students did not respect her as much. The participants' responses also represented perceptions of unproductive framing of students' ability based on race. One participant reported being "surprised" in their

own ability to be able to appeal to the students in the program. In another instance, a participant associated student ability with their "background and upbringing," leaving little room for opportunities for teaching and learning to impact the students' academic outcomes.

Race emerged in discussion around teacher growth and attitudes when working with students. For example, two participants attributed their growth in working with students from diverse backgrounds to the summer program. One participant stated, "It helped me to incorporate inclusion for students of different backgrounds and abilities," and another participant stated, "I was able to work with many different backgrounds and upbringings and see how they affected their learning and behavior." Additionally, race emerged in discussion around the pursuit of teaching jobs in schools serving predominantly Black students. During this discussion, one participant referenced their desire to pursue a job in such an environment, noting that working in the summer enrichment program served as reaffirmation.

Self

Multiple participants referenced their own teaching practice and ability when discussing their engagement with the summer enrichment program. Some participants were surprised at how well they performed in the classroom. For example, one participant stated, "I'm actually better than I thought." Another participant stated, "I was surprised in my ability to appeal to the students given their ages." Other participants discussed lessons they learned from this experience. For example, one participant was excited about finding multiple ways to teach and to reinforce concepts, while another described learning the importance of always being prepared. Participants also discussed eye-opening experiences from the summer program, such as the various assigned roles and duties (i.e., morning, bus, and cafeteria duty), and "being exposed to planning, decorating a classroom, professional development meetings." Although participants

learned a lot about their teaching practice and ability, areas for improvement were noted. One participant stated, “I need more creative ways to present material and learn to be myself when I’m being evaluated,” and another participant stated, “I could still improve providing accommodations to students and handling classes that don’t care about grades.”

Beyond teaching practice and ability, an equal number of participants also discussed classroom management and their beliefs that the program helped confirm their decision to become an educator. Regarding classroom management, several participants still described this as an area of needed improvement. For example, one participant mentioned the need for assistance, stating “Managing the classroom to handle discipline issues and ‘problem’ students can be improved.” Participants also expressed confirmation of their practice or placement. For example, one participant stated, “It was exhausting but it was a rewarding journey. I learned more about myself as well.” Additionally, some participants were afraid of being in their own classroom for the first time and were afraid of failure. The importance of teacher-student relationships emerged in responses. Participants discussed the importance of being firm but also nurturing in the classroom, and that learning to develop relationships with students is just as significant as teaching them. Some participants also noted that they missed their students upon completion of the summer enrichment program. Finally, exploring the participants’ responses revealed several unstated misconceptions of their ability to engage with students different from themselves. In several cases, participants’ framing of their own ability was unproductive leading to their amazement when the students responded more positively than anticipated.

Discussion

The study sought to explore how pre-service teachers perceive students, race, and themselves, within the context of a STEM-focused summer enrichment program for students

from Title I schools. Our discussion applies a critical analysis to the presented findings and highlights areas of consideration for implementing STEM enrichment programs using pre-service teachers. The discussion follows the organization of the findings from perceptions of students, through perceptions of race, to perceptions of self. It is important to restate here that one limitation of this study was revealed in the design of the survey questions. As a result of the design, the themes derived from analysis mirrored those of the survey. Researchers worked to identify other themes and, in this search, identified that the questions were more leading than intended. Nevertheless, the findings still provide implications toward positive outcomes from similar enrichment programs.

Pre-service teachers most often perceived student behavior from a negative perspective (e.g., “awful”), and a result of difficult background and characteristics (e.g., “absent parent” or students being “urban”). It is important to note here that many participants conflated working in an urban setting as synonymous with working with students of color. In contrast, a few participants described students’ behavior as favorable. These perceptions of student behaviors, framed outside of the pre-service teachers’ locus of control, are representative of unproductive framings (Jackson et al., 2017) and perceptions of classroom management preparation and training (Jackson, et al., 2013). Regardless of the described behavior, the pre-service participants communicated a commitment to supporting the students in learning their respective discipline and to building relationships with the students. Pre-service teachers also viewed opportunities to work in a diverse Title I educational setting, coupled with support from mentors and program administrators, as an opportunity for learning and professional growth.

Pre-service teachers’ perceptions of race resulted in varying feelings of confidence and preparedness when teaching students in the program. Some pre-service teachers attributed their

confidence in classroom management to prior experience teaching in diverse settings. Alternatively, other teachers were uncomfortable or were afraid of failure. With respect to the impact of race on teaching, some teachers believed that race had little to no impact, while others believed that because they were the same race as the students, teaching and classroom behavior was easier to manage. Expressions of these beliefs, explored in Morton et al. (2020), acknowledge that pre-service teachers could benefit from ongoing activities and experiences that promote and facilitate critical self-reflection (Sleeter, 2008; Warren & Coles, 2020).

