Examining Pre-service Teachers' Written Responses to a Hypothetical Classroom Scenario Involving Race

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Abstract: *This report presents the results of a study involving elementary pre-service teachers responding to a hypothetical classroom scenario about race. In the scenario, a child (fifth grade) approaches the teacher to complain about how they are not getting called on to show their work at the board. The scenario was implemented as an in-class small group activity with undergraduates enrolled in an elementary licensure program. The main findings reveal four typical response components—apologize, explain, solve, and appreciate. Our results are presented in two sections. First, descriptive statistics are used to analyze the occurrence and co-occurrence of codes by response. Second, using qualitative analysis, we describe some of the different sub-codes (e.g., direct apology vs. non-apology) that, in turn, reflect different interpersonal relationships. Lastly, we discuss the significance of this work, implications for teacher education, and future research.*

Study background and research questions

Scholars have repeatedly argued that the work of teaching and, by extension, teacher education must be understood in the context of a still-struggling racist society (e.g., Philip, 2011, 2019; see also Thompson, 1997). Thus, racial awareness and diversity issues more broadly are becoming important areas of study in teacher education programs (Darling-Hammond & Oakes, 2019). Yet, pre-service teachers (PSTs) might assume that race and racism play minimal—or even *zero*—roles in teaching and thus adopt a color-blind stance (Bonilla-Silva, 2018) in their relationships with children. An important objective for teacher educators is supporting teacher candidates' learning about issues related to race (e.g., teacher racial bias and student racial perceptions) and how this racial knowledge shapes classroom dynamics and instructional practice. In turn, a target for learning sciences researchers is developing methodologies for eliciting, analyzing, and leveraging PSTs' prior knowledge to foster their understanding of racial concepts. As part of our ongoing research on the teacher preparation program at our university, we asked undergraduate PSTs to respond to a series of hypothetical classroom scenarios designed to elicit their prior knowledge, intuitions, and attitudes about K-6 education and equity. Some of these scenarios contained disciplinary content (e.g., math problems or science topics) and implicitly referred to diversity or multicultural issues, whereas other scenarios featured no disciplinary content and instead highlighted equity explicitly. In this paper, we examine PSTs' written data involving one of those no-content scenarios, "Responding to Student Grievance" (Figure 1).

Figure 1. "Responding to Student Grievance."

We added this particular scenario to the data-collection protocol because we sought to explore how race, racial bias, and racism mediate teacher-student relationality (e.g., see Thompson, 1997, for "relational ways of

understanding" in anti-racist education). This scenario was intended to elicit PSTs' knowledge of fifth-grade students' racial perceptions and identity. Not only that, we sought to understand how PSTs' own racial knowledge and awareness might shape the ways they make sense of these issues in relation to instructional practice. We collected written responses as well as audio data involving small groups of PSTs working together to address the prompt in Figure 1. This paper focuses on the written responses collected for this scenario.

Research Questions
- What is the content of PSTs' written responses to a scenario about racial phenomena in a K-6 classroom?
  - What are the typical response components?
  - How often do these components (co-)occur?
- What do the PSTs' written responses reveal about their racial knowledge, in relation to the instructional practice of calling on students to participate in class?

Methodology

Data sources and analysis
Our research team collected audio recordings and written work of 14 small groups of PSTs (2-4 undergraduates in each group) engaging with the "Responding to Student Grievance" scenario (Figure 1). As we began our review of the audio recordings, we were struck by the richness and complexity of PSTs' discussions about race in the classroom. Thus, for this report we decided to first focus on analyzing the written responses (N=28) as a means of developing a coding scheme and identifying key response components.

A table containing verbatim transcriptions of all twenty-eight responses was created for analysis. The first author began the analysis for this study by working independently on a process of open coding (Saldaña, 2012) and identifying emergent categories representing distinct response components (e.g., "apologize" or "explain"). This review of the PSTs' written responses revealed four basic components that became our main coding scheme (Table 1): *apologize*, *explain*, *solve*, and *appreciate*.

Table 1: Coding Scheme for Written Response Components.

Component Codes	Description & Examples
Apologize	A statement in which the PST expresses regret or proposes to apologize. "I am very sorry that I have been doing this" "I would apologize to the student"
Explain	A statement in which the PST explains (from *the PST's point of view*) what went wrong and provides reasons for the teacher's behaviors in the scenario. "I wasn't purposefully picking white students to go up to the board" "I never intentionally meant to do that"
Solve	(Shorthand for "solve the complaint.") A statement in which the PST expresses a promise not to repeat the offense or correct the mistake/behavior; this includes statements proposing specific actions to solve the complaint. "I will do my best to improve my classroom" "I will definitely make sure to look around the room & take note of all students who are willing to write on the board from now on"
Appreciate	A statement in which the PST recognizes the value of what the student is doing or expresses gratitude. "I'm glad you told me, so I can be better and give everyone a chance" "I would compliment the student on being aware of how they are being treated in the classroom"

A preliminary coding manual and transcriptions were shared with the research team (listed authors), who then independently coded all the items. The manual included definitions, examples, and instructions for parsing a given response into its constituent "phrases," which is the primary unit of analysis. Next, we entered a process of collective analysis during our weekly research group meetings. Each week, we worked through a subset of items, rigorously scrutinizing each transcription. Working as a team, we compared our codes, discussed all discrepancies, and resolved all the issues. We iteratively revised our coding scheme and refined definitions by returning to previous coded examples or coming up with hypothetical counter-examples that helped elucidate each component and how it functioned in a given response. The transcriptions are quite short, and the kinds of statements made by

the PSTs were often succinct, making it a relatively straightforward process to mark the transcripts and build consensus a case at a time. From the 28 written statements, we parsed the data into 113 phrases; only 3 of those phrases were not codable due to lack of information.

a.	b.

