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Becoming a teacher: Coordinating past, present, and future selves with perspectival understandings about teaching

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HIGHLIGHTS

- Teacher identity and teaching conceptions interacted as twin developmental processes.
- Conflicts between theory and practice or between one's ideals and reality were useful.
- Views of becoming new teachers and what teaching would entail grew more realistic.
- Learning to teach flowed from situated perspectives on teaching.
- Continual shifts in inward and outward foci accompanied preservice teachers' growth.

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ABSTRACT

A longitudinal study is presented of how students preparing to become teachers conceptualized teaching and developed their identities as teachers. Findings were that contextualized momentary switchings between student and teacher perspectives accompanied participants' understandings about teaching and their negotiation of the process of becoming a teacher. Dynamic processes involved in constructing conceptions of teaching and self-as-a-teacher unfolded across three semesters, culminating in a more professional identity at program's end. The study contributes to teacher preparation research by making connections among aspects of professional development and suggesting a model of learning to teach, grounded in participants' situated perspectives on teaching.

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1. Introduction

The status of being a preservice teacher brings with it a dilemma: Is the individual a student or a teacher, or both or neither, at different times? Calderhead (1991) claimed that learning to teach may include multiple and complex forms of learning because various areas of knowledge growth occur at the same time. Feiman-Nemser (2008) also implied such complexity by conceptualizing what is involved in learning to teach with four broad themes: learning to *think*, *know*, *feel*, and *act* like a teacher. Although several models or theories describing teacher development have been presented over the past three decades (e.g., Berliner, 1988; Fuller, 1969; Huberman, 1989; Nias, 1989; Ryan, 1986; Sprinthall, Reiman, & Thies-Sprinthall, 1996), models focusing on preservice teachers' learning to teach seem few. Levin (2003) pointed out the lack of coherent theories of teacher development despite the heuristic value of different models from different theoretical perspectives. However, two representative models of preservice teachers' learning to teach, suggested by Hollingsworth (1989) and Kagan (1992), have enjoyed wide acceptance and share common themes. Both suggested that preservice teachers' prior beliefs play a critical role in determining how much knowledge they acquire in teacher education programs and how this knowledge is interpreted. Both discussed that preservice teachers shift their attention from class control to student learning as their teaching experience increases. Also, both models were theoretically grounded in cognitive and information processing perspectives (Levin, 2003).

Increasingly, educational researchers have recognized the importance of considering sociocultural influences that impinge on the individual. Wanting to contribute to the work on preservice teachers' learning to teach, we looked to Greeno and Van de Sande's (2007) conception of perspectival understanding. In this view,

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human cognition is inherently based in perspectives, and one's knowing and understanding is always situated in activity. Taking a perspectival view, we explored preservice teachers' teacher identity development as an ongoing process of changing understandings about teaching. We were interested in how such changes were enacted in their interactions with their teaching context moment to moment.

There seems no argument that teacher education should contribute to the development of the professional identity of teachers, but it is not clear which aspects are relevant and to what extent these aspects are integrated in such identity development. Whereas some studies have connected teacher identity to teachers' conceptions or images of the self (Knowles, 1992; Nias, 1989), other studies have emphasized teachers' roles (Volkmann & Anderson, 1998) or reflection in teacher identity development (Maclean & White, 2007; Walkington, 2005). With respect to the relationship between beliefs about teaching and teacher identity, Mayer (1999) claimed that teacher identity is based on core beliefs about teaching and what it means to be a teacher, and that these beliefs are continuously reshaped in the process of becoming a professional teacher. Additionally, Korthagen (2004) stated that teachers' professional identities influence their beliefs about teaching as well as their teaching actions.

Acknowledging the influence of these perspectives and that the development of one's conceptions about teaching is vital to becoming a teacher (Kelchtermans & Hamilton, 2004), we were curious about how preservice teachers come to think, know, and feel like teachers during teacher preparation. Two research questions guided us: (1) how do preservice teachers develop a teacher identity during teacher preparation?; and (2) how is the evolution of a teacher identity related to preservice teachers' conceptions of teaching? We saw connecting these two developmental processes experienced throughout teacher preparation as affording a way to achieve a more integrated understanding about preservice teachers' learning to teach.

1.1. Self and identity

Research on identity issues has been carried out from multiple disciplinary perspectives, beginning with work in philosophy and psychology. The construct has become increasingly central to the work of researchers in the field of teaching and teacher education. We begin with a brief introduction to the construct of identity broadly construed.

Based on Mead (1934), Nias (1989) distinguished between a *substantial self* (formed in one's early years, influenced by family and immediate culture, and generally resistant to change) and *situational selves* (multiple selves that respond to social encounters by incorporating beliefs and values). As Rodgers and Scott (2008) claimed, *identity* seems closer to situational selves, and distinguishing between the two makes the *self* the meaning maker and *identity* the meaning made, with both evolving over time. Although the relationship between *self* and *identity* is still unclear, *identity* itself is generally defined as referring to who or what an individual is perceived by him/herself and by others (Beijaard, 1995). According to Rodgers and Scott (2008), contemporary conceptions of identity share four basic assumptions: (a) identity is formed within multiple contexts; (b) identity is formed in relationships with others and involves emotions; (c) identity is shifting, unstable, and multiple; and (d) identity involves the construction and reconstruction of meaning over time. Of these aspects, contexts and relationships constitute external influences on identity formation, and stories and emotions act as internal meaning-making aspects. As for the time dimension, a useful approach comes from Markus and Nurius (1986) who described how changes in identity occur over time as well as in the present, as an individual makes use of memories of past selves and imagines a future self to construct a particular present self.

Gee (2001) clarified how identity can be contextual, relational, multiple, and shifting by categorizing four ways of viewing identity: Nature-identity (N-Identity), Institution-identity (I-Identity), Discourse-identity (D-Identity), and Affinity-identity (A-Identity). N-Identity is a way of looking at “who I am” based on nature, and it indicates a state (e.g., I am an identical twin), whereas I-Identity represents a position within an institution (e.g., I am a student at the University of Texas). The third perspective, D-Identity, is a matter of one's individuality coming through in how one talks or is talked about by other individuals, and is constructed in the flow of interactions with others, not by nature or institutions (e.g., “She tells the funniest stories when describing her student teaching”). Last, the source of A-Identity originates in an affinity group made up of individuals who share similar interests across contexts and is acquired through participating in or sharing specific practices as a group member (e.g., an online bookclub reading Johnston's *Choice Words* fan). According to Gee, these four identities are interrelated rather than forming discrete categories, and should be seen as different aspects of how identities are formed and sustained. Woven together to represent an individual as he/she acts within each context, one of these four identities can nevertheless predominate in a given time and place. Thus, identity is not a fixed attribute and but an “ongoing process” of changing from context to context and even moment to moment in interaction with others (Beijaard, Meijer, & Verloop, 2004; Gee, 2001).