Pre-service teachers' perceptions of themselves while teaching in this Title I educational setting were often described as positive. Several pre-service teachers were surprised in their ability to appeal to students, manage behavior, and successfully implement a variety of teaching strategies. They were also surprised by all the duties and extraneous responsibilities that go along with teaching positions such as morning and afternoon bus duty or lunch duty. With respect to student-teacher relationships, teachers realized the importance of their role in developing and nurturing teacher-student relationships as a foundation for successful teaching. The role of the pre-service teacher to foster relationships with students is not novel. It is echoed time and time again throughout multicultural education literature as pathways of critical self-reflection (Sleeter, 2008; Warren & Coles, 2020), developing effective classroom management (Bradshaw et al., 2018), and working in diverse environments (Banks et al., 2001).

Looking further into the pre-service teachers' responses there appears to be a key area of need across their teacher education program. In relation to teacher perceptions of students, pre-service teacher responses indicated that this experience in a Title I school setting with predominantly Black students was novel, thus leaving the participants relatively inexperienced in working with diverse student populations, diverse student behaviors, and diverse student

academic abilities. While participants reported being dedicated to student success, their language about students at times was deficit-based (Milner, 2016). These critical examinations bring to question the readiness of the pre-service teachers to truly engage with students across diverse populations.

Implications and Conclusion

Several implications for practice have been identified from this study. According to Roofe (2015), pre-service teachers should be provided training that is directly connected to diverse school contexts, including understanding the school setting in which they will teach and the socio-cultural background of the students. While the pre-service teachers in this study were provided diverse experiences in the classroom through the summer enrichment program, it was unclear if they were engaged in such in-depth experiences during their preparation program. Moreover, there were responses related to diversity of race. One participant believed that having a shared racial identity with the students would help them to relate better with the students. Yet, another expressed difficulty obtaining respect from the students because the students and the participant did not share the same racial identity. While the level of in-depth experiences with diverse populations prior to the summer enrichment program are unclear, it is worth mentioning that pre-service teachers with limited prior experience with ethnically diverse populations have less confidence in their ability to connect with the students (Miller & Mikulec, 2014). This lack of confidence, caused by limited prior experience, in working with diverse student populations is one of the impacts of racial mismatch (McGrady & Reynolds, 2013). Unchecked, the lack of confidence of working in racially and ethnically diverse settings can result in lowered expectations for the academic outcomes of the students (Morton et al., 2020; Putman, 2009).

Thus, teachers may benefit from more diverse field experiences within teacher education programs well before they begin student teaching.

A second area for consideration in preparing effective teachers is providing access to varying depths of knowledge surrounding classroom management. Several participants in this study identified classroom management as an area for needed improvement. This is supported by Putman (2009) who suggests that pre-service teachers need opportunities to examine their beliefs about classroom management and have experiences in classrooms in which best-practices can be observed and implemented. Expanding on this, it is important for pre-service teachers to examine the role race plays in the implementation of classroom management procedures (Milner, 2016). Providing ongoing opportunities to observe and manage the day-to-day classroom with the support of culturally responsive mentor teachers and culturally responsive university faculty may increase confidence in establishing a classroom that is conducive to learning for all students and minimize classroom management problems and concerns.

Finally, unproductive framings, "those in which student difficulty is attributed to inherent traits of the student or deficits in their family or community" (Jackson et al., 2017, p. 9), of the problems students' experience academically appears throughout the data. Participants framed student misbehavior by associating it to their "home life" or "absent parents." These unproductive frames made it more challenging for participants to identify instructional strategies to improve student behaviors. The deficit-based framings proved problematic and challenging to overcome in a short, four-week, period. These ways of thinking should be introduced and discussed in teacher education programs to allow pre-service teachers opportunities to discriminate between deficit-based and asset-based framings and practices.

The language surrounding the needs of pre-service teachers has been echoed through the literature over the last decade. Green et al. (2011) called for various forms of reform in teacher education programs including utilizing field experiences that engage students in diverse educational contexts. These field experiences support the growth and development of pre-service teachers in engaging with students from diverse environments. More specifically, as outlined above, there persists an unmet need for pre-service teachers to engage with students from diverse backgrounds and cultures. One question that remains is, why have these suggestions not been consistently implemented in teacher education programs? Future studies should focus on restructuring and evaluating teacher preparation programs to better meet the needs of the ever-changing student population.

