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Three Decades of Literacy Preservice Teachers' Engagement in Research: Operationalizing Critical Reflexivity to Explore Possibilities for Increasing Racial Literacy

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Abstract: In this paper, the author analyzes 89 studies published from 1990 through 2020 that focused on literacy preservice teachers' involvement in action research as part of learning to teach. In doing so, the author provides an example of why critical reflexivity is necessary in qualitative literature review methods. The author relies on a social practice view of race and uses activity theory to answer the questions: How have researchers considered race as a factor in research on literacy preservice teacher education? How can preservice teachers' experience with research be (re)designed to help develop their racial literacy? Findings demonstrate that in the reviewed studies, 51% of researchers addressed preservice teachers' race, and 34% addressed K-12 students' race. Far fewer studies, however, acknowledged their own race or that of field supervisors and mentor teachers, which ultimately minimized their roles. Findings also emphasize four design principles for literacy teacher education programs that aim to include research: collaboration between K-12 partners and universities; selective teacher educator scaffolding; engagement with diverse communities; and extensive time spent as part of the pathway toward racial literacy. The implications and uses of an existing literature base that reflects shifting reporting standards related to race are also examined.

Keywords: action research, qualitative literature review, racial literacy



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Introduction¹

Literacy teacher educators have been incorporating action research into coursework and fieldwork for decades (Cochran-Smith & Lytle, 1990). This method invites preservice teachers (PTs) to define problems, examine and weigh solutions, and share transformative findings in professional communities. More recently, Hoffman (2020) has called for today's teacher educators to embrace practice-based research (Sailors & Hoffman, 2019) as a tool for PT education reform. In my own research (e.g., Lammert, 2020; Lammert & Steinitz Holyoke, 2020), I have noticed that engagement in research can create space for PTs to develop racial literacy, defined as the conglomeration of beliefs, knowledge, and practices that enable teachers to “probe the existence of racism and examine the effects of race and institutionalized systems on their experiences and representation in US society” (Sealey-Ruiz, 2013, p. 286). However, despite the long history of including action research in teacher education, the specific conditions under which PTs' research experience can best support their development of racial literacy remain unclear.

Like action research, racial literacy also has been theorized and researched for decades (i.e., Hollins, 1993; Sleeter, 1994), although it has yet to attain the central role in teacher education that it deserves (Croom, 2020a). Today, the literacy research field is at an inflection point,

evidenced in part by the perspectives amplified by JoLLE (e.g., Jean-Denis, 2020), but much work remains to be done. As Croom (2020a) has argued, “For the long haul, the studies and publications that we generate will have to be reconsidered and reevaluated to determine whether the philosophies, theories, methodologies, and analyses are supporting human well-being in our racialized societies” (p. 544). At this moment, when the longstanding practice of using action research in teacher education has the potential to support PTs' development of racial literacy, it is crucial that previous studies be reconsidered and reevaluated so that their findings can inform new initiatives. However, a persistent challenge with qualitative reviews of literature is their subjectivity (Hart, 2018; Rozas & Klein, 2010), and the fact that they are bound to the limitations of prior studies' reporting standards (Torraco, 2016). Specifically, as the literacy research field finally begins to place more emphasis on race—acknowledging the well-known impact of teachers' own racial literacy on their ability to provide instruction for students of color (Sealey-Ruiz, 2011; Yarnell & Bohrnstedt, 2018)—we are constrained by a knowledge base in which the race of teacher educators, K-12 students, and PTs has not always been reported, much less analyzed or used to contextualize findings. As a White teacher educator who centers culturally sustaining practices (Paris & Alim, 2017), my goal in this review was to exercise critical reflexivity (Jacobs-Huey, 2002) so that I could uncover what

¹ I acknowledge that there is a gender spectrum and that a myriad of pronouns exist that I can use when referring to individuals in my writing. Throughout this article, I will use the gender-neutral pronoun “they” in an effort to recognize the fluid

nature of identity and prevent the facilitation of assumptions concerning the ways that individuals identify or refer to themselves.

lessons I could lift from prior research despite its many oversights and silences around race.

Reviews rooted in critical reflexivity are necessary to honor Croom's (2020a) challenge to reevaluate what we believe we know, in this case, about literacy PTs' engagement in research as part of learning to teach. In this paper, I review the extent to which literacy researchers have grappled with race and racial literacy inside of PTs' engagement in research, and I reveal the places in which this much-needed work has been avoided. Then, by theorizing teacher education as a space of overlapping networks of actors (Engeström, 2000), I explore what design principles can be elicited from existing research despite its limitations. Considering studies published from 1990–2020, the research questions for this review are:

- How have researchers considered race as a factor in research on literacy PT education?
- How can PTs' experience with research be (re)designed to help develop their racial literacy?

Background

I begin by outlining the origins of action research to demonstrate how it has been connected with racial justice since its birth. I then track the movement of action research into educational settings, and I demonstrate the potential it holds as a tool for literacy teacher education designed to promote racial literacy.

