# AN EMERGING FRAMEWORK FOR ELEMENTARY STUDENT TEACHER POSITIONS AND POSITIONINGS

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Positioning theory has been used in research to understand how elementary student teachers are positioned while working with their mentor teacher. While this research has identified four general positions, there remains a lack of clarity about these positions, particularly in how they differ. This study explores three contrasting student teacher-mentor teacher pairs to explore how different student teacher positions are constructed. Through qualitative coding of interviews that followed a math lesson observation, an emerging framework is proposed along two dimensions: interactional positioning and actional positioning. Within each dimension, two sub-dimensions are proposed: discursive patterns and intellectual authority within interactional positioning and teaching experiences and planning experiences within actional positioning. This framework provides a foundation for further research on student teacher positions.

Keywords: preservice teacher education; elementary school education

Both teacher self-report (Levine, 2006) and external metrics and research (National Council for Accreditation of Teacher Education, 2010; Ronfeldt & Reininger, 2012) have shown that student teaching is an integral component of teacher preparation. Given that student teaching occurs in a mentor teacher's classroom and in close proximity to a mentor teacher, it is important to understand the nuances of student teacher-mentor teacher relationships.

Many scholars have utilized positioning theory to study student teacher-mentor teacher relationships (Bullough & Draper, 2004; Campbell & Lott, 2010; Chen & Mensah, 2018; Hart, 2020; Mosvold & Bjuland, 2016; Valencia et al., 2009), as positioning theory provides distinct definitions that differentiate roles and positions (Hart, 2020). Davies and Harré (1999) defined roles as "static, formal and ritualistic" (p. 32); the fixed, long-standing roles of student teacher and mentor teacher are entrenched components of teacher education. Conversely, positions are "seen as dynamic and fluid in nature" (Hart, 2020, p. 3) and are context specific (Chen & Mensah, 2018). As such, positioning theory allows for deeper investigation into the nuances of student teacher-mentor teacher relationships.

Research on student teacher positioning has established four general positions. Some student teachers are positioned as observers or workers in a classroom (Campbell & Lott, 2010; Chen & Mensah, 2018). Other student teachers are positioned as learners of teaching (Campbell & Lott, 2010; Chen & Mensah, 2018) or as teachers in training (Mosvold & Bjuland, 2016), where the focus is on mimicking their mentor teacher (Valencia et al., 2009). Still other student teachers are positioned as collaborators with the mentor teacher, where the student teacher offered ideas and both student teacher and mentor teacher were learning. (Campbell & Lott, 2010). Finally, some student teachers are positioned as classroom or fellow teacher, where the student teacher contributes to constructing classroom norms (Chen & Mensah, 2018).

While the names and conceptions of these four general positions have been established in the literature, there is little clarity on what differentiates these positions, particularly in how they are constructed. To explore this, our study was guided by the following research question: How are different student teacher positions constructed as elementary student teachers work with their

mentor teacher around mathematics instruction? Specifically, we sought to 1) identify dimensions by which the positions differ and 2) develop an emerging framework that describes each position by dimension.

#### Theoretical Framework

Harré and van Langenhove (1999) defined positioning theory as the "study of local moral orders as ever-shifting patterns of mutual and contestable rights and obligations of speaking and acting" (p. 1). Positioning theory does not assume that all people involved have equal access toward performing any action (Harré, 2012), as these contestable rights and obligations inform potential boundaries of peoples' actions. For student teachers, how they are positioned provides different access to rights and obligations, and therefore, possibilities for action.

Position and positioning are two important, interconnected constructs within positioning theory. Positions have been defined as "a complex cluster of generic personal attributes, structured in various ways, which impinges on the possibilities of interpersonal, intergroup and even intrapersonal action" (Harré & van Langenhove, 1999, p. 1). Positions are dynamic and fluid as they occur within a particular context (Hart, 2020; Mosvold & Bjuland, 2016), and relatedly, are manifested through discourse (Hart, 2020). Herbel-Eisenmann et al. (2015) suggest that studying communication actions (e.g., gesture, physical position, etc.) allows for understanding discursive practices and interactions beyond just speech.