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A Call for Change: Disrupting White Supremacy Culture in Dispositional Expectations of Teacher Candidates

Elizabeth Y. Stevens
Roberts Wesleyan University

Kristen M. Driskill
Roberts Wesleyan University

Adam Huck
Roberts Wesleyan University

Diana Abbott
Roberts Wesleyan University

Emily E. Robinson
Roberts Wesleyan University

Maryanne Barrett
Roberts Wesleyan University

Denise Johnson
Roberts Wesleyan University

Amy Polisseni
Roberts Wesleyan University

Holley Rushforth
Roberts Wesleyan University

Abstract

Today, in the context of the Black Lives Matter movement and an increased focus on antiracism, P-12 and higher education institutions are engaged in studying practices and resources from an (in)equity lens. This study explores disposition expectations for teacher candidates noted in the form of a rubric drawing on Critical Race Theory (Ladson-Billings & Tate, 1995). Characteristics of White Supremacy Culture (Okun, 2021) also grounded the study and were used as themes determined a priori. Researchers engaged in document analysis to analyze and code the rubric (Bowen, 2009; Corbin & Strauss, 2007). Findings show evidence of white supremacy culture in dispositional expectations. These findings reveal the need to challenge current expectations for teacher candidates to disrupt the white supremacy culture that permeates teacher education. Implications provide ideas for future research and practices that are flexible, collaborative, and critical.

Keywords: white supremacy, teacher education, dispositions

"The master's tools will never dismantle the master's house. They may allow us temporarily to beat him at his own game, but they will never allow us to bring about genuine change" (Lorde, 2003, p. 27). We, nine teacher educators, draw on the wise words of Black feminist scholar, Audre Lorde. Lorde reminds us that we need to dismantle our own ways of doing and being, as individuals, as an institution and as a discipline of teacher education (TE), to institute change.

We acknowledge United States (US) schools were built by white, middle and upper class, Christian, European American men and remain white-serving institutions with interest in upholding the status quo (Bissonnette, 2016). "Schools have historically served as primary locations for the indoctrination of outsiders into the American way-of-life" (Roediger, 2006, p. 2). Though schools are increasingly diverse, P-12 teachers and teacher educators are overwhelmingly white, middle-class, cis females (Sleeter, 2017).

It is well established that white, middle-class, cis females are socialized, from a young age, to possess certain well-meaning dispositions then ingrained throughout schooling, including in TE:

> The White, middle-class cis females who disproportionately populate the teaching profession are overwhelmingly disposed to mask controversy, avoid conflict, and suppress difference. In this regard, they are complicit in reproducing White supremacy, social and economic inequities embedded in capitalist structures, and the oppression of patriarchy. (Wegwert & Charles, 2019, p. 104)

Such complicity also aligns with a tenet of Critical Race Theory (CRT) that suggests racism is, and has been, normalized in American schools and society (Stefancic & Delgado, 2013).

Further complicating the history of schools, TE experienced a standards-based movement leading to an audit culture with increased systems of accountability (Apple, 2004). The Interstate New Teacher Support Consortium (inTASC), a voluntary group of educational agencies and organizations, documented standards for beginning teachers and their licensing in 1992 and "put dispositions on the teacher preparation map" (Villegas, 2007, p. 372). Thereafter, other organizations such as the National Council for the Accreditation of Teacher Education (NCATE), the Council for the Accreditation of Educator Preparation (CAEP), and the Association for Advancing Quality in Educator Preparation (AAQEP) placed emphasis on dispositions through the accreditation process, making assessing dispositions a required component of teacher licensing programs across the US (Blair, 2017; Villegas, 2007).

Today, in the context of the Black Lives Matter movement, P-12 and higher education institutions are engaged in studying practices and resources from an (in)equity lens. Ongoing discussions and reflections have led some, including us, to develop Equity Strategic Plans, demonstrating a commitment to confronting normalized racism and supporting antiracist pedagogies. Spurred by our discussions and reflections, we considered how some of our expectations for teacher candidates (TCs), including disposition expectations noted in the form of rubrics, might actually (and perhaps unintentionally) reinscribe inequity. We refer to dispositions as internal conditions or psychological characteristics such as attitudes, values, beliefs, and thoughts, that influence external behaviors like interactions with students and colleagues during teaching and learning (Blair, 2017; Choi et al., 2016).

Our desire to scaffold the development of disposition expectations, like other teacher educators, sits in tension with our commitment to antiracist pedagogies. In alignment with CRT, if expectations require all TCs to conform to a set of cultural norms, antiracism is not apparent

(Ladson-Billings & Tate, 1995; Okun, 2021). Leaning on Lorde's (2003) words at the onset of this paper, we realized, "The master's tools will never dismantle the master's house." Therefore, we explored: How, specifically, do our dispositional expectations for TCs reify white supremacy culture (WSC) characteristics?

