

TEACHER IDENTITY WORK IN MATHEMATICS TEACHER EDUCATION

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Laura is a White female in her late-twenties from a middle-income background in the US. Her age, ethnicity, and socioeconomic class are typical of the teacher candidates in the elementary teacher education program in which I teach. During a seminar near the end of the program, Laura cast doubt on whether she could realize her vision of herself as an elementary school mathematics teacher. She said: “I imagine myself as a certain, teaching a certain way but recognizing that in certain places, I can’t do that” (Laura, group discussion, March 23, 2010). By “certain places”, she was referring to schools where she thought that her teaching practices would be limited by the requirements of the school administration and an emphasis on standardized testing. She felt these kinds of limits would be most prevalent at schools with culturally, linguistically, or economically diverse student populations. As a result, Laura questioned who she was as a mathematics teacher, who she wanted to be, and how she fit into her school, classroom, and community.

Laura’s concern about enacting her vision highlights tensions and challenges in transitioning from teacher education coursework to the elementary classroom. Developing a repertoire of effective mathematics teaching practices is not enough. Teacher education must also prepare teacher candidates to enact these practices *while* navigating the many social, political, and institutional dynamics in mathematics classrooms and schools. In the US, these dynamics include the pressures of test-driven accountability and deficit perspectives of students. How teacher candidates understand themselves in relation to these dynamics, that is, their *teacher identities*, has been shown to shape why people teach (de Freitas, 2008), how they understand elementary school mathematics (Gellert, 2000), and how they learn to teach (Horn, Nolen, Ward & Campbell, 2008). Becoming a teacher is not developing *an* identity; it is developing *identity* as a continuous process of constructing and deconstructing understandings within the complexities of social practice, beliefs, and experiences.

In this article, I explore dilemmas and raise questions about how to support mathematics teacher candidates as they engage in *identity work*, that is, their struggles with the internal and external forces that shape their understandings of being a mathematics teacher and of mathematics teaching. The multiple ways that teacher candidates are *positioned*—meaning the ways in which the participants are situated by and within contexts, interactions, and relationships (Davies & Harré, 1990), particularly as students, mathematics learners, and interns—create dilemmas about mathematics teaching practice and their relationships to it. Building teacher candidates’ understandings of the socio-

political dynamics of elementary school mathematics teaching and their teacher identities in relation to these dynamics may support the development of their practice. I take up the theoretical premise of identity as articulated in Butler’s (1999) work with gender identity to examine one teacher candidate, Laura [1], and her engagement in identity work in a seminar on critical self-reflection and mathematics teaching. I highlight Laura because of what emerged through her critical self-reflection and the questions her participation raised about the facilitation of identity work in mathematics teacher education.

I also discuss how mathematics teacher educators contend with multiple and potentially conflicting responsibilities when balancing a focus on teacher candidates’ personal identity and a focus on mathematics teacher preparation, in particular, to prepare teacher candidates for successful careers in public schools with culturally, linguistically, or economically diverse student populations. Given teacher candidates’ and mathematics teacher educators’ complex positioning, how can teacher education facilitate identity work to support teacher candidates in negotiating these dynamics and developing their mathematics teacher identities in relation to them?

Mathematics teacher identities in teacher education

Mathematics teacher identities are shaped by political, social, and institutional *discourses* that provide systems of categories and beliefs that organize and structure ways of thinking and acting in relation to mathematics, teaching, and learning (St. Pierre, 2000). For a teacher, “constituted by her relationship, among others, with her students, their parents, her school, and the wider community, discourses provide taken-for-granted ideas and ways of practice that come before any views she might have about herself as a teacher” (Walshaw, 1999, p. 100). Discourses, therefore, constrain and enable what teachers do, say, and conceive of as appropriate (Britzman, 1993). The institutional and social dynamics in elementary school classrooms (Brown & McNamara, 2005, 2011) as well as many elementary school teachers’ and teacher candidates’ negative experiences with mathematics (Drake, 2006) complicate relations between teacher identity and practice. Test-driven school cultures also create discourses about teaching and students, including notions of fixed student abilities, equating learning to test performance, and standardization (Apple, 2004). These discourses *interfere* with teachers’ teaching and learning relationships with their students.