Positions are constructed through positioning, which has been defined as "the discursive process in which people use action and speech to arrange social structures through locating people in conversations" (Herbel-Eisenmann et al., 2015, p. 188). An important component of positioning is that it occurs at a moment in time, which contributes to the fluidity of positions (Wood, 2013). Positioning can occur when a person positions someone else or when a person positions themself (Kayi-Aydar & Miller, 2018).

Drawing upon this previous literature, we define position as a complex cluster of attributes that impinges (or affords) the possibilities of action, which is temporary and assigned through positioning. Conversely, we define positioning as the discursive process whereby communication actions locate oneself and others in moments in time.

#### Method

#### **Data Context**

The three mentor teachers in this study were members of a cohort of elementary teachers who received funding to complete an Elementary Mathematics Specialist (EMS) certification program and serve as teacher leaders in their schools for four additional years. At the time of this study, they had completed their two-year EMS program and a semester of their teacher leader service component. They had engaged in several leadership activities, including leading mathematics professional development in their schools and district, presenting at regional conferences, and working with colleagues and administrators to improve mathematics teaching in their schools. Ms. Erin was a fourth-grade teacher with 11 years of teaching experience. Ms. Molly was a third-grade teacher with 12 years of teaching experience. Ms. Julia was a kindergarten teacher with 16 years of experience. All names are pseudonyms.

The three student teachers in this study were enrolled in a program that included two mathematics methods courses during the previous school year (except for Jamie, whose program only required one methods class). These courses emphasized both mathematics, with a heavy focus on fractions and whole number operations, and pedagogy, with a focus on eliciting and

responding to student thinking. In the Fall semester, student teachers were placed in elementary schools three days a week and rotated through different grade levels every two weeks. In the Spring semester, when data for this study was collected, they were placed with one teacher at the same school where they observed in the Fall. They were expected to gradually take over most of the instruction in that class, under the supervision of the mentor teacher.

# **Data and Participants**

The data for this study come from three student teacher-EMS mentor teacher pairs: Elise and Ms. Erin; Michelle and Ms. Molly; and Jamie and Ms. Julia, respectively. All names are pseudonyms, and pseudonyms were chosen so that each student teacher-mentor teacher pair begins with the same letter. Ms. is included to indicate who is the mentor teacher. Data included seven interviews, each following an observation of a mathematics lesson. Two interviews were conducted each with the pairs of Elise and Ms. Erin, and Michelle and Ms. Molly, while three interviews were conducted with Jamie and Ms. Julia. Interviews were conducted via Zoom and lasted 11 to 48 minutes, for an average of 25 minutes. Interviews elicited participants' reflections on the math lesson, the planning of that lesson, their classroom responsibilities, as well as their goals for upcoming math teaching. All interviews were audio recorded and transcribed. The interviewer previously worked on this research project but is not one of the authors of this paper.

# **Data Preparation and Analysis**

Analysis began by listening to the interviews and open coding for the various ways student teachers (ST) were positioned, which was informed by the literature and theoretical framework. Through discussion, an initial list of positionings was created, which was then used in a second round of listening to reduce the data. In data reduction, the authors listened separately and reconvened to agree on interview excerpts that did not include positionings of the ST. These excerpts were excluded, and a condensed transcript was prepared where excluded excerpts were summarized, and all other parts of the interview were fully transcribed.

These condensed interviews were then coded for different positionings by first employing the codes that emerged in the earlier listening rounds and adding and refining codes as needed. The first and second authors coded the first three interviews together, and then separately coded and came back to negotiate discrepancies for the remaining four interviews. After analyzing all the interviews, we then collapsed and grouped codes. First, we differentiated between positionings that emerged through ST's engagement (or lack of engagement) in the practices of teaching—what we call actional positionings—and positionings that occurred in interactions between mentor teacher (MT) and ST during the interview—what we call interactional positionings. Next, we separated the actional positionings into teaching experiences or planning experiences. Finally, we separated the interactional positionings into discursive patterns (i.e., patterns of MT and ST engaging together in the interview) or intellectual authority (i.e., to what extent the ST can make decisions or judgements). Table 1 summarizes the final organization of our data, which functions as the dimensions by which we analyze the positionings.