The Origins of Action Research

Although the terminology of the 1940s differed from that of today, action research was originally designed to contribute to racial equity. Lewin (1946) introduced action research as an alternative to the experimental psychological research of his time, which he believed “produces nothing but books” (p. 35) and did little to remedy inequity. As a Jewish, German-born Holocaust survivor, Lewin was well aware of how particular ethnic groups were studied through dehumanizing gazes and assimilationist paradigms. In conceptualizing an alternative, Lewin designed a process of posing questions, fact acquisition, and assessment. Lewin believed action research ought to be conducted alongside community members who would identify strategies for action while resolving segregation and class stratification, which he saw as the most pressing issues of the time (Lewin, 1946). Action research has been used to advance equity in other contexts. Speaking at a scientific conference in 1966, Dr. Martin Luther King Jr. implored researchers, “We ask you. . . to make society's problems your laboratory. We ask you to translate your data into direction. Direction for action” (p. 47). Dr. King believed that social scientists could play a role in advancing equity by co-locating social problems and working collaboratively with Black communities to address them, which are central aspects of action research.

Action Research's Movement into Education

Given their ability to reveal, perpetuate, and sometimes repair inequities, it is not surprising that action research became situated inside

classroom contexts (Corey, 1953) or that it was adopted by literacy researchers (Cochran-Smith & Lytle, 1990). In looking back on this movement, Noffke (1997) described attention to equity as “a constitutive element of action research” (p. 306), rather than an optional aspect of this work, although the extent to which equity was attended to in action research was inconsistent (Lammert, 2021). Still, action research became a widely accepted part of literacy teachers’ professional development (Zeichner, 2003).

The need to emphasize questions of equity, race, and racial literacy in classroom-based action research stems in part from its methodological underpinnings. Particularly in qualitative studies in which researchers act as human data collection instruments, an examination of one’s racial biases is an essential analytic consideration (Creswell, 2013; Jacobs-Huey, 2002). Regarding action research inside classrooms, these ethical considerations are magnified by the fact that the researcher is responsible for teaching and assessing K-12 students with whom they are conducting research (Brown, 2010). Considering that studies indicate that White teachers have a limited grasp of the capabilities of their students of color (Sealey-Ruiz, 2011; Yarnell & Bohrnstedt, 2018), teachers’ critical reflexivity, which “enables researchers to critically consider their own cultural biases and negotiate various ways of seeing while investigating” (Jacobs-Huey, 2002,

p. 791), must be developed to ensure that research avoids serving as a justification for taking a deficit-oriented clinical gaze toward students of color—the very thing that Lewin (1946) designed action research to avoid.

Education Action Research for Racial Literacy

Engagement in research creates an ideal site for PTs to develop racial literacy. As Sealey-Ruiz (2013) and others (e.g., Findora & Hammond, 2021) have argued, it is essential for PTs to examine their own notions of race, uncover anti-

Black attitudes, and reflect on their overall views on students of color before they become teachers.

However, considering that racial literacy is an ongoing process, not a milestone (Grayson, 2018), PTs cannot fully achieve racial literacy before setting foot inside a classroom. Only if we lived in an ideal world could a

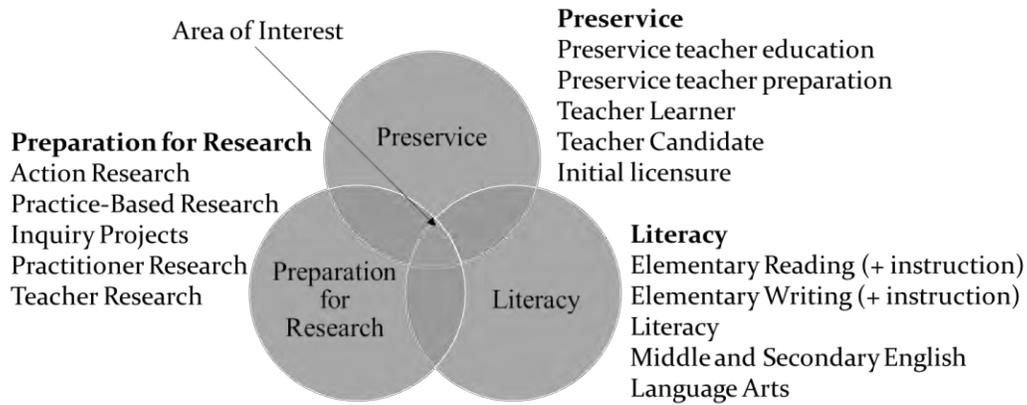
single educational intervention eliminate racism. In reality, those in power manipulate the categorization of individuals into racial groups to maintain particular conditions; thus, racial literacy requires constant effort (Holst, 2020).

In classrooms, iterative structures, such as practice-based research (Sailors & Hoffman, 2019), create a space in which teachers can become more racially and culturally literate as they share their knowledge about race with their students through dialogue, critical texts, and action (Grayson, 2018). Keeping in mind the history of action research as a potential catalyst

“In reality, those in power manipulate the categorization of individuals into racial groups to maintain particular conditions; thus, racial literacy requires constant effort.”

Figure 1

Area of Interest and Terms of Search



in the development of racial literacy, this literature review examines what is known about the value of literacy PTs conducting research as part of their teaching preparation.