Butler (1999) emphasizes the *performativity* of identity, where identity is a continuous process of being naturalized by prevailing discourses and norms. She encourages individuals to develop awareness of, and to question how, prevailing social and institutional norms influence self-understandings and the identity process. I operationalized the premise of performativity in a bi-weekly, semester-long seminar designed to situate critical pedagogy (Ellsworth, 1989; Freire, 1970/2000; Kumashiro, 2000) in mathematics teacher education. The seminar took place towards the end of the program. I aimed to engage teacher candidates in a critical examination of themselves as mathematics teachers and of their teaching contexts (Figure 1). Discussions, case analysis, and reflective writings provided teacher candidates with opportunities to engage in a process of *deconstruction*. Specifically, I wanted teacher candidates to name prevailing discourses of mathematics teaching and learning, to discuss the implications of these discourses for how they and others are positioned, and to interrogate these discourses and positionings. Across the seminar, we discussed institutional discourses around curriculum and testing (*e.g.*, Brown & McNamara, 2005), social discourses around race, class, and student abilities (*e.g.*, de Freitas & Zolkower, 2009), discourses about mathematics as skills or as practices of “making sense” (Fuson, Kalchman & Bransford, 2005), and discourses of teachers as “saviors” (Britzman & Pitt, 1996). This work was designed to complement teacher candidates’ ongoing identity work.

The seminar goal was to encourage teacher candidates to question prevailing discourses of students, mathematics, and teaching and “bring this knowledge to bear on his or her own sense of self” (Kumashiro, 2000, p. 45). This stance resonates with “giving reason” to prospective teachers (D’Ambrosio & Kastberg, 2012), in the exploration of teacher candidates’ existing knowledge, not to “ignore it or criticize it, but to explore with” (p. 26) teacher candidates and to learn about their journeys of becoming mathematics teachers. I theorized that facilitated discussions on teaching contexts and on how teacher candidates feel and understand the influence of these contexts on their teaching would allow teacher candidates to (re)position themselves and (re)author their self-understandings, potentially building agency across teaching contexts. As facilitator, I created opportunities for teacher candidates to question discourses and norms, and I resisted pushing them to develop particular perspectives; this is an inherent tension in taking a stance of critical pedagogy in teacher education.

I also operationalized performativity in my analysis of teacher candidates’ identity work. As performativity emphasizes positioning and (re)positioning, I conceptualized teacher candidates’ understandings of being a mathematics teacher as positioning (Davies & Harré, 1990). I attended to teacher candidates’ identity work by focusing on discursive practices in context and on how teacher candidates were reflexive about their positioning (Mauthner & Doucet, 2003) and how their positioning related to broader interpretive frameworks (Martin & van Guten, 2002). I completed a line-by-line discourse analysis, identifying and following an emergent theme in relation to each teacher candidate’s self-understanding. Case analysis focused on each teacher

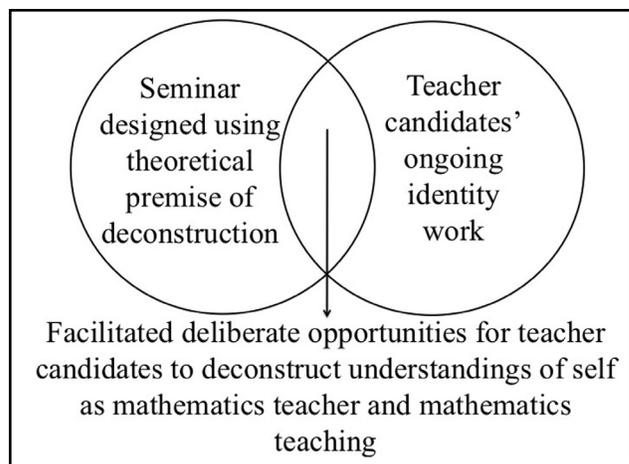


Figure 1. Theoretical premise underlying the seminar.

candidate’s discursive participation, including talk about herself, and about teaching and how it shifted.