**Table 1. Dimensions of Student Teacher Positions** 

Dimension		Definition	Example	
Interactional	Discursive	Engagement between MT and ST in	MT made space for ST: "Do you	
Positioning	Patterns	interview.	want to share what your thoughts were?"	
	Intellectual Authority	To what extent the ST can make decisions or judgements.	MT as expert: "I didn't ever think to do that until MT" showed me.	
Actional	Teaching	The qualitative nature of ST's	ST overlooked by MT: I wish	
Positioning	Experiences	teaching experiences.	"there were a way to conference with" all students.	
	Planning	The qualitative nature of ST's	ST with independence: "I've taken	
	Experiences	planning experiences.	the math book home a few times"	
			to plan.	

# **Findings**

As we explored our three cases, we saw distinct differences between the interactional and actional positionings of each student teacher. Using these interactional and actional positionings, we drew upon the previous literature on student teacher positions to identify how each student teacher was predominantly positioned: Elise as a learner of teaching, Michelle as a collaborator, and Jamie as a co-teacher. (Note that we use co-teacher rather than classroom or fellow teacher [Chen & Mensah, 2018] to highlight that ST and MT are still working together.) To facilitate presentation and reading of the findings, we first name how the student teacher was predominantly positioned and then present the corresponding positionings. However, this is the reverse of our analysis process, where we first focused on positionings, and then utilized the positionings to consider how the student teacher was predominantly positioned.

In the following sections, we explicate how different positionings constructed each student teachers' position. Organized by case, we first discuss interactional positionings, then actional positionings. As shown in Table 1, interactional positionings include discursive patterns and intellectual authority while actional positionings include teaching experiences and planning experiences. Given space limitations, we identify prominent positionings from each case that exemplify the predominant position for that student teacher.

## Case 1: Elise and Ms. Erin

Elise was a student teacher in Ms. Erin's classroom. Through the interactional and actional positionings detailed below, Elise was predominantly positioned as a learner of teaching.

Interactional Positioning. Two prominent interactional positionings that represent Elise's case are Ms. Erin not making space for Elise in the interviews and both Elise and Ms. Erin positioning Ms. Erin as the expert. In this paper, we use the phrase "make space" to describe when a MT asks if the ST would like to share or offers the opportunity for the ST to share during the interview. In this sense, Ms. Erin only made space for Elise once in each interview. Moreover, when Elise did talk, her statements were brief; she only made three multi-sentence verbal statements in the first interview and six such statements in the second interview. This contrasted with Ms. Erin, who talked for extended periods in both interviews. Discursively, Ms. Erin's lack of making space for Elise contributes to her predominant position of learner of teaching as it indicates that Elise's thoughts and ideas are not as valuable as Ms. Erin's.

When considering intellectual authority, Elise positioned Ms. Erin as the expert in both interviews. For example, in the second interview, Elise said, "Ms. Erin is so good at seeing [student] work and automatically being able to tell where some holes are. And so I'd say going forward, that's a huge goal for me." Elise is grounding her goals in Ms. Erin's practice, which she views as the desired standard. Ms. Erin also positioned herself as the expert. When recalling Elise's taking over of classroom instruction, Ms. Erin explained that Elise "hasn't been afraid to take over. So that's good, I feel like. And she knows that, you know, she can turn to me if she gets stuck." Here, Ms. Erin reaffirmed herself as the expert, where she can provide guidance and support to Elise, who is still learning to teach. In both their discursive patterns in the interview and their interactions in the classroom, Elise and Ms. Erin's positioning of Ms. Erin as the expert enforces Elise's predominant position as a learner of teaching.

**Actional Positioning.** As expected, given the student teacher role, all student teachers had opportunities to teach and plan math lessons. The actional positionings (i.e., teaching experiences and planning experiences) detailed for each case focus on the qualitative nature of each student teachers' opportunities and experiences with teaching and planning math lessons.

Regarding teaching experiences, Ms. Erin and Elise overlooked opportunities for Elise to gain more teaching experience. For example, as Ms. Erin reflected on the "kind of weak" assessment of the first lesson, she wished "there were a way to conference with [all students as] that would be better [as an assessment than a worksheet], but there's 26 [students in the class]." Here, Ms. Erin overlooked the possibility of Elise conferencing with students, which could have strengthened the lesson's assessment and provided Elise with more teaching experience. Separately, Elise identified that "walking around, listening, [and] assisting in any way has been really impactful" for her learning. By engaging in these basic actions, Elise lost opportunities to engage meaningfully and strategically with students during conferencing. In these examples, Ms. Erin and Elise both positioned Elise as a learner, rather than doer, of teaching by overlooking opportunities for Elise to engage in the key responsibilities of assessing student thinking and conferencing intentionally.