Theoretical Perspective

Sociocultural theories (Vygotsky, 1978) of expansive learning (Engeström, 2000) and communities of practice (Lave & Wenger, 1991) guided this review. From my perspective, learning to teach necessitates participation in the situated world of education in a community with others. I contend that university coursework and K-12 classrooms represent different activity systems (Engeström, 2000) in which stakeholders have different and sometimes contradictory priorities. Working to resolve these tensions can reveal new possibilities. Across these systems, influential actors include PTs, K-12 students, field supervisors and mentor teachers, and the teacher educators and course instructors who guide them and often are also researchers of teacher education studies. Understanding how these actors' goals and

practices align and misalign is central to explaining the factors that make literacy PTs' engagement in research successful at promoting their racial literacy.

Furthermore, I attended to the race of K-12 students, PTs, and teacher educators in the studies I analyzed through a social practice view of race, and what Croom (2020a, 2020b) has described as a post-White orientation as rejection of terms that subordinate people of color by constructing Whiteness as the norm. In the same way that it is deadly to “just read and write” (Croom, 2020a, p. 545) in the U.S. today, I approached this review with the perspective that it is an act of violence toward people of color to prepare teachers to “just teach” (Ladson-Billings, 1995). In alignment with this view, I understand race as a fluid, socially constructed signifier that measurably impacts individuals and communities' experiences (Sealey-Ruiz, 2013). One aim of this review was to reconcile how conducting research as part of PT education has contributed to racial justice through PTs

enhanced racial literacy, while another was to uncover spaces in which the inclusion of research had elicited the opposite effect. To do so, I paid particular attention to contexts in which participants' race was examined and invoked through "recognizable forms of racialization with or without race-obvious words" (Croom, 2020b, p. 25) such as *diverse* or *traditional*, and where it was omitted entirely, since this minimizes the usefulness of research findings to inform teacher education efforts that emphasize racial literacy. Furthermore, I did not simply determine whether race was mentioned, but I also conceptually examined how race worked between and on the relationships among actors in the research process across activity systems (Engeström, 2000). Following Peery (2002), I challenged the notion that "racism . . . has to be fought with practical political activity of unity" (p. 112). Wherever participants' race was noted, I evaluated how actors worked together to construct equitable material realities in which they could engage in activist practices for racial equity together.

Methods

In adherence to Cooper's (1988) guidelines for integrative reviews, the studies selected for this review (1) were empirical, including initial analyses and studies using existing data; (2) included research questions, methods, and findings; (3) were peer-reviewed and published in English; and (4) focused on literacy PTs research. The standards for steps (1) and (2) were determined prior to study identification and informed by APA standards for qualitative meta-analytic research (Levitt et al., 2018), which encourage transparency of process and evidence

that data sources, topics, and investigators are contextualized fully.

Study Identification

Three related sets of terms were used to search the area under review. First, *PTs* were defined using the search terms "preservice teacher (+ education)," "preservice teacher (+preparation)," "teacher learners," "teacher candidates," and "initial licensure." Second, *research* included the terms "action research," "teacher research," "practitioner research," "practice-based research," and "inquiry projects/inquiries." Third, *literacy* included the terms "elementary reading (+instruction)," "elementary writing (+instruction)," "literacy," "middle grades English," "secondary English," and "language arts." Thus, PT participants in the identified studies included secondary-level English language arts teachers and elementary-level generalists who learned to conduct research inside of any relevant coursework in their teacher education programs, including, but not limited to, literacy coursework. Following Scott et al. (2018), I constructed a figure representing the area of interest (Figure 1).

An abstract-level review was conducted on studies identified by combining the aforementioned search terms in the databases Educational Resources Information Center (ERIC), Journal Storage (JSTOR), and Critical Interactive Transparent and Evolving Literature Review in Initial Teacher Education in Literacy (CITE-ITEL; see Fowler-Amato et al., 2019). In addition to these keyword searches, when a study was determined to meet the inclusion criteria, the journal was hand-searched for the

year of that publication, as well as the two years before and after the year of the included publication. Additional bibliographic branching also was conducted. During this step, 484 studies were examined at the abstract level, and 117 were included. Most of those that were not included were eliminated due to vagueness in search terms, such as “research,” which yielded many unrelated results and had to be removed manually. During full-text analysis, 28 studies also were removed due to lack of methodological rigor and/or lack of alignment with the criteria for the review, leaving 89 studies.

