

Making sense of teaching through metaphors: a review across three studies

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The purpose of this paper is to synthesize findings from three studies that have addressed the conceptualization and application of the metaphor construct to the study of teachers and teaching. With respect to the perspectives of elementary and secondary preservice teachers, we specifically examined how the particular metaphors they used indicated conceptualizations of and orientations to classroom life, and how these metaphors influenced teachers' approaches to teaching, curriculum, and their work with pupils. We frame the discussion in light of the larger literature on the relationship of teachers' beliefs and practices as it relates to learning to teach and teacher education. The paper provides implications for linking the research reported with contemporary ideas for teaching and teacher preparation.

Keywords: metaphors; beliefs; practices; novice teachers; teacher education; teaching

Over the past two decades researchers and teacher educators have shown increasing interest in metaphor research as a means to better understand how teachers conceptualize their most basic views about schooling, life, children, curriculum, and teaching. There is a growing body of international literature that supports the study and use of teacher's metaphorical images in understanding how they conceptualize their work and themselves in that work (Inbar, 1996; Martinez, Saulea, & Huber, 2001; Oxford et al., 1998; Saban, Kocbeker, & Saban, 2007). More recently researchers have followed teachers into their classrooms to see where and how metaphorical images held by teachers influence their interactions with children and their actual teaching practices. This paper will synthesize findings from three studies that have addressed the conceptualization and application of the metaphor construct to the study of teachers and teaching. Further, the paper will provide some implications for linking the research reported with contemporary ideas for teaching and teacher preparation.

Metaphors

One way of examining preservice teachers' beliefs is to identify the conceptual devices they use to make sense of their work and lives. Perhaps the most potent of these devices is the metaphor. For the purposes of this line of research, metaphor refers to those analogic devices that lie beneath the surface of a person's awareness, and serve as a means for framing and defining experiences (Hardcastle, Yamamoto,

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Parkay, & Chan, 1985; Neisser, 2003; Yamamoto, Hardcastle, Muehl, & Muehl, 1990). Teacher beliefs are derived from held metaphors (and relationships between them) and are what teachers believe to be true about their work. Much of the earlier research has focused on preservice teachers who have already been enrolled in several education courses or on inservice teachers (e.g., Bullough, 1991). Less research has focused on change in metaphors over a period of time or on how metaphors in use by students relate to the theoretical orientation of a teacher education program.

Humans use words and images to interpret life, their experiences, and even their sense of self. ‘Metaphor,’ according to Yob (2003), ‘is employed when one wants to explore and understand something esoteric, abstract, novel or highly speculative ... Knowing and how human beings come to know (education) are also highly speculative notions with succeeding generations of thinkers promoting novel theories about how it should be conducted’ (p. 134). These ideas about knowing and coming to know, as well as the beliefs that preservice teachers bring with them to their teacher preparation programs have been systematically studied only within the last two decades (Bullough, 1991; Bullough, Knowles, & Crow, 1992; Carter, 1990; Connelly & Clandinin, 1988; Kagan, 1992; Parsons, Brown, & Worley, 2004). According to this literature, preservice teacher candidates have definite beliefs about pupils and classrooms, as well as, distinct images of themselves as teachers. Researchers like Bullough et al. (1992), Butt and Raymond (1987), and Pajares (1992) have argued convincingly that such beliefs influence not only how individuals think and practice during teaching, but also how they interpret the experience of teaching as well. A group of English teachers in Gillis & Johnson’s (2002) study, for example, interpreted teaching literature as time in ‘a hot tub – social, bubbly, inviting, relaxing, intimate, intimidating, steamy, private, too hot for comfort, baptismal, restorative’ (p. 40). Using a short story, ‘The Monkey’s Paw,’ as a novel metaphor, a different group of educators summed up their beliefs on a vexing aspect of their teaching lives – federally funded curriculum reform. ‘It appears as if it is a gift but it is not a gift,’ these reading teachers lamented (Craig, 2005, p. 197).

Earlier, the publication of Lakoff and Johnson’s (1980) *Metaphors We Live By* sparked a growing interest in the study of metaphor as a means of identifying how teachers understand themselves and their profession (e.g., Martinez et al., 2001; Munby, 1986; Provenzo, McCloskey, Kottkamp, & Cohn, 1989; Tobin, 1990). This interest has been based largely on the idea that metaphors offer a potent, if not primary, means by which people conceptualize and eventually come to understand their life experiences.

The particular interest of the researchers here has been to identify the dominant metaphorical views of preservice teachers, to understand how these images are reflected in their respective views of schooling, life, childhood and teaching and how these images come to influence their work in the classroom. We agree with Hardcastle et al. (1985) and with Cook-Sather (2003) that metaphors are the larger constructs under which people organize their thinking and from which they plan their actions on the multiple environments in which they participate including, to some extent, how they teach and work with students.

Investigating metaphor

Over the past decade, we have conducted three studies in which we sought to understand the perspectives that preservice teachers bring to their work; how the particular

metaphors selected by students served as indicators of their conceptualizations of and orientations to classroom life; and, finally, how those metaphors influenced students' beliefs and approaches to teaching, curriculum, and their work with pupils. This paper is a synthesis of the findings of these research efforts.