Literature Review

A touchstone in all accredited TE programs, teacher dispositions are historically rooted and have been given greater attention, in the last decade or so, as a result of the accreditation process. Dispositions are assessed in a variety of ways, despite lacking validity and reliability (Blair, 2017; Saltis et al., 2020). Scholars acknowledge the shortcomings in defining and assessing dispositions as well as ways to mitigate the shortfalls. Even so, it remains debatable as to whether or not dispositions impact teacher effectiveness.

Dispositions are not a new concept, as reference to them actually dates back to ancient times (Choi et al., 2016), but dispositions have received greater attention recently due to accrediting bodies' requirement to assess them for teacher licensing (Blair, 2017; Choi et al., 2016; Villegas, 2007). To address accreditors' standards, TE programs assess dispositions in a variety of ways. Some of the ways dispositions are assessed include rubrics and checklists. Others assess them through written responses such as reflections, case studies, or portfolios. These forms of assessment often lack validity and reliability and are subjective (Blair, 2017; Saltis et al., 2020).

Some scholars acknowledge the shortcomings of measuring dispositions. Most notably, there is not a consensus about what specific dispositions are a priority or most valuable to measure (Choi et al., 2016; Saltis et al., 2020; Shoffner et al., 2014). Schoffner et al. (2014) stated, "When dispositions are identified and assessed, certain political or social perspectives

could be valued over others, complicating an already complex matter" (p. 178). For instance, some dispositions prioritize TCs' character while others address their competencies (Choi et al., 2016). Being collaborative is a character trait whereas being prepared is a competency. These perspectives, unless reviewed and challenged, risk perpetuating the normalized societal racism described by CRT.

TCs' dispositions may vary based on background knowledge, experiences, and context (Shoffner et al., 2014). As an example, Hoadley and Ensor (2009) found teachers' social class to be predictive of the specific dispositions teachers valued. Teachers from working class backgrounds prioritized discipline and caring, while teachers from middle class backgrounds prioritized students' cognitive development.

Despite the critiques of dispositions as a concept and in assessment, Villegas (2007) acknowledged, "Teachers who aim to make a difference in the lives of diverse students need the dispositions to teach all learners equitably" (p. 371). Hayes and Juarez (2012) noted that not preparing TCs to have the knowledge, dispositions, and skills to teach *all* students is an act of whiteness that reinforces white supremacy. Further, in a recent study focused on cultivating dispositions in urban schools, Truscott and Obiwo (2020) found two core dispositions surfaced: responsiveness and the importance of equity.

There is no agreement on whether or not dispositions correlate with teacher effectiveness or instructional successes (Blair, 2017). For instance, in a qualitative study at a rural midwestern university where TCs' dispositions were observed and assessed, Choi et al. (2016) found that disposition ratings may not be predictive of effective teaching. However, Saltis et al. (2020), in a qualitative study requiring a variety of stakeholders (TCs, mentor teachers, and supervisors) to

assess pre-service dispositions, cited dispositions as highly correlated with teacher success and important to students' education.

Theoretical Framework

Due to the inconclusive, pervasive nature of dispositions in TE programs, it is critical to continuously investigate their impact. We ground our analysis in the CRT assumption that racism has been normalized in our history and white supremacy permeates inequity in much of US culture (Ladson-Billings & Tate, 1995). We draw on Okun's (2021) explanation of WSC, "White supremacy culture is the widespread ideology baked into the beliefs, values, norms, and standards of our groups (many if not most of them) ... teaching us both overtly and covertly that whiteness holds value, whiteness is value" (p. 4). Its characteristics are outlined in Table 1. Okun offered the characteristics as an analytic tool and one way of understanding WSC: "The description of these characteristics are meant to help us see our culture so that we can transgress and transform and build culture that truly supports us individually and collectively" (Okun, 2021, p. 6). In addition, Okun (2021) recognized that white supremacy, and the characteristics of its culture, intersect and operate with other oppression (e.g., classism, sexism, heterosexism, Christian hegemony). The intersection of oppressive experiences compounds to be more than the sum of the experiences (Crenshaw, 1989). Whiteness often goes unseen and its masking helps to maintain the status quo and power under the guise of equitability in a democratic society (Picower, 2021). As a result, whiteness, both consciously and unconsciously, maintains white supremacy. It upholds colorblindness, meritocracy, deficit thinking, and linguicism (Ledesma & Calderón, 2015). Specific to teacher education, whiteness perpetuates inequity by espousing the ideal that education is neutral (Gardiner et al., 2022).