Elise's lack of confidence with math was mentioned in both interviews, including that it resulted in math being the last subject she took over teaching. In the first interview, Ms. Erin said, "[Elise's] like, I just wanna watch you for a little bit longer." By implicitly conveying a theory of learning to teach through observing, rather than doing, Elise reinforced her position as a learner of teaching. In the second interview, Elise said, "I think the ultimate thing that changed since we [last] talked is now I'm leading every math lesson. And Ms. [Erin's last name]'s of course there to jump in when she needs to or offer that support." Even as Elise took over more teaching responsibilities, the hierarchy in their relationship (i.e., Elise as learner of teaching, Ms. Erin as expert) persisted, since Ms. Erin would "jump in" when needed.

Regarding planning experiences, there were times when Elise and Ms. Erin planned together and times when they did not. When the interviewer asked about the planning that went into the first lesson, Ms. Erin said she "probably didn't do a very good job of involving [Elise] in it this time, because [Ms. Erin] was planning it by [herself], (pause, then to Elise) sorry about that. We planned the Graham Fletcher part separately." Not only is Elise missing out on planning experiences, but Ms. Erin is implicitly acknowledging they should be planning together, because these are important opportunities for Elise to learn about teaching.

## Case 2: Michelle and Ms. Molly

Michelle was a student teacher in Ms. Molly's classroom. Through the interactional and actional positionings detailed below, Michelle was predominantly positioned as a collaborator.

Interactional Positioning. Two prominent interactional positionings that represent Michelle's case are Ms. Molly's consistency in making space for Michelle in the interviews and equal status, including shared intellectual authority, between Michelle and Ms. Molly. Ms. Molly explicitly made space for Michelle six times in the first interview and four times in the second interview, though Michelle did not always take the space. Two examples of Ms. Molly making space were "did you want to kind of share what your thoughts were, and I can share what my thoughts were" and "do you wanna talk a little bit about the, how the fractions were connected?" Ms. Molly positioned Michelle as a collaborator by communicating value for her thoughts through consistently making space for her, which contrasts Elise's experience with Ms. Erin. This consistent making space for Michelle during the interviews exemplifies the discursive nature of her predominant position as a collaborator.

Michelle's predominant position as a collaborator is also exemplified through the distribution of intellectual authority in Ms. Molly's classroom, which is frequently shown through Michelle and Ms. Molly's references of equal status in their relationship. For example, in the first interview, Michelle mentioned that Ms. Molly once said, "this is your classroom just as much as it is mine," which "lets [Michelle] know that [she] can try new things." This demonstrates that Ms. Molly positioned Michelle as a collaborator who is provided with authority, intellectual and otherwise, in the classroom. In the second interview, Ms. Molly said that through their "constant communication," she thinks she and Michelle "depend on each other a lot," that they "work really well together," and that "everything is a team." Here, Ms. Molly positioned Michelle as a teammate of hers and someone she depends upon, which reinforces her predominant position as a collaborator who has equal status to Ms. Molly.

Actional Positioning. Regarding teaching experiences, Michelle, and Ms. Molly's ability to transition teaching responsibilities in the moment exemplifies Michelle's equal status in the classroom. Michelle said that "when [Ms. Molly] has to step out for one of our students...I'll just jump in and start teaching. And then sometimes, I'll be like, okay, I need to take a step back and [Ms. Molly'll] just jump in and start teaching." These smooth transitions between who is teaching in the classroom demonstrates Michelle and Ms. Molly's equal status and close collaboration, which reinforces Michelle's predominant position as a collaborator.

Regarding planning experiences, Michelle mentioned in the first interview that they "plan lessons after school together." Michelle also contrasted her experience working with Ms. Molly to her roommate's experience student teaching at another school. Michelle said her roommate's mentor teacher "goes home at the end of the day and just chooses to plan at home. And she just sends her like on her own to plan things. If she has questions, she can't really reach out to her," whereas Michelle and Ms. Molly "text all the time." By drawing on the contrasting experience of her roommate, Michelle reinforced the collaborative nature of her and Ms. Molly's relationship, which exemplifies her predominant position as a collaborator.