More recently, these postmodern perspectives on identity have been extended in Akkerman and Meijer (2011) dialogical approach by considering three dimensions to identity: *unitary and multiple*, *continuous and discontinuous*, and *individual and social*. Building on Hermans' (1996) Dialogical Self theory, the authors claimed that identity should be characterized along all six seemingly opposite, but simultaneously true, dimensions.

1.2. Teacher identity

Aligning with recent conceptions of identity, professional identity is also open to continuous redefinition through negotiating one's self as a social being. One's professional identity is especially related to dealing with professional functions and includes roles, abilities, and values that lead one to commit to a profession (Korthagen, 2004; Maclean & White, 2007). Tickle (2000) pointed out that two aspects, others' expectations and socially accepted images and what teachers themselves value as important, seem intermingled in their professional identity. Similarly, Borich (1999) claimed that teachers' sense of self-identity includes their sense of self in relation to others in professional environments, and it is acquired by accepting professional roles, responsibilities, or obligations as a teacher.

Acknowledging that function and identity are intertwined aspects of what it means to develop into a professional (Walkington, 2005), Mayer (1999) claimed that teacher identity should be distinguished from teachers' functional roles: a teaching role refers to performance required as a teacher, whereas a teaching identity is a personal characteristic encompassing how one identifies with being a teacher or how one feels as a teacher. He also asserted that a fully professional teacher engages an intellectual dimension in addition to “doing the job” of teaching. Core beliefs about teaching, representing the intellectual dimension, encourage teachers to engage in ongoing change in their professional identity as lifelong learners.

Extending Mayer's (1999) claims about the interrelationship between teachers' beliefs and their teachers' professional identity

formation, Korthagen (2004) suggested an umbrella model of levels of change, an *onion model* in his words, as a framework for teachers' reflection and development in becoming a good teacher. The model has six levels of change including the environment as the outermost layer, followed by behavior, competencies, beliefs, identity, and mission as the innermost level. According to Korthagen, professional identity is created as a Gestalt that includes an unconscious set of needs, images, feelings, values, role models, previous experiences, and behavioral tendencies. Teachers become aware of this Gestalt by describing their life path in acts of storytelling about themselves, and the Gestalt influences the outer levels of beliefs, competencies, and behavior. Relatedly, Akkerman and Meijer (2011) conceptualized teacher identity from a dialogical approach, as "an ongoing process of negotiating and interrelating multiple I-positions in such a way that a more or less coherent and consistent sense of self is maintained throughout various participations and self-investments in one's (working) life" (p. 315).

Thus, conceptions of teaching and teacher identity seem reciprocally involved in professional development. Through reviewing 25 studies on professional identity conducted during the period 1988–2000, Beijaared et al. (2004) found that preservice teachers' beliefs were determined by their biographies and were important constituents of their professional identity formation. Similarly, Sugrue (1997) asserted that preservice teachers' lay theories and teaching identities may originate from very early years and are shaped significantly by "immediate family, significant others or extended family, the apprenticeship of observation, atypical teaching episodes, policy context, teaching traditions and cultural archetypes, and tacitly acquired understandings" (p. 222). Thus, the development of one's conceptions of teaching and one's teacher identity are closely related (Cabaroglu & Roberts, 2000). Considering Walkington's (2005) perspective on the relationship between teacher identity and teaching practice, that "the uniqueness of every teacher's approach to teaching, shaped by personal teacher identity is what makes every classroom 'look' different" (p. 54), studying the link between conceptions of teaching and teacher identity promises to provide a more integrated understanding about why preservice teachers teach in the particular ways they do and how teacher educators can help them become better teachers.

1.3. Situative perspectives on learning to teach

Perspectives on learning to teach have progressed over the last 40 years, with earlier paradigms reflecting process-product, student mediation, and classroom ecology approaches to describing the different processes of learning to teach (Floden, 2001). Having reviewed 93 empirical studies about how beginning teachers learn to teach, Wideen, Mayer-Smith, and Moon (1998) grouped them as representing three traditions in teacher education, positivist, progressive, and social critique traditions, claiming that each tradition brings a different view of the learning-to-teach process. From a positivist tradition, teacher education is a process of providing preservice teachers with pre-determined knowledge about teaching and learning whereas a progressive tradition emphasizes the knowledge with which student teachers begin and how they change their knowledge through teacher education. In a social critique perspective, broader issues including preparing teachers for the diversity of cultural backgrounds their students will bring are the concern of teacher education. Ismat (1998) distinguished between two versions of constructivist teacher education: the developmental (Piagetian psychological) and social reconstructionist (Vygotskian sociocultural) traditions, each based in turn on views of how students learn and on the role of the teacher in helping students learn. Similarly, Borko and Putnam (1996) psychological approach to learning to teach is aligned with constructivist or socio-constructivist learning theories. Borko and Putnam addressed how the knowledge and beliefs of novice teachers change as they experience teaching practices, even as beliefs and prior knowledge serve as filters in shaping what and how preservice teachers learn from teacher education experiences situated in particular contexts and cultures.

Against this backdrop of views of what is involved as preservice teachers learn to teach, a newer perspective on learning has grown, the *situative* perspective, rooted in such constructs as ecological psychology, sociocultural views of learning, and distributed cognition (e.g., Belland, 2011; Engle, 2006; Greeno, 1997; van de Sande & Greeno, 2012). Unlike earlier cognitive and constructivist perspectives, this newer perspective emphasizes the importance of physical and social contexts in learning and the role of social interactions among learners as participants in learning communities (Greeno, 2011). Putnam and Borko (2000) pointed out that the situative perspective has been primarily discussed in terms of students' learning and has rarely been applied to the task of learning to teach. The authors connected three conceptual themes as central to a situative perspective on learning to teach, that cognition is (a) situated in particular physical and social contexts, (b) social in nature, and (c) distributed across the individual, other persons, and tools. Peressini, Borko, Romagnano, Knuth, and Willis (2004) applied a situative perspective on learning to the study of how secondary math teachers refined their conceptions of math-specific pedagogy and sense of self as a math teacher by participating in various teacher education contexts.

Recognizing that there have been different perspectives on teacher education research, we agree with Putnam and Borko (2000) assertion that a situative perspective would provide a powerful new lens for examining teaching, teacher learning, and the practice of teacher education for both preservice and inservice teachers. Perspectival understanding encompasses not only building understanding of concepts, but also recognizing that such understandings are colored by the perspectives one takes and are developed through interactive negotiations (Greeno & van de Sande, 2007). A framing assumption of perspectival understanding is that human cognition always reflects a perspective, and constructing a viewpoint is necessary in learning. Developing a perspectival understanding involves resolving constraints or making sense of a learner's practice that one faces in a particular context (Greeno & van de Sande, 2007; van de Sande & Greeno, 2012). In addition, what we mean by perspectival understandings about teaching is similar to Kelchtermans' (2009) concept of "*a personal interpretative framework*" (p. 38). As a set of cognitions and representations that teachers use to make sense of their teaching practice, a personal interpretative framework guides interpretations and actions in a particular teaching context, even as it is modified by meaningful interactions with the context. In our work, we were interested in whether a situative perspective on preservice teachers' changing conceptions would be useful in understanding their growing professional identity.