Table 1

Characteristics of White Supremacy Culture (Okun, 2021)

White Supremacy Culture Characteristics	Descriptions
One Right Way	The belief that there is only one right answer or way - once that way is introduced, there is a belief that perfectionism can be attained.
Urgency	Ignoring the need to reflect and demanding change in a way that perpetuates power imbalance.
Either/Or & the Binary	Reduce the complexity of life to binary decisions to reinforce "toxic power."
Individualism	Our cultural story that should be made on our own - "pulling ourselves up by our own bootstraps."
Progress is More & Quantity over Quality	Assumption that goals must be bigger and more - a focus on quantitative values.
Denial & Defensiveness	Denying and defending the ways that white supremacy is (re)produced.
Fear	When afraid, individuals are more easily manipulated by promises of safety.
Right to Comfort, Power Hoarding, & Fear of Conflict	A belief that "we have a right to comfort, which means we cannot tolerate conflict." So, there is a tendency to blame for discomfort.
Worship of the Written Word	Value is only placed on what is written and assessed to a narrow standard, thus, ignoring other ways people communicate.

With CRT, race is viewed as a social construct and racism is recognized as ingrained in American culture rather than isolated events or actions (Ladson-Billings & Tate, 1995). CRT can be used for analyzing racism and critiquing white supremacy broadly, including in TE (Baker-

Bell, 2020; Ladson-Billings & Tate, 1995). In the context of TE, CRT "as an interpretive framework, can challenge the dominant ideology of standards, tests, and accountability" (Heilig et al., 2012, p. 407).

In education, white supremacy may permeate through policy and create climates that are unfriendly, and perhaps unwelcoming, to students of Color (Ledesma & Calderón, 2015). Examples can be found in assessments and standards of behavior. As such, we seek to challenge the dominant whiteness that may be present in our disposition expectations for TCs using "the lens of race" (Heilig et al., 2012, p. 421). Ledesma and Calderón (2015) contended that "Education, like law, is an explicit manifestation of institutionalized White supremacy, which demands specialized tools that can expose, highlight, and challenge these realities" (p. 213). To further guide our understanding, we drew on Okun's (2021) definition of WSC and its characteristics. Using these characteristics as theoretical and analytic tools helped us see our culture, interrogate it, and work toward more antiracist and just expectations for TCs. We seek to dismantle "notions of colorblindness, meritocracy, deficit thinking, linguicism, and other forms of subordination" (Ledesma & Calderón, 2015, p. 208).

Positionalities

We are faculty and staff members in a TE department at a small, private college in the northeast US. Seven of us are white, middle class, females, typical of the population educating TCs. One is biracial, middle class, female, and one is white, middle class, and male. We value having expectations for TCs, but our shared concern about our complacency in reifying WSC brought us to this work. In addition, recognizing that our TC population is not nearly as diverse as the K-12 student populations they will serve in the future, we realize that we need to better educate our TCs in the areas of diversity, equity, and inclusion. We have begun extensive work

in this area as a department, to examine our own cultural competence and biases and open ourselves to analyzing how we are or are not reifying WSC. We ask: How do our dispositional expectations for TCs reify WSC characteristics?

Method

The goal of this study was to utilize CRT as a framework for critically analyzing our disposition expectations for TCs through an equity lens. We focused on the tenets of race as a social construct and racism as normative to American society. Since our dispositions rubric is a source of evaluation throughout our TE programs, we chose a qualitative method, specifically document analysis (Bowen, 2009), to allow a careful and thorough analysis of the dispositions that we prioritize through this rubric. This study seeks to fill a gap in research that considers the intersection of expectations of TCs' dispositions and WSC. Heilig et al. (2012) cited Apple (1992, 1999) when stating that standards are political and contending that "it is important to look closely at the racial politics and ideologies embedded in modern standards" (Heilig et al., 2012, p. 404). We view our disposition expectations as standards for TCs.

To explore our research question, we read characteristics of WSC (Okun, 2021). Reviewing these characteristics provided a foundational understanding of WSC and its role in the lived experiences of our students and ourselves. Then we reviewed our disposition expectations for characteristics of WSC. At this stage, it is important to note a limitation. Due to a memorandum of agreement, we are not permitted to name or share the specific rubric we use. Instead, we note broad categories and keywords that may be common across disposition rubrics (see Table 2).