Analysis across cases suggested that teacher candidates’ understandings of themselves as mathematics teachers and their practice shifted across sessions and the focus and nature of these shifts were unique to each teacher candidate. Laura repositioned herself in relation to issues of test-based accountability and discourses about students’ abilities. In contrast to other teacher candidates, Laura’s engagement in identity work did not appear to make her feel more agentic in her mathematics classroom or lead to her (re)authoring her positioning. Her participation, therefore, raises questions about how to support elementary mathematics teacher candidates’ identity work. In what follows, I illustrate how Laura was reflexive about her positioning as an elementary school mathematics teacher, and I discuss emergent tensions related to identity work in mathematics teacher education.

Developing understandings of self and context: Laura

Like most of her classmates, Laura sought a future position as an elementary school teacher and articulated a strong belief in, and capacity for, the pedagogical practices discussed in her mathematics methods courses, such as leveraging student thinking. She had a yearlong internship in a school that served a culturally and racially diverse student population from primarily working class and middle-income families.

Engagements in identity work

In response to a prompt in the first session of the seminar about “a vision of herself teaching mathematics in five years”, Laura included written statements such as “incorporate balanced instructional methods” and “teach based on assessment not for a test but based on assessing students’ strengths and weaknesses” (Vision Statement, March 23, 2010). Discussing her responses in class, Laura identified pressures and expectations associated with discourses of test-based accountability and her internship placement. She seemed to question how she could enact her vision statement in her teaching context:

I imagine myself as a certain, teaching a certain way but recognizing that in certain places, I can't do that. I can't have those freedoms. But then I recognize that I am really limiting myself to places, where I can, you know, if I—if it's a priority to me to teach in a way that I want to, I'm really limited to places that are going to give you that freedom. (group discussion, March 23, 2010)

Laura consistently questioned herself and her experiences in her school and as an intern, analyzed her reactions, and wondered about the teacher that she was becoming. What she was doing—struggling with the internal and external forces that were shaping her understandings of herself as a mathematics teacher and of mathematics teaching—is identity work.

Becoming a teacher is a continuous process of constructing and deconstructing understandings in context. Laura's identity work, and the way her teacher identity was developing as a process, is consistent with Butler's (1999) description of the process of becoming a woman: "If there is something right in Beauvoir's claim that one is not born, but rather one *becomes* a woman, it follows that *woman* itself is a term in process, a becoming [...] open to intervention and resignification" (p. 45). Teacher candidates need to understand, on one hand, that how they position themselves as mathematics teachers and are positioned by others (e.g., instructors, mentor teachers, administration, students) is shaped by social and political discourses about mathematics and teaching, and, on the other hand, that they can use this understanding to challenge identities and discourses that they find troubling and (*re*)author their positions toward mathematics teaching and learning.

Laura struggled with a dilemma, feeling as if she had to choose *where* to teach and *who* to teach in order to engage in certain instructional practices: "we [as teacher candidates] have to make decisions where, maybe you'd want to work with a different population, [but] the school is much more regimented in what you do, so we have to make compromises" (group discussion, April 27, 2010). She associated schools where teachers have autonomy over what and how they teach with schools that serve students of privilege. She contrasted this with schools that have what she deemed characteristics of test-driven contexts; schools that serve a less-privileged population and that are racially and socio-economically diverse. Tying teachers' autonomy over their practice to the teaching context and student population, Laura's self-understandings as a mathematics teacher were tightly anchored to teaching context.