## Case 3: Jamie and Ms. Julia

Jamie was a student teacher in Ms. Julia's classroom. Through the interactional and actional positionings detailed below, Jamie was predominantly positioned as a co-teacher.

Interactional Positioning. Three prominent interactional positionings that represent Jamie's case are Jamie interjecting in the interviews, Ms. Julia deferring to Jamie in the classroom, and Jamie making decisions about student learning. Across the three interviews, Jamie interjected to confirm Ms. Julia's statements 71 times (e.g., "mmhmm," "yeah," etc.). Similarly, Ms. Julia interjected to confirm Jamie's statements 15 times. Jamie also often added on to the conversation or answered the interviewer's question first, demonstrating that her interjections were not

deferral to Ms. Julia's response. Jamie's interjections to confirm and add on to the conversation in an organic way demonstrate her equal discursive status with Ms. Julia, which contrasted with Ms. Molly's make space for Michelle and Ms. Erin's lack of making space for Elise. This exemplifies how Jamie was discursively positioned as a co-teacher.

Jamie was also positioned as a co-teacher through the intellectual authority she was both afforded by Ms. Julia and took up herself. In reflecting on the lesson, Ms. Julia said, "I kind of talked to [students], too. I was like, are you willing to share if we need you to? Like I didn't wanna be like, you are going to share." Here, Ms. Julia positioned Jamie as a co-teacher by deferring to Jamie regarding which students would share their strategies. This is particularly noteworthy because Ms. Julia thought ahead and intentionally planned her language when circulating so that Jamie would have intellectual authority over the eventual discussion.

Jamie also took up intellectual authority in the interview and in the classroom. For example, when the interviewer asked if there was anything further Jamie or Ms. Julia wished to discuss at the end of the interview, Jamie explained that in small groups, she "kind of used the kids to help create [the story problems]" by taking "turns asking them...what was your favorite dessert, and then that's what I'll base the problem around." Here, through answering the interviewer's openended question and establishing intellectual authority to make instructional decisions in the classroom, Jamie demonstrated her position as co-teacher.

Actional Positioning. Regarding teaching experiences, Jamie had several opportunities for more independent teaching than Elise or Michelle. For example, in the first interview, Ms. Julia mentioned that Jamie and Ms. Julia led different activities in the classroom. This trust in Jamie's instruction to be independent of Ms. Julia exemplifies Julia's predominant position as a coteacher. Furthermore, in the first interview, Jamie and Ms. Julia mentioned that Jamie taught the class on her own for several days when Ms. Julia was absent or pulled to teach in another classroom. Both Jamie and Ms. Julia appeared comfortable with this situation; there were no comments of concern, stress, or uncertainty. This also indicates Ms. Julia's trust in Jamie as well as Jamie's confidence in herself as a teacher, particularly given this happened early in Jamie's student teaching semester. Jamie's opportunities for independent teaching and her and Ms. Julia's trust in her as a teacher reinforces Jamie's predominant position as a co-teacher.

Regarding planning experiences, Jamie also had some independence from Ms. Julia. While they "did a lot of [planning] together" (second interview) or "sat down at the beginning of the week and...plotted out what activity [they're] gonna do each day" (third interview), Jamie also said she had "taken the math [curriculum] book home a few times and kind of typed up, like what the book says, and then kind of brought it to school the next day" (second interview). In addition to planning with Ms. Julia, Jamie also had the opportunity to plan lessons on her own

#### Discussion

This study introduces two dimensions of positioning that construct student teacher positions: interactional positioning and actional positioning. Within each dimension, there are two subdimensions: discursive patterns and intellectual authority within interactional positioning, and teaching experiences and planning experiences within actional positioning. Each position is then described along these dimensions, using examples from the three cases in this study. Together, the dimensions and examples create an emerging framework that provides conceptual specificity and distinction between the student teacher positions of learner of teaching, collaborator, and coteacher. This emerging framework, summarized in Table 2, can support further research on

student teacher positions as well as teacher education structures for student teaching, particularly mentor teacher training.