Study Descriptions

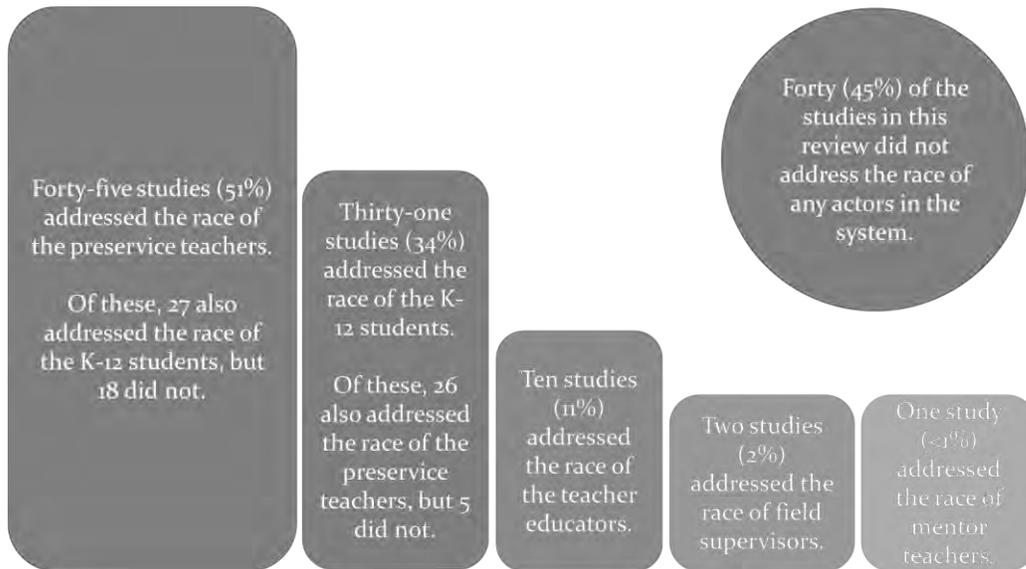
Reviewed studies were conducted in the U.S., Canada, Great Britain, Australia, Austria, Spain, Chile, Mexico, Turkey, China, and Israel, all in literacy teaching contexts in which English was the primary instructional language. Some studies were published in leading literacy journals (e.g., *Reading Research Quarterly*), and education and teacher education journals (e.g., *American Educational Research Journal*, *Journal of Teacher Education*) with high impact factors. Others were published in journals specifically focused on the presentation of teachers’ action research on their own practice (e.g., *Networks: An Online Journal for Teacher Research*). Typically, PTs’ research was conducted as a project for a single course or as a year-long inquiry, which commonly took place during the final two semesters of the teacher education program. All the reviewed studies relied on qualitative data sources. Similarly, all of the PTs’ action research studies examined in this review were qualitative, although some also included quantitative data.

Analysis

Following Rozas and Klein (2010), analysis began by categorizing basic information for each study, including PT participants, description of the research intervention, methods, the study’s secondary purposes (e.g., using research to develop data literacy), analytic methods, data sources, and findings. Then, to answer my first research question, I determined whether the race of PTs, their K-12 students, teacher educators (who commonly were the researchers), field supervisors, and/or cooperating teachers was noted in each study. I began by rereading participant descriptions in methods sections in their entirety and scanning all other sections of the papers for language that indicated race. I also used the “Find” feature to search for the following keywords within each PDF: “White”; “Black”; “Asian”; “Latin-,” “race”; “divers-”; “color”; “ethnic”; and “culture.” I made analytic notes that indicated where any language was mentioned in the papers (e.g., in the methods, results, or limitations sections), and I noted wherever studies addressed multiple actors’ race. At this stage, it was readily apparent when race was cited directly (e.g., “White”) or when it was entirely absent. Operationalizing critical reflexivity (Jacobs-Huey, 2002) was most necessary in the interpretation of ambiguous language, such as “poor and disadvantaged” (Hagevik et al., 2012, p. 676), to describe actors. Whenever alterative language was used to describe participants, I asked myself questions such as: To whom might this language actually refer? To whom would these individuals be viewed as [“poor and disadvantaged”/other descriptors]? And, most importantly, in the enactment of critical reflexivity, I asked: How are

Figure 2

Model of which System Actors' Race was Addressed in Reviewed Studies



my answers to these questions rooted in my own Whiteness?

To answer my second research question, a second round of inductive coding (Creswell, 2013) was informed by notions of formative and design research (Reinking & Bradley, 2008), emphasizing the identification of design features. Although inductive coding often yields thematic results, I instead took the approach that literature reviews can be used to identify “important design features of these experiences and how these features work through mediating factors to promote preservice teacher learning” (Hoffman et al., 2019, p. 244). Formative and design analysis works toward “theoretically understanding the conditions that enhance or inhibit an intervention’s effectiveness and at generating pedagogical understandings that generalize beyond specific instances” (Reinking & Bradley, 2008, p. 19). Here, I defined the intervention to be the inclusion of research in PT

education for the development of racial literacy. I also identified the elements of program design that were particularly supportive of PTs’ learning. For example, this included teacher educators’ decisions and actions, program designs and goals, and reported moments of tension that may signal critical episodes (Gravemeijer & Cobb, 2006), which reveal important elements of design. Four overlapping areas were supported by at least one-third of the studies in this review, making them salient enough to suggest a design principle.

Findings

First, I address the question of how researchers considered race as a factor in research on literacy PT education. I then note design principles.

Attention to Race in Studies on PTs' Engagement in Research

Figure 2 lists the number of studies in which participants' race was addressed, and in which system actors' race was mentioned.

Across all 89 studies included in this review, there were many omissions and inconsistencies as to how race was described in relation to PTs' research. In sum, 45 studies (51%) included descriptions of PTs' race. Most noted that most PTs were White, in accordance with typical demographics in teacher education programs (National Center for Education Statistics, 2018). Altogether, 31 studies (34%) mentioned K-12 students' race in field site classrooms in which the PTs were conducting research. Most emphasized these field sites' racial diversity and the inclusion of students of color. However, only 10 studies (11%) mentioned the race of the university-based teacher educators (e.g., faculty, adjunct instructors, doctoral students) leading the courses in which research occurred, and just three (3%) described the race of involved site-based teacher educators (e.g., field supervisors and mentor teachers).