Table 2

Intersection of Dispositions and White Supremacy Culture (WSC)

Disposition	Rubric Expectation	WSC Characteristics
Participates in Professional Development	Attends at least one workshop or seminar; explains its relevance; articulates how to apply it to practice	Worship of the Written Word One Right Way/Perfectionism Quantity over Quality
Communicates Effectively	Engages in appropriate written, verbal, and non-verbal communication in standard English	Worship of the Written Word One Right Way
Is Punctual	Reports early or on time for all teaching responsibilities	Urgency Either/Or & the Binary
Meets Deadlines	Meets deadlines and obligations established by stakeholders; informs them of absences in advance; provides thorough, clear directions and lessons for substitutes	Worship of the Written Word Urgency Power Hoarding
Is Prepared	Prepared to teach on a daily basis with organized, appropriate materials; prepared to be flexible	Worship of the Written Word Quantity over Quality
Collaborates	Demonstrates collaborative relationships with school personnel and stakeholders; collaborates to meet the needs of all learners; describes collaborate experiences; names collaborators; implements learning	Worship of the Written Word

Demonstrates Advocacy	Proactively recognizes and describes needs of learners; takes action appropriately while following institutional policies	Worship of the Written Word One Right Way/Paternalism Urgency
Responds to Feedback	Accepts and proactively seeks feedback; applies feedback to improve practice in a timely manner	One Right Way/Perfectionism Urgency

Data Analysis Framework

To start, each researcher chose at least one of the WSC characteristics (Okun, 2021) to read and carefully analyze through reflection. These characteristics were chosen based on each researcher's desire to learn more. Reflections included each researcher's perceptions of the characteristic and perspectives on the intersection between departmental policies and the characteristic.

Then, each researcher reviewed our dispositions and expectations noted in the rubric for characteristics of WSC. Note, we use this portion of this rubric to evaluate students' dispositions in each course, and we use the full rubric to assess pedagogy and dispositions during TCs' student teaching. Therefore, our use of document analysis provided contextual data within which teacher educators and TCs work (Bowen, 2009). This study focuses on the dispositions and expectations that reified white supremacy through the lens of CRT.

Data Analysis Procedures

We reviewed dispositions and expectations noted in the rubric by analyzing and coding word choice (Corbin & Strauss, 2007). Since we used Okun's (2021) characteristics of WSC as a grounding for the study, themes were determined a priori. Following a review and analysis of assigned dispositions to each of us, in the context of WSC characteristics, we met to discuss

individual analyses. To ensure inter-rater reliability, we were then reassigned dispositions to evaluate in terms of WSC characteristics. After each researcher initially reviewed dispositions, we identified implications and action steps that could be taken to minimize the influence of WSC in all of our assigned dispositions. Then, we met again to discuss these analyses, and we continued by cross-checking and revising (as needed) our emergent findings.

To provide an example of this procedure, one predetermined theme was the sense of urgency and the demand for prompt action through hierarchical structures. One researcher chose to focus on this theme, review the disposition rubrics, identify any potential evidence of this theme, and share implications. Then, another researcher reviewed the evidence and rubric to provide cross checking. During these stages, it was determined that a sense of urgency was found in the rubric through the prioritization of arriving early and staying late. Following this checking, the research team met to discuss analyses, address any uncertainties in the analysis, and revise findings as described below.

Throughout the process, we questioned how TCs could interpret the expectations and how we could be communicating the dominant ideology of oppression through our assumptions and expectations. At the conclusion of this process, we returned to the WSC characteristics to identify future implications.

Findings

We organized our findings by Okun's (2021) characteristics of WSC that were most present in our disposition expectations noted in the rubric, while drawing on tenets of CRT. Our organization is purposeful as we chose to center culture.

Worship of the Written Word

Worship of the written word is the culture of honoring or emphasizing what is written and the idea that writing reflects wisdom (Okun, 2021). The US has a long history of valuing the written word. For instance, written treaties and other government documents helped white people secure land that belonged to native people, and later, enslaved Black people were kept from and punished for learning to read and write (Kendi & Blain, 2021; Okun, 2021). Today, we see emphasis on the written word in disposition expectations for TCs. Okun (2021) reminds us that worship of the written words shows up as, "If it's not in a memo; it doesn't exist, if it's not grammatically 'correct,' it has no value; those with strong documentation and writing skills are more highly valued" (p. 18-19). Thus, the adherence to the written word becomes the normalized experience for all, including people of Color.

We found dispositions such as participates in professional development, communicates effectively, meets deadlines, is prepared, collaborates, and demonstrates advocacy all prioritized written or verbal communication. Written sources of evidence of meeting the expectations might include lesson plans, handouts, citations of resources, or reflections. After TCs participate in professional development, they need to explain the workshop's relevance and articulate how it applies to practice. The disposition of communicates effectively emphasized written communication in standard English, asserting linguistic aspirations for teachers to likely be monolingual English speakers. Such emphasis on "correct" English has been critiqued for decades (Yellin, 1980), and recently, such racial and linguistic hierarchies are defined as anti-Black racism and white linguistic supremacy (Baker-Bell, 2020). Further, TCs are also expected to meet deadlines, communicate absences in advance, and provide thorough, clear lessons in their absence. Even in their collaboration, to exceed rubric expectations, they must be able to

describe collaborative experiences, naming their collaborators, placing heavy emphasis on documentation. Similarly, as TCs demonstrate advocacy, they need to describe the needs of learners. They must adhere to institutional policies that are likely documented in writing. Our rubric seems to serve as a gatekeeper documenting, in and of itself, what counts as TCs' knowledge or evidence.