2. Method

The purpose of this study was to explore how preservice teachers develop their teacher identities as they develop their conceptions of teaching. To capture this process, we designed a longitudinal qualitative study, initiating the study at the beginning of the students' teacher preparation program and gathering data through naturalistic observations and interviews over the three semesters making up the program.

2.1. Context and participants

Participants were nine women students (age 21 to 23 at graduation from the program) and diverse in ethnic background (see Table 1). They were enrolled in the three-semester preparation program, called the *Professional Development Sequence (PDS)*, that prepared students for Pre-K to 4th grade teaching certification.

Before entering the PDS program, students had taken some preliminary education courses such as "Play in Early Childhood," "Individual Differences," "Sociocultural Influences on Learning." Once they began the program, students were grouped in cohorts, depending on personal choice and interest, and supervised by a program coordinator. The PDS program had approximately ten cohorts at the same point in the program, and each cohort had one program coordinator and two or three graduate student facilitators. Our participants were all in the same cohort, called the "cultural diversity" cohort, in which they were required to do three successive internships in nearby elementary schools in the same low-income district so that they could experience teaching students from culturally diverse backgrounds. Participants had to choose kindergarten or pre-kindergarten classrooms for the first internship, but for the other two internships, schools and grade levels usually depended on their preference, informed by their coordinator. Our participants' choices of grade levels for the three internships appear in Table 1. Both coordinators and facilitators helped students finish the program successfully and cared about their progress. The coordinators supervised students' coursework and internship placement schedules, and the facilitators observed students practicing their teaching in placement classrooms and gave them advice about their lessons. Our participants had a particularly close relationship with their coordinator, with some of them describing her as their "school mother." Besides face-to-face communication, students used an online forum (called *Teachnet*) where they could share information contact fellow cohort members, their coordinator, and their university professors.

So that students would be gradually exposed to more school contexts and became familiar with school curricula, routines, and events, the number of hours for working in the field increased with each semester. Along with various more general courses (e.g., *Applied Human Learning*, *Classroom Management*) and more focused subject methods courses (e.g., *Elementary Language Arts*, *Elementary Social Studies*), they spent 12–14 h per week in pre-kindergarten or kindergarten classrooms (first semester) and 16 h per week in 1st–4th grade classrooms (second semester). In the third semester, students were at their placement school every day for the full school day, except for Mondays when they took their last required course at the university in the morning and worked at their placement school in the afternoon. During apprentice teaching, individual students had to prepare teaching lessons in cooperation with their cooperating teachers under their program coordinator's supervision. Student teaching began in the second week of the 14 weeks of the last semester. At first, preservice teachers taught only one or two subjects using their cooperating teachers' lesson plans. Gradually they took over more subjects and used more of their own lesson plans, until they came to teach all subjects in a day using only their own lesson plans, hence the name *total teaching*. In addition to the cooperating teacher, each student was observed by the coordinator and facilitator three times respectively during the total teaching period.

2.2. Data collection procedures

We used several data collection procedures: interviews and observations supplemented by audiotaping, collection of artifacts, and administration of online questionnaires. In addition to *triangulation* established by the use of multiple and different data sources and methods, the trustworthiness of this study came from what Lincoln and Guba (1985) called *prolonged engagement* and *persistent observation*, achieved by our relatively long and continuous relationship with the preservice teachers. Our classroom observations were conducted in two different settings: the university classrooms and participants' placement school classrooms. Because the focus of our study was on exploring preservice teachers' development of their teacher identities, it was vital that we observe how they positioned themselves or were positioned by others in these different contexts.

The primary data source was the face-to-face individual interviews, audiotaped and later transcribed. Interviews, which were semi-structured with open-ended questions, were of two types: end-of-semester and reflective interviews (see Appendix for actual interview protocols). The first set occurred at the end of each semester with questions structured in five areas: (1) learning experiences in coursework, (2) internship experiences, (3) current conceptions of teaching and any noted changes in these conceptions, (4) self-identification in both contexts, and (5) confidence about being a teacher. Beyond these common areas, each semester's interview had distinctive foci. In the first semester, students were asked about past K-12 learning experiences and how they had come to choose teaching as their profession, whereas in the third semester, students were asked about their student teaching and to describe their overall PDS learning experiences. These interviews took place in an office, and ranged in length from 30 to 80 min, with the majority between 45 and 60 min long. Thus, interview data came from 27 interview transcripts (three for each of the nine students).

Conducted in the third semester, reflective interviews were designed to offer the preservice teachers a chance to reflect immediately on a lesson just delivered. These occurred mostly right after a teaching session (or during the lunch break of the same day) because timing was important for the quality of data. We designed

Table 1
Participants' background information.

Pseudonym	Ethnicity	Original major	Prior teaching experience	Internship grade level		
				2009 Spring	2009 Fall	2010 Spring
Amanda	Caucasian	Education	1½ years	Pre-K	1st	1st
Madison	Caucasian	Math	1½ years	Kinder	5th	3rd
Michelle	Caucasian	Education	2 years	Kinder	1st	3rd
Paula	African-Amer.	Education	3 years	Kinder	1st	1st
Jackie	African-Amer.	Education	2 years	Kinder	4th	4th &1st
Sally	Latina	Psychology	1½ years	Kinder	4th	Kinder
Maxine	Caucasian	Business	½ year	Kinder	3rd	Kinder
Jane	Caucasian	Education	1½ years	Pre-K	4th	3rd
Heather	Caucasian	Speech Path	1½ years	Kinder	4th	Pre-K

these interviews to allow the preservice teacher to explore what had been of greatest concern while teaching, and we asked about thoughts and feelings, and teaching strategies and actions. These interviews usually occurred in a private corner near the placement classroom, and lasted between 8 and 30 min, with the majority between 10 and 20 min long.

Supplemental data came from students' responses to questionnaires about their perceptions and reflections and their final papers detailing their teaching philosophy and personal discipline system, collected as the first and second semesters ended. Additional data came from observational field notes and analytical memos. These helped us to keep a record of our thoughts about our data and provided useful insights in later analytic sessions.

2.3. Data analysis

In line with Corbin and Strauss (2014) qualitative methods and a grounded theory approach, data analysis began immediately during the first semester of data collection with extensive memos and field notes reflecting on puzzlements and emerging insights. Later data analysis was conducted in two phases reflecting our two research questions: Phase 1 involved *open, selective*, and *axial* coding with a focus on how students were developing their teacher identities. Phase 2 was focused on exploring the relationship between conceptual change and teacher identity construction and building a grounded theory of the central phenomenon.