Within these exclusions and inclusions, several patterns emerged. First, attention to race was not uniform across actors; of the 45 studies that mentioned PTs' race, 18 did not mention the race of the K-12 students with whom the PTs worked, but instead, many of these studies invoked the K-12 students' race implicitly. For example, Hagevik et al. (2012) described PTs in their study as "overwhelmingly white" (p. 676) but described the study as taking place in a "disadvantaged" (p. 676) and increasingly "more diverse" (p. 676)

community in the "southern portion of the country" (p. 676). It is unclear why the authors opted to list several features of the school site to suggest that it may have served students of color, rather than stating the community's racial makeup outright. Similarly, Kindle and Schmidt (2011) specifically described the PTs in their study as "white, African American, Hispanic, Asian, and Middle-Eastern," (p. 139), but simply described the students with whom they worked in field placements as "ethnically diverse" (p. 139). In other studies that followed this pattern, terms such as *urban*, *metropolitan*, or *marginalized* often were used instead of racial categories to describe K-12 students. This language typically suggested, but did not outright state, that White PTs were working with K-12 students of color in their field placements.

Some studies mentioned race so infrequently as to raise questions about the impact of research on how PTs view students of color. Many of these mentions appeared in the findings sections of studies despite the fact that they were not mentioned previously in participants' earlier descriptions. For example, Mastrilli and Brown (1999) did not state the race of any of the individuals involved in the research as part of their methods. However, in their study, they found that issues pertaining to "disruptive students" and "management problems" (Mastrilli & Brown, 1999, p. 52) dominated PTs' research agendas, and in the findings, they noted that one PT described their research as focused on an "African American student who thought he could not do academic work" (Mastrilli & Brown, 1999, p. 58). The race of the other K-12 students who contributed to PTs' difficulties with classroom

management was not mentioned. Perhaps it was believed that White students' race is assumed (Croom, 2020a), but without more information, it is unclear whether these PTs tended to identify Black students as "disruptive" (p. 52). If this occurred, it is also unclear whether the teacher educators problematized this trend.

Although it was rare, some researchers engaged in careful analysis of the influence of all actors' race in the research process. For example, in two papers, Athanases et al. (2013a, 2013b) examined the research preparation of White, Latina, Chinese, Filipina, and South Asian U.S. teacher students, many of whom were bilingual, working in K-12 sites in rural, agricultural communities with large numbers of Latinx English learners. The researchers also noted the complexity of their own roles as White university-based teacher educators in relation to these students. Although reporting standards related to race have improved over time, the movement to develop teachers' racial literacy is not new (Croom, 2020b), and some scholars whose work is over 20 years old paid careful attention to the race of different actors (Engeström, 2000) in the research process. Before the turn of the century, Lazar (1998), Olmedo (1997), and Zeichner et al. (1998) all addressed the race of K-12 students and PTs involved, and they paid particular attention to how their racial positions would intersect with the research process. Foreshadowing the need for critical reflexivity, Xu (2000) explored how

their "theoretical sensitivity" (p. 509) was shaped by their experiences as a Chinese graduate student in the U.S. context. Xu also considered their positionality in relation to the racial demographics of PT education as a whole, the PTs in the course, and their K-12 students.

Altogether, 40 (45%) of the studies in this review did not mention or address any actors' race in the system—teacher educators, PTs, K-12 students, or cooperating teachers. Furthermore, and given this omission, none of these studies integrated their purposes and theoretical frameworks around their participants' racial positions.

"It is apparent that mentor teachers do not need to consider themselves researchers to support PTs with research, but when university faculty have conducted professional development sessions with mentor teachers, it was conducive to positive PT experiences."

(Re)Design Principles for Using Research to Develop PTs' Racial Literacy

My analysis of this literature suggests four design principles for the inclusion of research in PT education (re)designed to promote racial literacy (Table 1).

Design Principle 1: To the greatest extent possible, the research process should be an actively collaborative enterprise between preservice teachers, cooperating mentor teachers, teacher educators, and their K-12 students, focusing explicitly on all actors' development of racial literacy.

Consistent with the idea that aligning actors' goals in different activity systems can lead to innovation (Engeström, 2000), 49 (55%) studies supported the idea that collaboration between