Table 2. Emerging Framework of Student Teacher Positions by Dimension

		Learner of Teaching	Collaborator	Co-Teacher
Interactional Positioning	Discursive Patterns	MT does majority of the talking and makes little space for ST.	MT makes space for ST, which the ST may or may not take.	ST interjects and organically participates in discussion without MT making space.
	Intellectual Authority	MT is the expert. The goal is to watch their practice and emulate it.	MT communicates value and appreciation for ST ideas and presence.	MT defers to ST in some decision making and provides some independence.
Actional Positioning	Teaching Experiences	ST is overlooked sometimes and gets less opportunities to engage in teaching practice.	ST engages in teaching regularly and transitions easily between them and MT.	ST has some teaching experiences independent of MT.
	Planning Experiences	Sometimes MT plans without ST.	ST often plans with MT and can reach out with questions.	ST has opportunity to plan alone.

Importantly, this study does not seek to suggest a hierarchy of student teacher positions. For example, we do not view a position of co-teacher as inherently better than a position of learner of teaching. Rather, we believe there are different affordances and constraints that come with each position, and that each position may be most ideal for different student teachers or even the same student teacher at different points in their student teaching experience. Relatedly, given the fluidity of positions and the in-the-moment focus of positioning, we want to reiterate that while each student teacher was predominantly positioned as one position, there were examples in each case where the positioning in that moment would have aligned with a different position.

Given the limitation of space, we restricted the data presented in this paper to the observation-debrief interviews. Individual interviews were also conducted at the end of the semester with each student teacher and mentor teacher. One next step for this work is to analyze those interviews and consider how that data complements the data presented in this paper. Another next step is to analyze the storylines within each case and across the cases, as storylines are an important construct in positioning theory that are not always explicitly or thoroughly addressed in research (Herbel-Eisenmann et al., 2015).

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#### References

Bullough Jr, R. V., & Draper, R. J. (2004). Making sense of a failed triad: Mentors, university supervisors, and positioning theory. *Journal of Teacher Education*, 55(5), 407-420.

Campbell, T., & Lott, K. (2010). Triad dynamics: Investigating social forces, roles, and storylines. *Teaching Education*, 21(4), 349-366.

- Chen, J. L., & Mensah, F. M. (2018). Teaching contexts that influence elementary preservice teachers' teacher and science teacher identity development. *Journal of Science Teacher Education*, 29(5), 420-439.
- Davies, B. & Harré, R. (1999). Positioning and personhood. In R. Harré and L. van Langenhove (Eds.), *Positioning theory*. Oxford: Blackwell Publishers.
- Hart, A. (2020). Interpersonal Dynamics of the Supervisory Triad of Pre-Service Teacher Education: Lessons Learned from 15 Years of Research. *Georgia Educational Researcher*, 17(2), 3.
- Harré, R. (2012). Positioning theory: Moral dimensions of social-cultural psychology. In J. Valsiner (Ed.), *The Oxford handbook of culture and psychology* (pp. 191–206). NY: Oxford University Press.
- Harré, R., & van Langenhove, L. (Eds.). (1999). *Positioning theory: Moral contexts of intentional action*. Oxford, UK: Blackwell Publishers.
- Herbel-Eisenmann, B. A., Wagner, D., Johnson, K. R., Suh, H., & Figueras, H. (2015). Positioning in mathematics education: Revelations on an imported theory. *Educational Studies in Mathematics*, 89(2), 185-204.
- Kayi-Aydar, H., & Miller, E. R. (2018). Positioning in classroom discourse studies: A state-of-the-art review. *Classroom Discourse*, *9*(2), 79-94.
- Levine, A. (2006). Educating school teachers. Education Schools Project.
- Mosvold, R., & Bjuland, R. (2016). Positioning in identifying narratives of/about pre-service mathematics teachers in field practice. *Teaching and Teacher Education*, *58*, 90-98.
- National Council for Accreditation of Teacher Education. (2010). *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers. Report of the Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning.* ERIC Clearinghouse.
- Ronfeldt, M., & Reininger, M. (2012). More or better student teaching? *Teaching and Teacher Education*, 28(8), 1091-1106.
- Wood, M. B. (2013). Mathematical micro-identities: Moment-to-moment positioning and learning in a fourth-grade classroom. *Journal for Research in Mathematics Education*, 44(5), 775-808.
- Valencia, S. W., Martin, S. D., Place, N. A., & Grossman, P. (2009). Complex interactions in student teaching: Lost opportunities for learning. *Journal of Teacher Education*, 60(3), 304-322.