In Phase 1, we started the process by reading the transcripts of the end-of-semester interviews repeatedly for relevance to the research questions. We identified any meaningful chunk by labeling them with such phrases as “Own early schooling experiences,” “Prior conceptions of teaching,” “Confidence in own teaching,” “Internship experience.” We used both *down reading* and *across reading*, the first (reading all of one semester's interview transcripts across participants) to identify characteristics of that semester's experiences that seemed associated with the students' development of their teacher identities, and the second (reading each participant's interview transcripts across the three semesters) to note patterns of individual differences in learning and identity formation.

Having engaged in *open coding*, that is, the process of identifying and closely examining units of meaning for similarities and differences, we grouped together similar units to identify properties and dimensions specific to a particular concept or theme. We next engaged in *axial coding* to elaborate on the initial open codes through a process of constant comparison, looking for similarities and differences to other dimensions and for relations among them. Relationships among categories provided a fuller explanation of the central phenomenon, and a basis for addressing the research questions. Coding for self-identification issues resulted in two single identity categories, *student only identity* and *teacher only identity,* and three dual identity codes, *equal student and teacher identities*, *student-dominated identity*, and *teacher-dominated identity*. Observation field notes were used to triangulate these identity codes.

In the second phase, we hoped to gain insight into what characteristics appeared as students' teacher identities evolved, and how these characteristics were related each other. Attempting to find discernible patterns in the development of conceptions of teaching and teacher identity, we thoroughly examined each case, leading us to postulate how each student recognized herself as a teacher and experienced evolution in her self-image (within-case analysis). In the next step of *integration,* we compared and contrasted across cases to integrate categories and find relationships between the two developmental aspects, rereading all memos and field notes, constructing a large chart of all case analyses, and creating a storyline of the central phenomenon. This phase required a continuous comparison across data sources and analysis techniques until the analytic story seemed to fit the data well, and all categories seemed logically linked, with an emerging explanation and interpretation about the relationship between students' conception of teaching and their teacher identity.

As with any qualitative study, issues of reliability and validity were addressed by careful consideration of the canons of trustworthiness. In addition to prolonged engagement, persistent observation, triangulation, and thick description, *peer debriefing* was useful throughout this analysis phase, with informed colleagues helping us justify our categories and interpretation by reading transcript inserts and observation memos in several sessions.

3. Findings

Our findings are presenting in five sections. We begin by discussing three emerging themes about the process of developing a teacher identity. We then illustrate how preservice teachers' perspectival understandings about teaching and self-as-a-teacher were intertwined with growing professional identities, and, in the last section, present a model of the process.

3.1. Reflecting past selves: preservice teachers' initial images of themselves as teachers

Like the preservice interns in Hollingsworth's work (1988, 1989), nearly all participants reported having prior images of themselves as teachers before entering the program, strongly influenced by their self-images as learners. These images were revealed in their description of their favorite classes or teachers or their decision to become a teacher, as Madison reflected in her interview: *“A lot of the ways I think about teaching have come from my experiences as a child and the teacher I liked and what/how I learned the best.”* Five of the participants mentioned that they had always wanted to be a teacher, recollecting playing teacher with friends or siblings in childhood. Using their memories about their favorite teachers and classes, they imagined how they would be around children as a teacher, as illustrated in the following comments: “ *… . Because those two teachers were genuine and concerned about my education … that's how I want to be with my students. I want them to have joy in their learning*” (Michelle); *“I admire that in that teacher. I wanna teach like her, just trying to find good in all my students*” (Jackie). Interestingly, teachers' qualities were very often explicated, and five of nine preservice teachers generated such characteristics of a good teacher as *caring, supporting, welcoming, genuine, patient, warm* or *passionate*.

Not all memories reported were positive. Some participants included negative learning experiences (e.g., hated taking tests, bored with sitting all day long and doing assignments, had to show excellence to be the teacher's favorite, etc.) in their recollections, but these negative images also influenced their initial conceptions of self-as-a teacher.

By contrast to other participants, Maxine had only thought about becoming a teacher recently, stating she could not name a teacher who had figured in her decision to switch her major from Business to Education. She decided to become a teacher after realizing that she was good at giving friends advice and enjoyed helping fellow students. Thus, at the program's start, her image of herself as a teacher seemed vague, compared to her peers.

Preservice teachers' initial images of self-as-a teacher seemed to influence how they responded to interview questions about how they currently conceived of teaching. Two contrary perspectives appeared in their views about the difficulty of teaching itself:

whereas Sally reported having thought that teaching would be hard because teachers need to know everything about every subject, others described early views of teaching as just being around kids and having fun with them. Thus, preservice teachers' initial images of self-as-a-teacher overlapped with their perspectives about what teaching is.

3.2. Identifying present selves: dynamic shifts in self-identification in different contexts

The participants' present selves were recognized differently depending on context, contrasting the university classroom and the elementary classroom where they worked as intern teachers. Five types of self-identifications were significant: (1) student-only identity, (2) teacher-only identity, (3) equal-student-and-teacher identity, (4) student-dominated identity, and (5) teacher-dominated identity. Whereas Categories (1) and (2) indicated single identities, the other categories represented dual identities, each with a different balance between thinking of themselves as a teacher and as a student. Most preservice teachers had dual identities in both contexts rather than single identities, but generally, Category (4), the student-dominated identity, appeared more in the college classroom, whereas Category (5), the teacher-dominated identity, was more evident in the elementary classroom. These different emphases in identity were not simply based on the kinds of acts in which the participants were immediately engaged (learning acts vs. teaching acts), but also on how others such as their professors, cooperating teachers, or children positioned them.

The preservice teachers' self-identifications were not fixed but continuously changed moment by moment within a context. They saw themselves as teachers in the elementary classroom because their cooperating teacher (CT) and the children treated them as a teacher as they engaged in teaching tasks. Nevertheless, even in the elementary classroom, there were times when they saw themselves more as a student than a teacher, such as when their CT helped them out for a college course project or when they took notes about classroom set-ups. Madison mentioned that even while teaching a lesson in front of the whole class, she felt equally like a student and a teacher (*equal-student-and-teacher identity*) because she was learning from her students whether her teaching approach was working or not:

> *I am learning just as much from them. I think you need to always assess yourself as a teacher and you always need to know there is room for change … That's my job and that's what I am. I am giving them knowledge and scaffolding them, facilitating their learning and guiding them. That's my role. But also, when I teach, I want to do this strategy and I know it's not working, I have to learn that from them and to change it.*

Likewise, in their college courses, preservice teachers identified themselves as a teacher when asked how to apply what they were learning to their teaching practice. The design of courses influenced preservice teachers' self-identification in the classes. For example, in the science method class taken concurrently with the last semester of the PDS program, they were required to explore how to do an experiment using given materials and to work as a group at every class. Because of these class activities, they generally felt like a student during this class. Depending on the topic, even if using the same format of a discussion activity, they identified themselves differently. Michelle expressed how she identified herself differently every week in one class in her first semester of the program:

> *When we had our discussion on stereotypes, I feel like I had to put on my teacher hat, and say, "ok, here's how I want my classroom to be run." When we talked about lining the kids up, I thought I don't want to do a boy and girl line. Whereas with self-regulated learning, I thought more as a learner because self-regulating learning applies to me as a learner, like, I am still learning new things, but as a teacher, too because I wanted to talk about self-regulated learning with my CT, seeing if my CT offers that, and thinking how I would do that in my own classroom.*

Aligning with a contemporary view of identity, preservice teachers' identities were responsive to context and shifted moment by moment. Amanda explained the process of identity switching in the college context:

> *I identify myself more like a student when I am reading [course materials] and from first hearing about it and taking notes. That's when I feel like a learner. But when I get to [college] class, I am more, like, in teacher mode because I am defining and giving my view on it. I feel like I understand it, I can envision it in my mind. How it can relate to my future as a teacher. Once I can make that connection between what I read and learn and what I plan in my future, that's when I feel like I switch into a teacher.*

Amanda's comments clearly reflected how preservice teachers made the switch from student to teacher role, and vice versa, with reflection vital in the process. While actively engaging in a process of self-recognition and self-revelation, they focused on their deeper self-as-teacher. This self-development is similar to what Conway and Clark (2003) referred to as an inward focus of attention, moving from self-survival concerns toward developing the self-as-teacher.

3.3. Projecting future possible selves: becoming a teacher

A third theme related how, in addition to influences emanating from their past, preservice teachers were influenced by their envisioned future. As Amanda indicated, switching modes from learner to teacher and taking a teacher's perspective in her university classroom was one way of projecting herself as a future teacher that helped her feel "real" about being a teacher. With a strong awareness about the purpose of their learning in the college classroom, they seemed involved more actively in their learning and sought ways to apply their knowledge through projecting their future identities as teachers, as shown below:

> Michelle: *We are all teachers, like, in our classes, because I feel like whatever I learn in the classes, I can apply it to my classroom eventually one day. Even if I don't do it now, I will someday.*

> Jackie: *I think both [identify myself as a student and also as a teacher] because I am learning what to do and then thinking as a teacher how I can use it in the classroom. So, I think I am trying to do both at the same time. That's why I liked to see the examples of how teachers use it in the classroom, instead of just what to do.*

Another way of projecting themselves as teachers was for preservice teachers to work in the field through their internship experiences. The internship experiences during the first two semesters encompassed observing their cooperating teachers' teaching, working with students in small groups, leading calendar time or reading aloud time, teaching four to five lessons, and attending teacher-parent conferences. Interestingly, many reported some conflict between what they were learning in the college classroom and what they observed in the elementary classroom, noticing a gap between theory and practice. This dissonance, rather

than confusing them, seemed to play a positive role in validating the effectiveness of what they had learned and elaborating their conceptions of teaching. Even though they sometimes experienced negative feelings such as anger or discomfort, they learned what to do and what not to do from these conflicts, projecting themselves as future teachers:

> Sally: … *every teacher has their highs and lows, and things that I just didn't agree with. I don't even think that they did something wrong. It just wasn't what I would want to do with my kids. So, I took good and bad from each of them.*

> Jane: *I had a lot of times of observing teachers sitting up there and leading activities in the class. I started to feel I wouldn't wanna do that in my classroom because, like, specifically in math class, the math teacher just sits up there and just talks, tries to teach, but half of the students were not paying attention and doing something else.*

As Jane commented, keeping students on task and engaged in what they are doing was an important goal for her for her future teaching, a point addressed by many of our participants.

Student teaching was very different from the other internships they had experienced in the previous two semesters in terms of the amount of time and responsibility required. During the period of *total teaching,* the preservice teachers had to attend their placement schools every day, and they taught all subjects to all students using their own lesson plans. This experience made preservice teachers understand individual students' academic needs, background knowledge, and abilities and to see their students' growth. As Michelle stated, *"I loved to be in the classroom every day because it gave me an opportunity to see the kids and see their needs and to build lessons around these needs.* [Before, I didn't] *really get opportunities to see them grow as much as this semester."* Through opportunities to interact closely with their students and to use their own lesson plans, they seemed more reflective and realistic about what to expect from students and what would or would not work: *"The ways my kids behave toward me have made me change my ideas about teaching. So, definitely, every time I was teaching them, I reflected on what worked and didn't and tried something different the next day"* (Heather). Along with more sophisticated understandings of students, these preservice teachers were developing clearer conceptions of themselves as teachers.

3.4. Perspectival understandings about teaching and the self-as-a-teacher

From the three themes focused on teacher identity development addressed in the previous sections, we saw the relationship between two developmental aspects, conceptions of teaching and teacher identities, coming together as follows: as they learn to teach, preservice teachers take their past learning experiences into the present and use these as a reflective mirror for evaluating their current learning and shaping images of themselves as future teachers. During these processes, preservice teachers take a teacherly perspective and draw an integrated understanding about teaching that is directly connected to what/how they want to teach in the future. In this way, preservice teachers' perspectives about self and teaching grow together and reciprocally influence each other (see Fig. 1 for two examples).

However, preservice teachers' current aspirations for their future did not always reflect their actual teaching in the present as a teacher-in-training. Some constraints as an apprentice teacher made them fail to teach what and how they wanted to teach, as illustrated in the following comments:

> Sally: *That was hard to try to find the balance between trying to implement teaching strategies I've learned here [names her university] and also trying to scaffold my teacher's desires, like, what she want me to do in the classroom.*

> Madison: *I didn't get to the method I have been taught at [names her university], they kinda figure it out themselves, and you're to guide them, not to tell them, you know what I mean? I told them and then guided them. So, that was because of the situation with the state standards tests, and they were third graders.*

Some constraints existing in their placement school, such as time limitations, the expectations of their cooperating teachers, or the emphasis on district standards seemed to create some struggles and dissatisfaction with the role preservice teachers found themselves enacting in their school placement. In the process of interacting with certain constraints on and affordances for their learning, preservice teachers negotiated their images of the teacher they were striving to be, modifying their beliefs about what good teaching entails. As shown in Fig. 1, Heather had imagined herself a strict teacher early in the first semester, but later gained the idea that children naturally need freedom to learn. After her student teaching, she modified her perspectives on teaching again, recognizing the importance of some structure in young students' learning in a negotiated synthesis of her early, later, and latest ideas.

Interestingly, each participant's self-image as a teacher seemed directly related to her self-confidence about being a teacher. For most, their self-confidence increased as the semesters passed, and by the end of the third semester, most stated they now felt like a teacher and expressed excitement about having their own classroom. However, a few participants admitted strong trepidations about being a teacher. This was particularly true of Madison and Maxine who expressed concerns about their readiness to be a new teacher, as shown by their responses to the question, "Do you feel like a teacher now?" Both answered that they would not feel like a teacher "*until I really have my own classroom*" or "*until ten years.*" By the end of the program, both came to hold strong constructivist views of teaching that were compatible with their program's perspectives, and they shared common characteristics in their conceptions of teaching, such as being critical of what they observed in their internship and struggling during student-teaching, either with class management issues or with explaining concepts to children.