sta | **Table 1***Design Principles & Corresponding Studies*

<i>Design Principle 1</i> <i>To the greatest extent possible, the research process should be an actively collaborative enterprise between preservice teachers, cooperating mentor teachers, teacher educators, and their K-12 students, and should be explicitly focused on all actors' development of racial literacy.</i>	<i>Design Principle 2</i> <i>Teacher educators must scaffold the research experience while ensuring that preservice teachers maintain ownership of their own studies, with multiple opportunities for feedback, support designing data collection tools and support conducting analysis.</i>	<i>Design Principle 3</i> <i>The research should be conducted as part of sustained engagement in a field site serving racially, culturally, linguistically and socioeconomically diverse K-12 students, and the research should serve as activism to highlight these students' strengths.</i>	<i>Design Principle 4</i> <i>The research process requires intensive time and is best structured across a course sequence or across courses taken concurrently; it is ideal if research can be conducted more than once during a teacher education program.</i>
Abbate-Vaughn, 2006; Amir et al., 2017; Athanasas et al., 2015; Barnes, 2006; Basmadjian, 2008; Berghoff et al., 2011; Broadus, 2000; Charbonneau-Gowdy, 2015; Nielsen & Lockhart, 2020; Davis et al., 2018; Dikilitas & Wyatt, 2018; Duffield & Townsend, 1999; Dunlap & Piro, 2016; Ferguson & Brink, 2004; Gore & Zeichner, 1991; Grisham et al., 2000; Hayden & Chiu, 2013; Hesseberger & Matichek- Jauk, 2020; Hoppey, 2013; Kindle, 2011; Kindle, 2019; Knight et al., 2000;	Abbate-Vaughn, 2006; Athanasas et al., 2013a; Athanasas et al., 2013b; Bennett et al., 2016; Broadus, 2000; Brock et al., 2013; Buckley-Marudas & Martin, 2020; Danley et al., 2020; Everett et al., 2008; Hagevik et al., 2012; Hesseberger & Matichek- Jauk, 2020; Kindle & Schmidt, 2011, 2019; Kosnik & Beck, 2000; Kucan, 2001; Lammert, 2020; Lammert & Steinitz Holyoke, 2020; Landay, 2001; Lazar, 1998; Levin & Rock, 2003; Lysaker & Thompson, 2013; Mayor, 2005;	Athanasas et al., 2013a; Athanasas et al., 2013b; Basmadjian, 2008; Bennett et al., 2016; Brass, 2014; Danley et al., 2020; de Oliveira & Shoffner, 2009; Grisham et al., 2000; Gugeon, 2005; Hagevik et al., 2012; Hoppey, 2013; Kosnik & Beck, 2000; Lammert, 2020; Lammert & Steinitz Holyoke, 2020; Landay, 2001; Lawrence et al., 2017; Lazar, 1998; Lopez-Gopar, 2014; Lysaker & Thompson, 2013; Mastrilli & Brown, 1999; Mayor, 2005; Merino & Holmes, 2006;	Amir et al., 2017; Athanasas et al., 2015; Barnes, 2006; Bennett et al., 2016; Broadus, 2000; Brock et al., 2013; Clayton & Meadows, 2013; Davis et al., 2018; Gore & Zeichner, 1991; Hagevik et al., 2012; Kosnik & Beck, 2000; Lammert, 2020; Lawrence et al., 2017; Levin & Rock, 2003; Love, 2009; Lysaker & Thompson, 2013; Mastrilli & Brown, 1999; Merino & Holmes, 2006; Meyer & Sawyer, 2006; Molina & Spencer, 2020; Monroe et al., 2007; Moore et al., 1999; Olmedo, 1997; Phillips & Carr, 2007;

<p>Kosnik & Beck, 2000; Lammert, 2020; Lammert & Steinitz Holyoke, 2020; Levin & Rock, 2003; Merino, 2006; Meyer & Sawyer, 2006; Molina & Spencer, 2020; Moore et al., 1999; Moran, 2007; Norton-Meier et al., 2009; Phillips & Carr, 2007; Picower, 2007; Quioco & Ulanoff, 2004; Rinke & Stebick, 2013; Rosaen et al., 2009; Schieble et al., 2015; Scott et al., 2013; Simon, 2013; Simon, 2015; Sutherland, 2006; Thwaite & Rivalland, 2009; Valli, 2000; Villacanas de Castro, 2014; Villacanas de Castro, 2017; Wastin & Han, 2014; Watulak, 2016; Yayli, 2008</p>	<p>McGee, 2011; Mencke, 2013; Phillips & Carr, 2007; Price & Valli, 2005; Ramirez et al., 2016; Rosaen et al., 2008; Rosaen et al., 2009; Salerno & Kibbler, 2014; 2015; Scherff, 2012; Schieble et al., 2015; Thwaite & Rivalland, 2009; Valli, 2000; Villacanas de Castro, 2017; Wickstrom, 2013; Wolf et al., 1996; Zoss, 2014</p>	<p>Olmedo, 1997; Price & Valli, 2005; Ramirez et al., 2016; Simon, 2013; Simon, 2015; Velluto & Barbousas, 2013; Whitaker & Valiterra, 2018; Wolf, 1996; Xu, 2000; Zeichner et al., 1998; Zoss, 2014</p>	<p>Ramirez et al., 2016; Rinke & Stebick, 2013; Scott et al., 2013; Wastin & Han, 2014; Whitaker & Valiterra, 2018; Xu, 2000; Yan, 2017</p>
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growth. Together this literature suggests that collaboration is most effective when actors are

encouraged to maximize the value of their individual roles and locations within education systems (e.g., Levin & Rock, 2003). It is apparent that mentor teachers do not need to consider themselves researchers to support PTs with research, but when university faculty have conducted professional development sessions

with mentor teachers (e.g., Grisham, 2000), it was conducive to positive PT experiences. Consistent with activity theory (Engeström, 2000), mentor teachers who understood and embraced action research enhanced clear communication between K-12 administrators at their school sites and the universities. Broadus (2000), Ferguson & Brink (2004), and others remind us that collaboration can also occur at the level of peer-to-peer support provided

between PTs. This can involve actually co-conducting research in a shared classroom on the same topic, or less intensively, debriefing and sharing of data and reflective notes with one another.