Being reflexive about her positioning: examining labeling students and ability grouping

In written reflections across the seminar, Laura identified students' complex positioning and the implications for mathematics teaching, specifically problematizing ability grouping of students. She recognized a prevailing discourse about grouping students by ability, one that also emphasizes mastery of basic skills by the "lower group" before any engagement in tasks requiring "higher-order thinking" (Oakes, 2008), and felt that this discourse framed her school's policies of grouping. She felt her coursework emphasized "heterogeneous grouping, while [...] the schools

mostly defer to homogeneous grouping and labeling students to do so. All the time, we refer to students as 'above,' 'on,' or 'below'" (Discourse prompt, May 2, 2010). In Laura's school and across test-driven teaching contexts in the US, when students' mathematics achievement is measured by standardized tests, the *students*, not just their performance, are marked (Ellis, 2008). Laura found these labels troubling and unsatisfying, as first evidenced by the quotation marks she used around each label (e.g., "above"). She understood an often-given rationale for grouping students, where through ability grouping, instruction can be focused and efficient, but noted implications: "In many ways, attaching these labels makes life easier, but it also attaches stigmas about the student's ability and desire to learn." Teachers' low expectations resulted in skill-based instruction and differing opportunities to learn or engage in problem-solving.

As Laura developed awareness of the affordances and constraints of ability grouping, she sought to position herself and to take up new positions as a mathematics teacher. In her writing, she explained that she wanted to challenge her third-grade students and the discourses influencing their positioning by providing them with challenging tasks using fractions with uncommon denominators. Other teachers suggested that her fraction tasks were too difficult for students labeled as below-grade-level and must be rewritten using simpler fractions. In response to resistance to (*re*)positioning her students, Laura articulated some implications of these practices and of teachers' expectations across ability groups:

I recognize that some of my students would really struggle using fractions with different denominators; however, I also know that many of my students could handle the challenge. Since they are not challenged to solve more difficult problems (ones [that] are still considered 3rd grade level), they do not have the opportunity to make as much progress as students in other classes who are challenged. I worry what will happen next year when they are placed in a new math class with other "on" students. They will be behind because they have not been taught problem solving skills. [...] As a teacher, I plan to have high expectations for all my students and to recognize their progress rather than their shortfalls. (Discourse prompt, May 2, 2010)

Laura recognized how positioning students as incapable and related teaching practices limited students' opportunities to engage in mathematics or in particular mathematical practices. She suggested that she would enact practices to address students' positioning and provide access to mathematics. Her participation suggests that in response to seminar activities, Laura engaged in understanding students' and teachers' complex positioning, the situated nature of her own positioning, and the implications for herself and others. Understanding how identity is situated and negotiated—simultaneously asserted and threatened—may open possibilities for (*re*)authoring identities (Butler, 1999). Extending Butler's argument to mathematics teacher identities suggests that these understandings of identity and positioning may support teacher candidates in (*re*)authoring their mathematics teacher identities to include alternative positionings that seemed foreclosed before.

Tensions of (re)authoring her positioning

Laura's understandings of her identity and teaching practices became more articulated through the seminar, but it is not clear that she felt that she could (re)author her positioning or identity towards enacting these practices in school contexts. In her final interview, Laura reflected on her experience as a teacher candidate and in the seminar. Similar to her comments earlier in the semester, Laura did not interrogate the coupling of place and practice or see all teaching practices as possible in all schools: "The schools that you are most likely to get the most freedoms and be the most progressive are the schools that don't necessarily need you as much" (interview, July 16, 2010). Laura wanted autonomy over her teaching and opportunities to engage in practices that she deemed progressive, but she felt that these pedagogical practices were only accepted in schools that served students from higher socioeconomic backgrounds, not schools that served students from lower socioeconomic backgrounds or under-served schools where she felt teachers were more needed.

Laura identified the importance of teaching students from under-served schools and working towards "social justice" but said that she had not operationalized this or imagined herself in this context:

I think that if anybody asked me why I thought education, even before this [seminar], why I thought education was important—and I've kind of always noticed this inconsistency in like the back of my head—is that I would go off and talk about how education is important for all people and everybody needs it. So I have this whole, like, more social justice, and this democratic view of—and those are my beliefs about, you know, education—but then that inconsistency is I'm not sure that I ever really pictured myself in doing that. I don't know why. I just never thought about it. I just always thought I'd teach in a school, you know, more or less a neighborhood, or somewhere not too far away. (Interview, July 16, 2010)