Aligned with Weinstein's (1988) *unrealistic optimism,* a term she used to refer to preservice teachers' tendency to believe that they would experience less difficulty on several teaching tasks than is reported by the average first-year teacher, the majority of our preservice teachers expressed that they had not realized that teaching would require so much effort and time before starting the program. As Jane stated in the second semester interview:

> *I thought this job was taking care of kids and having fun and helping them to learn something, but now I realize that there is so much more than that. I mean, you ultimately have to prepare students for either how their education will go or getting a job. And now, my mindset is toward the content that I am teaching and how I can teach versus hanging out with kids and having fun. It's getting a lot more serious.*

Jane's comments showed how her perspectival understandings about teaching were changing from simplistic and affective views to a more nuanced understanding, which led her to realize the responsibilities entailed in being a teacher. Madison and Jackie

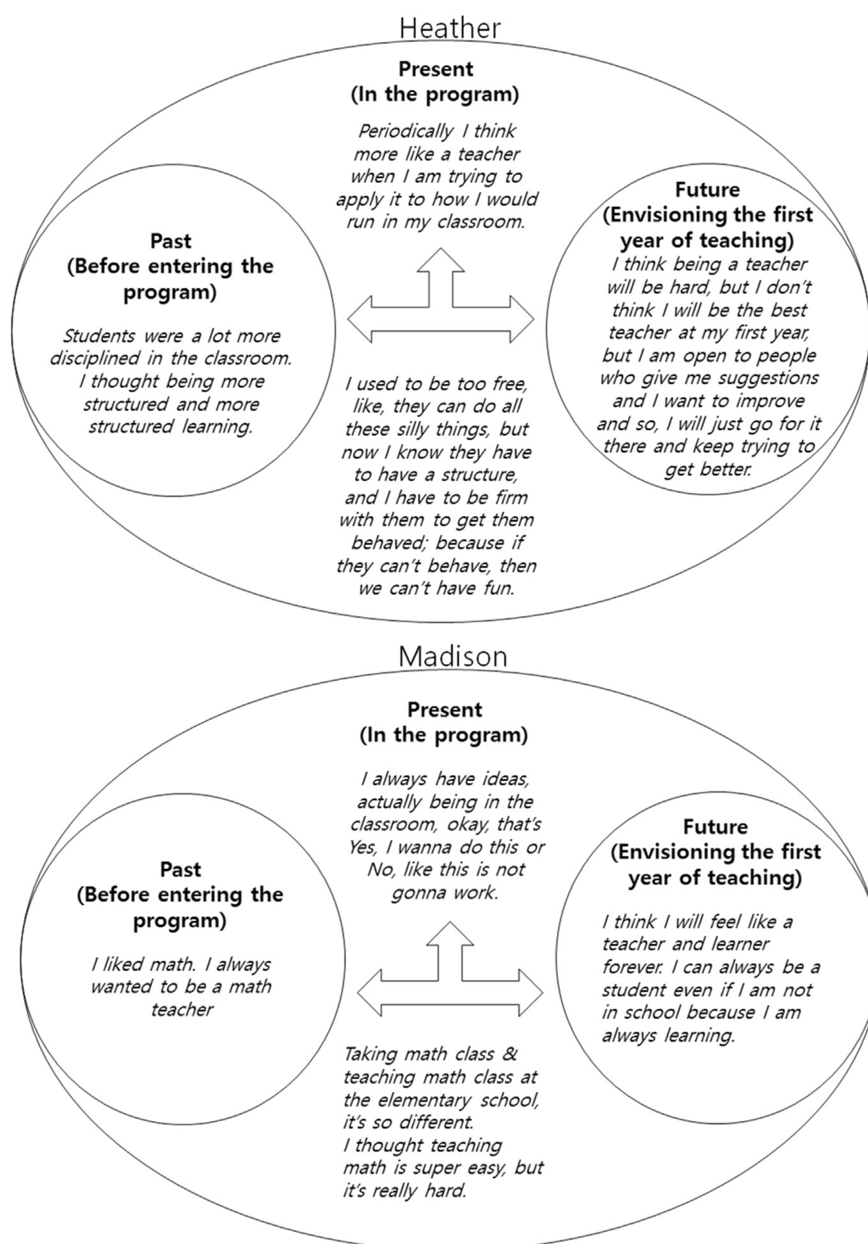

Fig. 1. Examples of perspectival understandings about teaching and self-as-a teacher.

even expressed that they felt "scared" and "pressured" about being responsible for students' knowledge and lives for one year, feelings that were still present at program's end. Even as our participants reported gaining confidence and feeling more ready than in the previous semester at every interview, their expectations about their first year of teaching became more realistic, expectations that were nevertheless still waiting to be tested by their first full-time teaching position.

Preservice teachers' realizations about the demands of teaching came not only from their awareness about the high workload that they observed in the field but also their deeper understanding about the nature of teaching itself. For example, Madison was very confident about teaching math because math had been a long-time favorite subject, one in which she had excelled as a student. However, through teaching math lessons to her students during the second semester, she realized that knowing math and teaching math were very different matters (see Fig. 1). Paula also mentioned that she now realized the work needed behind lesson planning because she had to consider many aspects in order to make even one lesson plan, and she found it more difficult and time-consuming than she had expected: *"We have to think so broadly and find out how to teach, what works best. It was definitely different and I learned a lot, especially with lesson planning, behind the scene work."* Similarly, Michelle addressed the need to put in special effort when teaching diverse students, to consider the students' different cultural backgrounds, knowledge, ability levels, and academic and social needs. These preservice teachers' growing awareness of the complexity of teaching reflected conceptual growth that served as a basis for envisioning themselves as future teachers.

3.5. An integrative model of developing teacher identity and conceptions of teaching

The main question we addressed in this study was how preservice teachers' development of their identities-as-a-teacher would be related to their conceptual growth about what teaching comprises. Our response takes the form of an integrated model presented in Fig. 2. In this model, the two developmental aspects, conceptions of teaching and teacher identities, share basic resources for professional growth throughout teacher preparation. From our data, we saw that prior beliefs about teaching and prior images of self-as-a-teacher were mostly shaped by our participants' *apprenticeship of observation* (Lortie, 1975) and reciprocally influencing each other. Newly acquired knowledge and perspectives about students seemed a crucial component for both aspects of development. Preservice teachers used their expanded knowledge about students to acknowledge, modify, and reconstruct their beliefs about teaching and their prior self-images as teachers, resulting in more sophisticated understandings about what it means to be a teacher. These changes are represented in Fig. 2 by ovals that are increasing over time, with a bright area to refer to a growing perspectival understanding about teaching and a dark area to refer to a growing sense-of-self-as-teacher, eventually leading to a teacher identity grounded in more sophisticated perspectival understandings about teaching.