One unanswered question related to collaboration is whether it is helpful for PTs to conduct research in anticipation of sharing their findings with an outside audience, such as a group of in-service teachers. Some studies found that this encouraged PTs to conduct research thoughtfully (Duffield & Townsend, 1999), while others reported that this led to competition and peer conflict (Basmadjian, 2008). Rosaen et al. (2009) found that when PTs expected to include their research in their professional portfolios, they chose celebratory research topics, rather than digging into difficult areas of their practice, such as their challenges in meeting racially diverse students' needs. Thus, sharing research with an outside audience does not necessarily facilitate PTs' racial literacy growth and may actually impede it under certain circumstances.

Design Principle 2: Teacher educators must scaffold their research experience while ensuring that preservice teachers maintain ownership of their own studies, with multiple opportunities for feedback, support designing data collection tools, and support conducting analysis.

In 39 (44%) studies, teacher educators grappled with the tension between PTs' control of their research and their need for support with the practical, ethical, and conceptual aspects of research. Teacher educators often described the templates, scaffolds, and tools they used to help PTs throughout their journey, but they also noted that mandating particular practices made research feel like an assignment, which they aimed to avoid.

Specifically, the question of research ownership dominated these studies. Wickstrom (2013) noted that PTs initially may ask research questions rooted in deficit perspectives about children—framings which clash with the intention of using action research as a tool for equity (Noffke, 1997). However, through reading related research (i.e., published studies which PTs self-identify as relevant to their own research) they can reframe their thinking. Furthermore, when teacher educators engaged in research on their own teaching, and used this work to model the research process, PTs had multiple opportunities to consider different research designs. This meta-action research (Villacañas de Castro, 2014) can involve teacher educators showing PTs their own IRB applications, research design documents, and data collection tools, and discussing their decision-making process as researchers with PTs.

“Taken together, these studies indicate that research should be conducted as part of sustained engagement in a racially diverse field site in which PTs can make sense of various actors' goals and motivations.”

Design Principle 3: The research should be conducted as part of sustained engagement in a field site serving racially, culturally, linguistically, and socioeconomically diverse K-12 students, and the research should serve as activism to highlight these students' strengths.

Thirty-two (36%) studies suggested that PTs need to spend time, ideally in a racially diverse school, learning more about these students' literacies from a strengths-oriented perspective. Across these studies, teacher educators explained that they purposefully chose diverse field sites. In addition, and clearly in the spirit of Lewin (1946), they ensured that the PTs understood that their role as researchers was not to identify or diagnose problems, nor to prescribe solutions, but that research was a tool for student advocacy.

Of particular value was PTs use of ethnographic methods (e.g., López-Gopar, 2014; Ramirez et al., 2016), since ethnography requires sustained engagement with the community or individuals of study and can deepen PTs' commitment to those communities. Interviews with K-12 students were invaluable data sources in these studies. In addition, in López-Gopar's (2014) study, PTs also conducted interviews with cooperating teachers and school administrators about their views regarding K-12 student racial and linguistic diversity. PTs in Ramirez et al.'s study (2016) conducted home visits and community observations of their K-12 students to better understand how they used language(s) outside of school. Taken together, these studies indicate that research should be conducted as part of sustained engagement in a racially diverse

field site in which PTs can make sense of various actors' goals and motivations.

Design Principle 4: The research process requires intensive time and is best structured across a course sequence or across courses taken concurrently; it is ideal if research can be conducted more than once during a teacher education program.

Altogether, 30 (34%) studies suggested that a typical 15-week, 3-credit course is not long enough for PTs to examine research as part of teaching. In these studies, teacher educators recognized that like learning to teach, learning to research is a life-long process. Although course structures dictate many norms of university-based teacher education, some teacher educators recognized that K-12 schools do not share these norms and thought creatively about how to maximize time by incorporating action research between and across courses, and in field sites as well as coursework.

Across studies, action research was built into literacy methods course sequences from the first classes through those taken just before graduation. It was also built into courses designated as seminars (e.g., Landay 2001) in sociocultural foundations of education courses (e.g., Mencke, 2013) and in courses focused on special education (e.g., Watulak, 2016). These teacher educators worked across a variety of courses to embed action research in literacy PTs experiences.

Extended time helped PTs view teaching as a practice of continual learning. For example, Yayli's (2008) study demonstrated that as PTs

conducted case studies, their critiques of their mentor teachers became softer as they realized the challenges of teaching. This occurrence did not mean, however, that they did not construct ideas for innovation; these PTs used the lengthy practicum to enact pedagogical changes alongside their mentors.

Discussion

This review highlights opportunities for teacher educators in the upcoming decades to include research inside PT education as a tool to support their racial literacy. Specifically, my first research question asked: How have researchers considered race as a factor in research on literacy PT education? Altogether, 49 (55%) of the studies in this review focused on race in some way, while 40 (45%) did not mention it except through what a reader might infer, opening the door to the overgeneralization and misinterpretation of these studies' findings.