Consistent with the theoretical premise of performativity, where an individual is not performing freely but where identity is a process constructed within discourses, Laura identified a prevailing discourse about teaching for social justice and how it shaped her understanding of what teachers do, and what she should do. In response to the social pressures she felt from her peers or the program more generally to ought to *want* to teach in all schools, she apologized for not wanting to teach in certain contexts and called herself "selfish" for seeking to be happy. She pinpointed this an "inconsistency" between what she believed about education and what she saw herself doing. Laura was clear that she was not confident about her capability of teaching in a test-driven school context or her happiness if she did:

I think right now for me, and this sounds terrible in some ways and it's a selfish thing, because for me, like, it's something that I love to do, and like I want to have freedom with it. And I want to have independence in how I teach. And I'm doing it for the kids. I'm not doing it for myself, but it's—I want to be happy doing it. And there are some things that I don't want to sacrifice and

I'm afraid that I would hate teaching. I don't want to go into a place where I would hate teaching. (Interview, July 16, 2010)

Although Laura wanted to teach "for the kids," she felt that being limited in her instructional practices would lead her to resent her work teaching. By making this link, she felt limited to teaching in schools that served students from higher socioeconomic backgrounds because these schools would also support progressive pedagogical practices and not be test-driven. As understood through a poststructuralist framework where agency is limited to available positionings, Laura's honest comments are interesting because she did not see teaching in a test-driven context as an option for *herself*.

Laura identified that her self-understandings were related to, if not an effect of, her current and previous teaching contexts and how she understood teaching within them. She saw teaching contexts and the discourses that she found present in test-driven school contexts as shaping who she was *and* who she would be as a teacher. In poststructural feminism, the discursive subject is obligated to work within existing structures, and a subject can exhibit agency as it "constructs itself by taking up available discourses and cultural practices and a subject, at the same time, is subjected, forced into subjectivity by those same discourses and practices" (St. Pierre, 2000, p. 502). Laura's engagement in understanding prevailing socio-political discourses in her mathematics teaching and the reflexivity of her positioning suggested the ways in which new discourses and positions were made available. Her engagement did not influence her feelings of agency for *enacting* her teaching self across contexts, but rather she shifted to understand her options for where to teach differently. She felt that teaching in a more comfortable context was an option for subverting the dilemma of the positioning that she felt in a test-driven school context [2].

Further dilemmas

The self-understanding, reflection, and critical examination of her contexts may have helped Laura better to understand how teaching context was a critical element of her teaching practice, but she remained uncertain about how to engage in the instructional practices that were important to her (and encouraged by her methods courses) within the social, political, and institutional contexts in under-served schools. Despite the fact that she did not trouble the coupling of teaching contexts and teaching practices, Laura developed awareness of herself and what she understood as her limits: "I don't want to go into a place where I'd hate teaching," (interview, July 16, 2010).

I did not theorize that problematizing teaching, critical self-reflection, and new understandings of her positioning would lead Laura to feel incapable of teaching in under-served schools or schools that she felt would limit her to test-driven instructional practices. As a mathematics teacher educator, I do not want Laura to lack self-confidence (or comfort), hate teaching, or leave the field, and I am troubled by what emerged from my analysis of Laura's participation. I see this identity work as contributing in critical ways to Laura's self-understanding and I know that

Laura sought the option and teaching contexts that were best for her. I wish, though, that there had been an option that would have worked for Laura *and* for the students who need teachers who think critically about mathematics, students, and teaching the way she did.

Discussion and implications

Teacher candidates do not come into mathematics teacher education as blank slates; rather, they enter teacher education with experiences with students, mathematics, and the educational system and “preconceptions or experiential context concerning what it means to be a teacher” (Alsup, 2006, p. 128) and an intern. Research on teacher candidate identity has shown that teacher candidates are not always aware of the prevailing political and social discourses about students, mathematics, and mathematics teaching and are reluctant to see themselves as shaped by these discourses (Brown & McNamara, 2005). Without explicitly addressing these tensions and the personal, social, and political dynamics that give rise to them, teacher candidates may not feel that they are authoring their own positions in relation to mathematics teaching and learning or recognize that they can. Through her engagement in critical self-reflection and identity work, Laura presented awareness of her context, the social and political dynamics, and herself, but not a feeling of agency in enacting her desired self in all contexts. Therefore, my analysis of Laura presents insights into elementary teacher candidates engaged in identity work to support their understanding of themselves and teaching.