One Right Way

The belief that there is one right way to do something promotes perfectionism and paternalism. Perfectionism is the idea that individuals can be perfect according to standards set by the few in power. In the US, with a high-stakes testing culture, perfectionism has been taken up, especially when the focus is placed on fixing students' deficiencies instead of addressing institutional or societal inequities (Valencia & Guadarrama, 1996). Okun (2021) reminds us, perfectionism looks like, "little time, energy, or money is put into reflection or identifying lessons learned; a tendency to identify what is wrong" (p. 8). Further, one right way shows up as, "the belief there is one right way to do things and once people are introduced to the right way, they will see the light and adopt it" (p. 9). Paternalism looks like, "those holding power control decision-making and define things (standards, perfection, one right way); those without power are marginalized from decision-making processes" (p. 10).

We found one right way (including perfectionism and paternalism) to also be a WSC prevalent in the disposition expectations rubric for participates in professional development, communicates effectively, demonstrates advocacy, and responds to feedback. The disposition participates in professional development requires TCs to attend a workshop or seminar, recognize its relevance, and articulate how to apply it to practice. This suggests once introduced to the one right way from the workshop, TCs will understand and adopt it. In terms of

communicates effectively, emphasis is placed on standard English as the monolingual or one right way to communicate. As noted, this expectation devalues linguistic justice (Baker-Bell, 2020). For the disposition demonstrates advocacy, TCs recognize the needs of learners. This seems to align with the era of pandemic "learning loss" despite scholars' continued call for asset-based, humanized approaches to teaching and learning (Bomer, 2021; Minor, 2020). Finally, responds to feedback suggests TCs accept and apply feedback, leaning into perfectionism, identifying their inadequacies and one right way to fix it.

Urgency

Urgency is a cultural habit that is reflective of white supremacy. Okun (2021) stated, "The irony is that this imposed sense of urgency serves to erase the actual urgency of tackling racial and social injustice" (p. 27). Urgency "makes it difficult to take the time to be inclusive, encourage democratic and/or thoughtful decision-making; reinforces existing power hierarchies; privileges those who process information quickly" (p. 27). In this reinforcement of hierarchies, normalized racism persists with little time to address potential challenges. Apple (2008) connected top-down capitalists' democratic space to TE.

Like the WSC above, we found urgency was equally present in the disposition rubric expectations. For the disposition is punctual, TCs are expected to be early or on time. Likewise, for meets deadlines, TCs must meet obligations set forth by stakeholders. With demonstrates advocacy, TCs must be proactive in recognizing learners' needs and take action. Similarly, with the disposition responds to feedback, TCs also need to be proactive in their seeking of feedback, and apply the feedback in a timely manner. These particular expectations seem to place emphasis on timeliness (e.g., being early and proactive), reinforce existing hierarchies (giving most power

to stakeholders like mentor teachers and college supervisors), and work in the favor of TCs that process information and act quickly.

Quantity over Quality

Quantity over quality is the cultural assumption that the goal is to always do more and that this can be measured. Okun (2021) said this shows up as: "resources directed toward producing quantitatively measurable goals; little to no understanding that when there is a conflict between the content and process, process will prevail" (p. 16). In US education, we understand this characteristic is closely connected to the meritocratic ideals where individuals are awarded for their abilities and efforts (Meroe, 2014).

We found two connections to the quantity over quality WSC in the disposition expectations. For instance, with regards to participates in professional development, TCs should attend at least one workshop or seminar. Likewise, for is prepared, TCs need to be prepared daily with organized and appropriate materials. The reference to daily helps to quantify the expectation.

Either/Or and Power Hoarding

The either/or binary reinforces the cultural norm that there is always a yes or no or right or wrong, and this leads to uneven power structures. Either/or might look like "trying to simplify complex things; thinking that makes it difficult to learn from mistakes; conflict and an increased sense of urgency" (Okun, 2021, p. 15). Power hoarding shows up as: "little, if any value around sharing power; those with power assume they have the best interests of the organization at heart" (Okun, 2021, p. 26). As noted, US schools remain white-serving institutions, and these characteristics operate to maintain the status quo (Bissonnette, 2016).

We found evidence of one either/or binary and one power hoarding in the expectations. For the disposition of punctuality, TCs should report early or on time. The language suggests a binary, leading to increased sense of urgency. The meets deadlines disposition suggests that deadlines and obligations are established by stakeholders only. For these final characteristics, the reliance on quantitative measurements and power dynamics demonstrates a normalized hierarchical control in which the evaluators are those determining success or failure through the lens of longstanding norms.