Considering that readers will map their own assumptions about race onto a text if the author does not provide racial identification (Croom, 2020a), this review is further evidence of the need for improved reporting standards in literacy education research. Although de-identification and masking of participants are important in conducting ethical research, when participants' race is left unstated, it limits research findings' usefulness in informing future initiatives that emphasize racial literacy. This notion is particularly true in this review, which found that collaboration among stakeholders in the

research process supports PT learning although cooperating teachers and field supervisors' race was rarely mentioned. Perhaps these individuals were not involved enough in PTs' research for researchers to deem it necessary to include them, but this possibility raises additional questions about why site-based teacher educators' knowledge is being marginalized in the first place. An activity theory perspective (Engeström, 2000) suggests that a disconnect between actors and their respective goals may explain the lack of attention paid to these individuals' roles. Site-based teacher educators may share an interest in achieving racial equity in their teaching, and they likely have important local knowledge that could inform PTs' research, but their role in supporting

PTs' racial literacy has been understated in prior research.

My second research question asked: How can PTs' experience with research be

(re)designed to help develop their racial literacy? Four design principles for teacher education programs—which emphasize collaboration, teacher educator scaffolding, engagement with diverse communities, and extensive time—provide a pathway to use research to support PTs' racial literacy.

The final design principle is perhaps the most challenging; the extended time that this work requires is difficult to find in preparation programs, and teacher educators already face many different pressures when it comes to deciding how to allocate the precious time available to impact PTs. However, the necessity of time is unsurprising given that “racial literacy is a continual process of learning with no

“Ultimately, research should be described as a foundational and ongoing aspect of teaching.”

definitive point of mastery” (Grayson, 2018, p. 15). When research is a topic for a single course, it is unlikely to exert the same ongoing influence on PTs’ racial literacy development that it might have were it a recurring element of program-level design. For PTs’ involvement in research to elicit the maximum benefit in increasing their racial literacy and their professional abilities more broadly, it cannot be just another assignment. The focus on research as part of teaching must carry through in mission statements and syllabi, exist across and between courses inside a program, and be something that teacher educators themselves practice with transparency. Ultimately, research should be described as a foundational and ongoing aspect of teaching.

Implications

In the past three decades, 89 peer-reviewed studies have been published on the topic of literacy PTs doing research as part of learning to teach. As a field, we would do ourselves a disservice to ignore the design principles that can be drawn from this research because it did not address race as fully as it could have (Croom, 2020a). However, reviewing this literature through methods informed by racial literacy requires cautious interpretation. Hart (2018) has argued that writing a literature review requires imagination, but with subjectivity comes the potential for bias (Rozas & Klein, 2010), and particularly racial bias in this context. This literature review demonstrates the value of operationalizing critical reflexivity (Jacobs-Huey, 2002) as a tool for researchers conducting literature reviews who aim to transcend this challenge. Simply stated, the goal of reviews

cannot be to solely uncover what general lessons have been learned through prior research. Qualitative literature reviews must examine to whom those lessons actually apply, and must note reporting gaps, such as those related to race.

Several areas of much-needed further research have been made apparent. Given the major silences related to race, it is unclear whether factors such as racial match between PTs, teacher educators, and mentor teachers are supportive of PTs from marginalized backgrounds. Although research on K-12 students has found that Black students’ achievement improves when they have Black and Latinx teachers (Yarnell & Bohrnstedt, 2018), and White teachers underestimate their students of color (Sealey-Ruiz, 2011), we do not yet know whether a parallel effect exists in teacher education since the influence of mentor teachers and field supervisors’ positionalities on PTs’ research remains unclear. This question becomes particularly important to explore as teacher education programs attempt to recruit more racially diverse PTs. What is apparent is that teacher educators can help improve PTs’ instruction of racially diverse students by paying explicit attention to race inside of research experiences, which holds true for all PTs and teacher educators.

Furthermore, as with any initiative in PT education, it is important to ask whether PTs’ engagement in research exerts a positive and lasting impact on their K-12 students’ literacy achievement, particularly as scholars have debated for decades whether action research is actually a distraction from good teaching (Brown, 2010; Hodgkinson, 1957) or embedded

professional development (Zeichner, 2003). In the studies in this review, it is unclear whether PTs' engagement in research on these sites benefits, harms, or makes no impact on the K-12 students with whom they work since no studies connected K-12 student literacy assessments with PTs' research processes. The recommendation to include research experience in K-12 school sites with racially diverse students only can contribute to equity when it enhances K-12 students' learning experiences. Again, further research that pays explicit attention to race, and explicit attention to race inside teacher education spaces, is needed to understand how PTs' engagement in research impacts K-12 student outcomes in the immediate context of teacher education, and longitudinally in their future teaching.

Notably, this review focuses on just one area of many in which long-standing knowledge needs to be reassessed with particular attention paid to race and racial literacy. All areas of literacy PT education—including writing, children's literature, and reading topics, as well as structural elements such as mentor relationships, field placements, and course sequences—need to be reviewed and reconsidered similarly. Considering the accessibility of the CITE-ITEL database (Fowler-Amato et al., 2019), this work is readily possible and deeply necessary. Additional reviews that take a similar look at how race has been addressed in literacy research will provide important insights to advance teacher education in the next thirty years and beyond. However, it is clear from this review that PTs' research holds outstanding promise as a tool for racial literacy development and innovation in literacy teaching.

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