Theoretical premise of performativity in design

There are continued calls for more research on how to foster identity work in teacher education (*e.g.*, Beauchamp & Thomas, 2009) and for research on how to attend to teacher candidates’ developing identities and the multiple goals and responsibilities in mathematics teacher education (D’Ambrosio & Kastberg, 2012). Operationalizing performativity in teacher education means first encouraging teacher candidates to articulate discourses influencing self, students, and teaching and then supporting their awareness of how these discourses and their positioning influence identities and enactments. Performativity thus provided a framework for how to complement teacher candidates’ ongoing identity work and articulated a process of deconstruction that could be used with theories of identity in course design and when supporting teacher candidates’ self-understanding in course facilitation. The deconstruction *process*, while illuminating their positioning and allowing teacher candidates to grapple with the many dynamics of their classroom, may not consistently support teacher candidate agency across teaching contexts. Laura engaged in the process of deconstruction, but it did not influence her to take up new positions as a teacher *across* school contexts; rather, she used it to understand her options.

Facilitating identity work in mathematics teacher education

Mathematics teacher education has a responsibility to support teacher candidates in working towards an awareness of the performative nature of identity and alternative positionings, and in particular in feeling agentic as they navigate

the multiple demands and forces that shape understandings of self and teaching. Laura’s feelings of a lack of agency across teaching contexts leaves questions about how to support her as a mathematics teacher, but should not be read as contesting the importance of identity work in mathematics teacher education. Laura evidenced on-going identity work through her analysis of teachers’ and students’ positioning in US schools and through her critical consideration of where she wanted to teach and would be happy and likely successful. Engaging teacher candidates in critical self-reflection and facilitating identity work is a process that, like identity, is constructed within discourses, norms, and power relations. Furthermore, in this case, there are tensions in supporting teacher candidates’ personal identity work *while* encouraging their use of effective teaching practices across school contexts and in the service of diverse populations of students. It is thus the *facilitation* of identity work that needs to be continually problematized in mathematics teacher education.

Three implications for operationalizing a critical pedagogy stance in mathematics teacher identity work emerge from my analysis. First, in order to support teacher candidates’ agency in their instructional practice, analysis suggests directing more attention towards the connections between the sociopolitical turn in mathematics teacher education (Gutiérrez, 2010) *and* instructional practices. Laura problematized the social and political contexts of mathematics teaching, but shied away from thinking she could enact particular instructional practices within different school contexts. Was the analysis of prevailing discourses framing mathematics teaching or teacher identities solely an intellectual exercise for Laura? It is possible that the complexity of teacher candidates’ positioning in their field placements leaves them unable to take up new positions, particularly when exercising agency is considered as *subverting* the discourses framing understandings. Thus, teacher candidates’ self-analysis may remain distinct from their current positioning or their teaching practice. This suggests that teacher identity work and analysis of the contextual dynamics structuring identity need to be a focused element of coursework *and* professional development for novice teachers.

This work also suggests that continued (re)emphasis of the content-specific nuances and characteristics of teaching and learning *mathematics* in politicized spaces may support teacher candidates’ identity work. Teacher candidates were responsible for teaching language arts, social studies and science, as well as mathematics, which positioned them as generalists in their elementary school contexts. They sometimes needed to take up that positioning in our discussions, which meant that discussions shifted away from a focus on mathematics teaching as teacher candidates problematized teaching episodes across content areas. Without specific attention to elementary school mathematics as a highly politicized gatekeeper to higher-level mathematics and science, teacher candidates may have taken the mathematics classroom as context, not specifically different from the language arts classroom, for example, or attended to the particular responsibilities associated with providing all students access to opportunities to learn mathematics.