The two developmental aspects are also related in that both journeys require a similar mechanism of development, but are maintained on different tracks. The realization of a gap between theory and practice, between their ideal and reality, or between their pre-existing beliefs and newly acquired beliefs about teaching acted as a starting point of development. Some degree of cognitive dissonance triggered preservice teachers' continuous evaluation of what they were learning and experiencing throughout the teaching preparation program, leading them to develop perspectival understandings about teaching, on the one hand, and self-as-a-teacher, on the other. In this way, our participants' teacher identities evolved together with their conceptions of teaching, and both influenced one another. Our model illustrates this dynamic mechanism by representing the two different trajectories as intertwined and as developing through spiraling phases.

The intertwined twin spirals encompassing growing ovals were meant to capture the developing sense of self-as-a-teacher and conceptions of teaching, the trajectories of change these preservice teachers experienced. New perspectival understandings about teaching were constructed when their knowledge about students expanded and they considered other teaching environment conditions, paying attention to factors beyond themselves; simultaneously, they maintained their focus on themselves as teacher-to-be, developing their teacher identities. Preservice teachers' identities in the course of learning to teach were influenced by their past images of teachers and conceptions of teaching, and by their projection of themselves as a teacher in the future, intertwined with how they positioned themselves in a teaching moment. Aspects of these participants' teacher identities and conceptions of teaching will not be completely established even in their beginning years of teaching and will continue to change as Heather explicitly envisioned (see Fig. 1).

4. Discussion

Before discussing our findings and situating them in the context of the existing literature on learning to teach, we need to address characteristics of our participants and context that should be considered when considering the transferability of our findings. Our participants were elite students who had been admitted to a selective university. Furthermore, the kind of teacher preparation they were experiencing held twin goals of fostering a deep theoretical grasp of what teaching involves as well as introducing students from the beginning to strong field-based experiences to actual hands-on teaching experiences. Other teacher preparation programs, in fact most in the state where this study took place, were not as selective in their admission requirements nor as intensive in their field-based philosophy of teacher preparation. Keeping these limitations in mind, we saw our findings as providing promising results for a better understanding of how preservice teachers become teachers.

4.1. Ongoing journey of becoming a good teacher

Rather than adopting a student-only or a teacher-only identity, most preservice teachers expressed dual identities, experienced in situated ways in their university and placement classrooms. How they identified themselves in these two contexts was itself subject to moment by moment changes, influenced by factors such as what they were doing, how others positioned them, and what activities or topics engaged them. In the process of learning to teach, our participants actively engaged in self-reflection and self-actualization, suggesting three general processes of teacher identity development, *reflection*, *identification*, and *projection*. These processes worked together as preservice teachers' reflections on their past selves influenced their present selves in immediate learning/teaching situations, and their present selves showed the influence of their projected future possible selves. Thus, shifts in self-identification in the present brought about modifications of

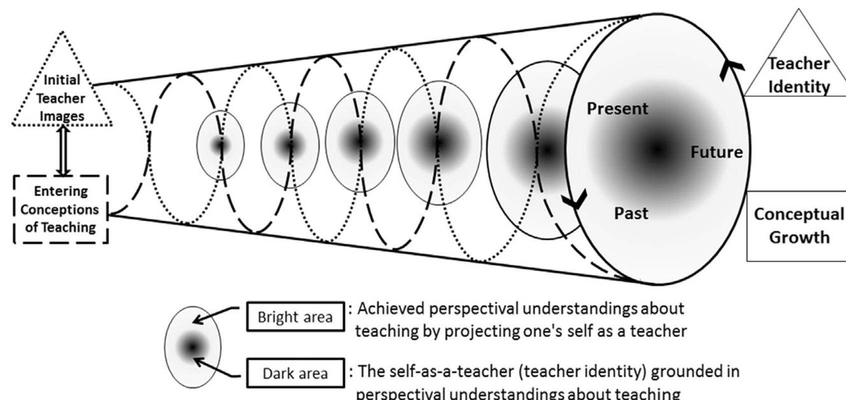

Fig. 2. A model of the interrelation between teacher identity development and conceptions of teaching.

how past and future selves were envisioned. These processes co-occurred in parallel development in their conceptions about teaching, resulting in teacher identities that were grounded in conceptual growth. As Markus and Nurius (1986) conceptualized, possible selves act as one critical domain of self-knowledge, bringing in how individuals think about their past and potential future to provide an evaluative and interpretive context for their current self-views.

This process can be explained in terms of Akkerman and Meijer (2011) dialogical approach to teacher identity: in particular, one's multiple, and possibly conflicting, identities are dialogically and intersubjectively exchanged, with one taking temporary dominance in a negotiated space that requires the managing of multiple pedagogical beliefs and wrestling with a sense of fulfillment as a teacher. In this way, teacher identity entails unity and continuity, resulting in a narrative about one's self that includes one's routinized personal teaching behaviors. Therefore, we do not think that it necessarily helps in developing a professional identity as a teacher to think only like a teacher and to have only a teacherly perspective in learning-to-teach contexts. Instead, shifting between the two identities of a teacher and learner and negotiating multiple and discontinuous identities in various contexts contributes to developing a unified and coherent teacher identity.

The relationship between preservice teachers' conceptions of teaching and their identity development can be explained in terms of their attention focus. Whereas their conceptual development about teaching required their outward attention (e.g., focus on students, other teachers, or school environments), the processes of teacher identity development depended on an inward focus on themselves at a deep inner level. Aligning with recent studies that emphasized the importance of a journey inward in beginning teachers' professional development (Conway & Clark, 2003; Poulou, 2007; Watzke, 2007), our findings suggested that this inward journey of self-growth as a professional teacher is intertwined with a concomitant outward journey of developing conceptions of teaching. These journeys seemed inseparable, existing as external and internal aspects of the same developmental trajectory. Thus, as preservice teachers progressed in their understanding about the nature of teaching, their self-actualization as teachers became solidified. Reciprocally, projecting themselves as teachers provoked conceptual change and allowed change to become more permanent. Connecting to what Akkerman and Meijer (2011) referred to as the *social nature of identity*, our findings help elucidate how internal and external positions within the self can emerge together with one defining the other. In other words, preservice teachers develop internal positions within themselves (e.g., "I as a teacher" or "I as a lifelong learner" or "I as an enjoyer of teaching") concurrently with growth in external positions that are part of their envisionment such as "my students," "my colleagues," "my teaching" or "my classroom." Critical to the process of constructing and negotiating their identities and conceptions of teaching are both significant others, including parents, peers, pupils, professors, or supervising teachers, and the social rules and conventions of the social environment in which preservice teachers find themselves.