Figure 2. Example of a coded response: a) is an image of the original handwritten response, and b) is the verbatim transcription parsed into seven phrases (p1, p2, …p7). This response was coded as: apologize–explain–explain–appreciate–appreciate–apologize–solve.

Results

Table 2 indicates the frequency of each of the four main codes, including the percentage of code occurrences across all phrases. *Solve* was the most common response component, followed by *apologize*. Additionally, we analyzed how often components appeared together within the same response. Figure 3 is a heat-map correlation plot of the co-occurrence of codes by response. Although these correlations are not statistically significant, this figure helps us think about a few notable trends. In their written responses, most PSTs wanted to explain themselves, to respond to the child from the teacher's point of view. So doing, as PSTs sought to *explain* their actions, they were less likely to offer a solution (*solve*) and even less likely to *appreciate* the child. Similarly, as PSTs expressed regret (*apologize*), they were more likely to address the issue (*solve*).

Table 2: Frequency of Code Occurrence

Component Codes	Percentage across all written responses (N=28)	Percentage across all phrases (N=113)
Apologize	**86%** (24/28)	23% (26/113)
Explain	**71%** (20/28)	22% (25/113)
Solve	**93%** (26/28)	36% (41/113)
Appreciate	**57%** (16/28)	16% (18/113)

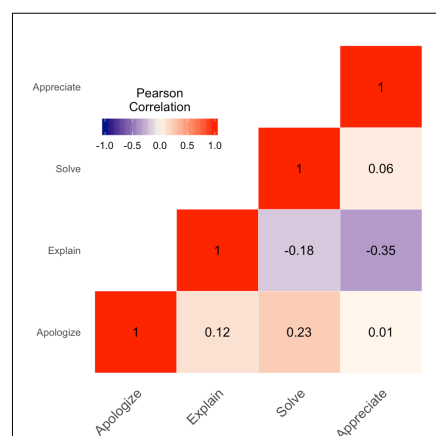Note: three phrases were not codable due to a lack of information.

Figure 3. Heat-map plot of the co-occurrence of codes by response. Numbers approaching 1 represent codes that tend to occur together within a particular person's response; numbers approaching 0 are codes that have no pattern of co-occurrence; and numbers approaching -1 represent codes that tend not to occur together.

Expanding the coding scheme

We view each component—a verb such as *apologize* or *explain*—as having two simultaneous functions (Halliday & Matthiessen, 2004, as cited in Heyd-Metzuyanim & Sfard, 2012): to communicate an idea or content, and the second is establish an interpersonal relationship. Whereas the results presented above focused on the content of PSTs' written responses, our next study (Gutiérrez et al., manuscript in progress) will further develop the coding scheme by adding the sub-codes we are finding in our ongoing analysis of the audio data. These new sub-codes characterize the PSTs' racial reasoning during their discussions and mark the types of interpersonal relationships that are possible in responding to the child. Below we highlight a subset of the new sub-codes we have identified.

In some instances, the PSTs admit something went wrong, take ownership of the mistake, and make a *direct apology* to the child, as is the case in Figure 2 ("I am so very sorry *that I have been doing this*," emphasis added). Contrastingly, some PSTs express regret but do not acknowledge responsibility; these statements come in the form of a *non-apology* (e.g., "I'm sorry *you feel that way*" or "I'm so sorry *that it seems that way to you*"). Non-apologies are stated passively (recall the famous non-apology: "Mistakes were made") or shift the focus away from the teacher to the child, thus implying that the child has a problem and not the teacher. Furthermore, in some *explain* cases, PSTs offer one or more *excuses* for the teacher's behaviors in the scenario. Statements such as "I call on people who raise their hands first" and "sometimes I can't see everyone's hands that are up" were marked as *excuses*. Excusing statements offer an alternative or counter-explanation, implicitly arguing that the outcome of the scenario is due to something other than race, racial bias, or racism.

A *direct apology* to the child reflects humility, and it acknowledges and validates their feelings, which can ultimately enhance teacher-student relationality. In contrast, *non-apologies* and *excuses* do not serve the teacher-student relationship too well, especially if the child feels as though they/their feelings were being dismissed; these types of responses would likely drive a wedge between the teacher and student, which can further impact the quality of teaching and learning down the road. Lastly, we are finding that *race*—which is at the center of the child's grievance—is not included or addressed overall in the pre-service teachers' responses. Only 2 out of the 28 written responses mention race ("I would say that I wasn't purposefully picking white students to go up to the board" and "I want to let you know that it's not because they are white"). In our forthcoming analysis of the audio-recorded discussions, we are finding that PSTs interpret the scenario and the work of teaching through the lens of color-blind ideology (Bonilla-Silva, 2018). The participants in this study, by and large, assume race does not matter. More research is needed in this area to understand how PSTs racial knowledge shapes classroom practices that can either reproduce or disrupt inequities in elementary education.

Significance of study

Given the importance of racial awareness and diversity issues in teacher education, these hypothetical teaching scenarios present a novel, low-cost, and effective methodology to examine PSTs' learning about race and how their racial knowledge shapes classroom dynamics and instructional practice. Importantly, these results document the potential patterns in how PSTs might conceptualize an instructional challenge rooted in their racial knowledge. Documenting and understanding patterns such as *apologize-explain-solve-appreciate* are essential for better understanding PSTs sensemaking about these issues and building future teacher education instructional materials.

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