Teacher candidates may benefit from situating mathematics teaching and learning at the intersections of issues of

race, class, and student ability differences, and continuous dialogue about teacher candidates' assumptions and anxieties about mathematics teaching contexts and teaching in these intersections. Productive discussions could involve defining equity in context, interrogating the embedded school structures that support students' positioning, or describing specific teacher actions to support students' opportunities to learn. Ability category systems, such as those that Laura referred to, explain and delimit discussions of pedagogy (Horn, 2007) and need to be explicitly contested.

Mathematics teacher educators in teacher candidates' identity work

Mathematics teacher educators are integral and obvious participants in teacher candidates' identity work, shaping teacher candidates' engagements, investing in some questions, and repressing others (Fine, 1994; Nolan, 2012). Teacher educators, including myself, also engage in identity work, grappling with the institutional, social, and political dynamics and their influences on positioning (D'Ambosio & Kastberg, 2012; Milner, 2007). I attended to my personal stances towards equity and access while taking up a stance of critical pedagogy in order to support teacher candidates' identity work and their thinking about the social and political issues in schools and in mathematics teacher education. I sought to provide space for them to struggle with practice and self-understanding and to resist interpreting their struggles. As they asked for "answers," however, I felt pressure to provide "solutions." It was challenging to push them to engage in tough conversations about the sociopolitical contexts of mathematics teaching and their relations to these issues, and I struggled with the silence, feelings of inadequacy, or feeling of being irresponsible when I did not.

This means that engaging teacher candidates in this work was complicated by my own positioning as well as theirs. This is the complex work of engaging in a critical pedagogy, and it cannot and should not be avoided. In addition to facilitating opportunities for teacher candidates' own self-examination and exploration, teacher candidates may benefit when instructors reflect on their positioning and (re)position themselves. There is also an inherent tension when implementing a stance of critical pedagogy in mathematics education and including a focus on teaching for equity *without* introducing other hegemonic discourses. Teacher candidates may also benefit when instructors problematize their course facilitation and the ways in which they balance their goals.

Mathematics teacher educators and how they are positioned within mathematics teaching and learning discourses are "strategically shaped in and through" (Nolan, 2012, p. 213) their own journeys and experiences. In facilitating this work, I prepared by reflecting on my positioning, assumptions, prevailing discourses, and my own ongoing identity work (McGlynn-Stewart, 2010). Self-understanding and critical reflection are as much a part of teacher preparation as they are of teacher educator expertise (Berry, 2009). More nuanced self-understandings may influence the ways in which teacher educators enact their practice, and how it is

experienced by teacher candidates. In this manner, the work and development of mathematics teacher educator identities is just as complex as the work involved in teacher candidates' mathematics teacher identities.

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Notes

[1] All names of participants, school and university programs, and school districts are pseudonyms.

[2] There are certainly influences on Laura's self-understanding and feelings of agency that are not discussed here. Butler (1999), however, emphasized that a list of an individual's attributes or positionings is always incomplete, and the incomplete labeling of self should be interpreted as instructive and encouraging:

What political impetus is to be derived from the exasperated "etc." that so often occurs at the end of such lines? This is a sign of exhaustion as well as of the *illimitable process of signification itself*. It is the *supplement*, the excess that necessarily accompanies any effort to posit identity once and for all. This *illimitable et cetera*, however, offers itself a new departure for feminist political theorizing. (p. 196)

There are thus unlimited possibilities for (re)positioning oneself, which emphasizes the fluid and negotiated characteristics of teacher identity.

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When I try to sum up what, above all else, I have learned from grappling with the sprawling prolixities of John Dewey's work, what I come up with is the succinct and chilling doctrine that thought is conduct and is to be morally judged as such. It is not the notion that thinking is a serious matter that seems to be distinctive of this last of the New England philosophers; all intellectuals regard mental productions with some esteem. It is the argument that the reason thinking is serious is that it is a social act, and that one is therefore responsible for it as for any other social act. Perhaps even more so, for, in the long run, it is the most consequential of social acts.

From Geertz, C. (2000) *Available Light: Anthropological Reflections on Philosophical Topics*, p. 21. Princeton, NJ: Princeton University Press.