More importantly, our findings suggest that two aspects of teacher development, conceptual development and teacher identity, interact to enable what Kelchtermans (2009) called for, narratives of becoming a teacher in the journey of growing one's professionalism. As Kelchtermans stated, "narratives are considered to be a powerful way to unravel and understand the complex processes of sense-making that constitute teaching" (p. 31). For preservice teachers, learning what teaching is and how to teach requires them to go beyond simply following personal tendencies and beliefs; rather, it inevitably involves a process of understanding contextual dynamics, negotiating multiple positions, and designing a relationship between teaching and learning. Therefore, as we have done in this study, teacher preparation needs to be approached from an integrative and situative view of teaching and learning if deeper insights into the teacher development process are sought.

4.2. Implications and future research

We saw a theoretical contribution of our findings in that we grounded the process of preservice teachers' learning to teach in a situative framework on perspectival learning, bringing with it an emphasis on contextual influences and on how learners' growing understandings reflect a perspectival trajectory from past conceptions to projected future use of new ideas. Aligned with Kagan's (1992) model of professional development, knowledge of self and knowledge of students are essential components in the journey of becoming a teacher. For her, acquiring knowledge of students and of self is a primary task for novice teachers, as their schemata for pupils and self-as-a-teacher evolve together. However, Kagan considered novice teachers' attentional shifts as unidirectional, claiming that, once the image of self-as-a-teacher is resolved, novice teachers move their attention to instructional design and finally to pupils' learning. Although she emphasized the importance of self-focused attention at the initial stage of teacher development, the inward focus in her view does not seem needed once clarity about the self-as-teacher is achieved. As such, our study both supports and challenges Kagan's (1992) professional growth model.

The bi-directional aspect of our model is also distinct from Hollingsworth's (1989) model of learning to teach. Hollingsworth implied a one-directional successive shift in teachers' attention focus, suggesting that acquiring *general managerial routines* has to occur before *subject content and pedagogy* become a teacher's focus, and then, interrelated managerial and academic routines need to be established for teachers to be able to attend to *students' learning from academic classroom tasks*. Also, whereas Hollingworth's model emphasized these three areas of teacher attention as well as personal, program, and contextual factors, our model focused on how teacher identity grew along with changes in conceptions of teaching, and on the dynamic relationship between these two aspects of growth.

Thus, this study helps elucidate how complex are preservice teachers' developmental trajectories as these work together to result in different engagement of learning-to-teach processes. Understanding preservice teachers' professional development would be enhanced by research conducted with beginning teachers in their first year of teaching because a teacher's first year will likely include change of context and responsibilities. In addition to research using ongoing self-report measures of our study's key constructs of conceptions of teaching and identity-as-a-teacher, our study suggests the need to explore the processes of learning to teach by taking seriously the perspectival change implied by Kelchtermans and Hamilton's (2004) shift from "knowing how to" to "being some-one who."

Several years ago, Bullough and Baughman (1997) suggested that a primary goal of teacher education programs is to help students build a professional teacher identity. Our study supports the need to attend to how preservice teachers regulate dual identities in context, self-as-a teacher and self-as-a student, and how they develop a teacher identity during teacher preparation. Aligned with recent work (e.g., Czerniawski, 2011; Furlong, 2013; Pillen, Beijaard, & den Brok, 2013), this study underscores the importance of teacher educators as "significant others" in fostering a robust teacher identity. Acknowledging the value of preservice teachers'

early schooling experiences and prior images about teaching and teachers, teacher educators should also be sensitive to students' projected future selves, supporting a dialog in-the-present between students' lay theories and their possible selves in learning-to-teach processes. Preservice teachers would benefit from opportunities to evaluate their current conceptions of teaching and teachers and to engage consciously in shaping their identities even though such self-reflection may cause some uncomfortable tension. Finally, this study encourages teacher educators to engage preservice teachers in seeing themselves as lifelong learners on a continual journey to becoming a good teacher.

Appendix. Interview protocol

<End-of-semester interview questions>

1. Tell me about your experience in elementary school.
   Prompt: How did you feel about going to school? Who was your favorite teacher? What kind of student were you?
2. Tell me about your experience in middle/junior high school
3. Tell me about your experience in high school
4. Do you think your learning experiences during K-12 influence your learning now in the class or your internship in some way? How?
5. Tell me about any experience you had related to teaching like tutoring, after-school teacher, volunteer in school, or anything else.
6. Tell me the story about how you decided to be a teacher
7. Think about what you pictured a teacher to be (or teaching to be) before starting this semester. Did you have to modify or adjust your original picture as a result of what you have learned? How hard or easy was this to do?
8. What was your first impression of the elementary school, classroom, kids or teachers you are working with as an intern? Did you see any gap or difference from what you pictured before going to the elementary school?
9. How do you feel about your learning experience of XXX class so far?
10. How do you feel about your internship experience so far?
11. Have you been seen any gap between what you have learned in the class and what you observed of students or what you applied to the students in the elementary school? How did you adjust the differences?
12. Has your conception of teaching changed in any way this semester? What caused the changes? If not, why don't you think so?
13. Did you identify yourself as a student or a teacher or both in that class? What do you think made you identify yourself that way?
14. How do you identify yourself in the elementary school? Why?
15. What is your current view about students and how they learn? What is your current view about good teaching?
    Prompt: What do you think is the most important role of a teacher? What kind of classroom do you want to create when you have your own classroom?
16. Tell me how confident you are about being a teacher.
    Prompt: what strength/weakness do you think you have as a teacher?
17. How many times did you do full teaching this semester? Reflecting on your lessons, what methods do you think you used the most in your teaching? What was your basic concern during your teaching? Can you define what your role was in your teaching?
18. Did you feel any challenges in preparing or conducting your lessons?
19. Reflecting in the all classes you took in the PDS program, which class do you think was most helpful to you? Why?
20. Reflecting on all CTs you worked in your placement, who do you think was most helpful to you? Why?
21. How was your relationship with your coordinator/facilitator? Can you share their evaluation or advice about your teaching?
22. Imagine you are in your first teaching job. Can you describe what will be going on in your classroom?
23. How do you feel about being a new teacher? What is your biggest concern about being a new teacher? Do you feel like a teacher now?

♣ 1–8 items were used only in the first semester; 17–23 items in the third semester only.

<Reflective interview questions>

1. How do you feel about your teaching today? Tell me whatever this question makes you think about.
2. How did you expect your students to learn in your class? How well do you think your students learned?
3. Why did you plan *the activity* or *the teaching strategy (indicating a specific one she used in class)*? Where did you get the idea for the activity or strategy?
4. How well do you think the activity or the strategy worked? If you could do something differently next time, what would it be?
5. Was there anything that you changed, that did not follow your lesson plan? Why did you make that change? What did you consider in making the change?
6. How do you feel about yourself at the moment you were teaching? Did you feel like a teacher while teaching? What made you feel like that? Are there times you feel more like a teacher and times you feel less like a teacher?

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