Discussion

Presently, accredited TE programs must assess TCs' dispositions (Blair, 2017; Villegas, 2007), despite a lack of consensus regarding what dispositions are most important to measure and how to measure them (Choi et al., 2016; Saltis et al., 2020; Shoffner et al., 2014). As such, when certain dispositions are prioritized, as indicated above in our findings, TE programs, like ours, may place emphasis on specific political or social perspectives that perpetuate the status quo, including histories of whiteness and niceness in education (Bissonnette, 2016; Picower, 2021; Shoffner et al., 2014; Wegwert & Charles, 2019). Also noted above, whiteness maintains white supremacy (Ledesma & Calderón, 2015).

Our findings are a first step to disrupting the normalization of whiteness, including societal racism described by CRT (Ladson-Billings & Tate, 1995), in TE through standards such as dispositional expectations of TCs. This study illuminated the ways characteristics of WSC (Okun, 2021) are embedded in dispositional expectations for TCs. We found that our expectations show evidence of worship of the written word, one right way, urgency, quantity over quality, either/or, and power hoarding. As Heilig and colleagues (2012) reminded us, we

must examine standards that perpetuate racial politics and ideologies that are not equitable, and our findings do this.

Specifically, we found worship of the written word perpetuates racism and linguicism (Baker-Bell, 2020). One right way emphasizes deficit thinking rather than asset-based, humanized approaches (Minor, 2020). Urgency highlights a top-down hierarchy of power. Quantity over quality reinforces meritocracy (Meroe, 2014). Either/or and power hoarding operates to maintain the status quo (Bissonnette, 2016). Taken together, our expectations may devalue the critical pedagogical insights and practices of candidates who do not advance the dominant culture's interests (Milner, 2008). Below we offer implications for research and practice that better align with our commitment to antiracist pedagogies and CRT (Ladson-Billings & Tate, 1995).

Limitations

Our study is limited in that we did not have permission to share the full rubric so rather we relied on keywords and phrases that were present in our rubric and likely paralleled others across institutions. Our analysis could have been more complex using the full rubric. We also recognize our analysis was limited by the perspective and experiences we brought to this work, and admittedly, we are a predominantly white female, teacher educator research team.

Implications for Research and Practice

Future research might include a multi-case study using similar methods of analysis that we harnessed in this study of full rubrics, or other disposition assessment tools, used at varying institutions. It might also include engaging other faculty and staff in analytic work like ours for more diverse perspectives. Research may include studying TCs' perspectives regarding

disposition expectations and relevant assessment practices. Specifically, we might follow up on Hoardley and Ensor's (2009) study regarding constructs such as race or gender.

Our findings suggest future practice should be flexible, collaborative, and critical to assuredly challenge normalized, racialized practices. In an effort to support linguistic justice (Baker-Bell, 2020), less emphasis could be placed on the written word. The written word, particularly standard English, penalizes English Language Learners. Flexible communication modalities might include audio notes, videos, reflection journals, etc.

Future practices could be more collaborative, disrupting traditional educational hierarchies that perpetuate the status quo (Apple, 2008; Bissonnette, 2016). Okun (2021) noted collaborative, authentic relationships take time to build. We argue TCs could be stakeholders in their contexts, for example, giving input into deadlines and deciding on evidence of their learning *with* stakeholders.

We call for time for critical, thoughtful reflection. In regards to participates in professional development, instead of implementing quickly or with emphasis on quantity, TCs could analyze what they learned from a critical perspective for quality, equity, and inclusiveness (Truscott & Obiwo, 2020). These dispositions are missing from our current standards. When advocating for learners, it should be a collaborative process that takes time to fully understand the nuances of students' assets and areas of growth.

Finally, in our call for change, as accreditation organizations review and update their standards and expectations for TE programs and TCs, we recommend they do so from an equity lens, perhaps drawing on WSC (Okun, 2021) characteristics or CRT tenets (Ladson-Billings & Tate, 1995) as we did with our disposition expectations in this study. Perhaps teacher educators and TCs could collaboratively engage in this process too. Should assessing dispositions remain a

requirement for TE programs, these assessments must emphasize equity and responsiveness (Truscott & Obiwo, 2020; Villegas, 2007).

Conclusion

Left unchecked, the dispositional expectations in TE programs will continue to perpetuate characteristics of WSC (Okun, 2021) and tenets of CRT (Ladson-Billings & Tate, 1995). We challenge ourselves and other teacher educators to push against the status quo for more equitable opportunities for TCs and for the children they will work with in P-12 schools. We recognize this as a first step to dismantling the master's house (Lorde, 2003).

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