In the three studies, we utilized an instrument titled 'What Was School Like.' The instrument has a long research history with cross-cultural populations, established validity, and extensive research use (Hardcastle et al., 1985; Yamamoto et al., 1990). Yamamoto and his colleagues (1990) developed the instrument through a comprehensive review of the education literature selecting constructs commonly found in the literature to describe life, schooling, and children. The six-part questionnaire is found in the Appendix of this paper.

Part 1 solicits demographic data. Part 2 directs students to recall their elementary and school experiences and to check the listed metaphors that best describes each. Possible metaphors include family, team, garden, circus, prison, zoo, stage, crowd, factory, and other. Part 3 asks students to check their ideal school environment with the aforementioned metaphors. Part 4 asks students to respond to a series of items that described themselves using a four-choice Likert scale (i.e. strongly agree to strongly disagree). Part 5 asks students to think about life, childhood, and teaching. Their choice of life metaphors include following a trail, going down a river, climbing a mountain, tree growing, rippling water, chasing a rainbow, bird flying, ocean waves, or their own creation. Childhood metaphors include bubbling spring, trapped animal, flower blossoming, wind, cloud, dark night, or their own creation. In Part 6, students self-select eight adjectives to describe their ideal student, teacher, parents, and school administrator. Respondents to the survey have the option of self-reporting their own metaphors or choosing from the lists provided there is a metaphor there that accurately reflects their views of schooling, childhood, and life. In our experience with the instrument, we have found that most respondents work with the metaphors provided; some secondary teachers (notably English and social studies) did self-report their metaphors, but no elementary teacher in our studies has ever done so.

There have been other methodologies used to enable students to express beliefs such as life-history interviews and narrative accounts (Kelchtermans, 2005), matching images of themselves with drawings of other occupations, e.g., animal keeper or entertainer (Ben-Peretz, Mendelson, & Kron, 2003), portfolio essays (Parsons et al., 2004), questionnaires and surveys (Minor, Onwuegbuzie, Witcher, & James, 2002), and open-ended responses (Bozlk, 2002). Goldstein (2005) has noted the difficulties some preservice teachers may have in constructing their own metaphors and, therefore, suggests a procedure for providing students with a pre-selected metaphor with which to connect their nascent teaching lives. The latter was the method chosen for the studies reported here.

Three studies

For Study 1 (Mahlios & Maxson, 1995) and Study 2 (Mahlios & Maxson, 1998) the six-part questionnaire designed by Yamamoto et al. (1990) was administered to all elementary ($N = 134$) and secondary ($N = 119$) education majors at a large southeastern university in the USA. Statistical procedures used to analyze the quantitative data consisted of frequency counts, Chi-square, and analysis of variance. Content analysis procedures as described by Ball and Smith (1992), and the SAS cross-tabs program were applied to open response items.

For Study 3 (Massengill, Mahlios, & Barry, 2005), the six-part questionnaire was given to 50 secondary education majors at a Midwestern US university. One participant from each of the five content areas represented in the questionnaire (English, science, social studies, mathematics, and foreign language) was chosen randomly. Largely because of time and resource constraints, we selected five participants. Face-to-face interviews lasting 60–90 minutes were conducted by one of the authors with the five preservice teachers. Our intent was to provide a forum for them to elaborate on their beliefs about teaching in general and their specific beliefs about teaching in their content area to students with a range of abilities. The interviews were audio taped and the interviewer took notes.

Based on willingness and opportunity to participate, the selected individuals from each of the five content areas were observed. Three observations were conducted for each: two during their internship and one during the first year of teaching. Observations ranged from 45 to 90 minutes to coincide with class periods. A ‘continuous recording’ procedure was used to record observational information. Additionally all observed lessons of the selected five students were audio taped and transcribed. The five preservice participants shared written lesson plans to verify content information. Follow-up interviews were conducted after the second year of observations to see if there were changes in beliefs about teaching in general and content instruction in particular. Member checking (Lincoln & Guba, 1985) was used when researcher and participant interacted to ensure accuracy.

Against the brief review of the metaphor construct and some of our earlier research in this area, we now turn to an examination of three studies that illustrate what we have learned about the influence of metaphors on the perspectives that preservice teachers bring to their work, how particular metaphors indicate conceptualizations of and orientations to classroom life, and finally how metaphors seem to have influenced teachers’ approaches to teaching, curriculum, and interactions with pupils.

Studies 1 and 2

Perspectives

In our first two studies (Mahlios & Maxson, 1995; Mahlios & Maxson, 1998), we focused on identifying dominant metaphorical views of preservice elementary and secondary teachers and their respective views of schooling, life, and childhood. We described perspectives on teaching taken by these elementary and secondary preservice teachers. We argued in these research reports that metaphors are representative of the larger constructs under which teachers organize their thinking and from which they plan their actions in the multiple environments in which they participate including how they work with students and select teaching practices. Following from the work of researchers like Ausubel (1963), we operated from the notion that individuals tended to have consistent ways of perceiving and conceptualizing their environment – namely, that metaphors and relations among them constitute cognitive structures and are the basis for generating beliefs that guide practice. From the selected metaphors, we hoped to develop a more detailed and comprehensive understanding of our students’ perspectives on teaching, curriculum, and their work with pupils.

From this prior work, we learned that our elementary and secondary teacher education students remember their elementary school experience as being a focused, cohesive, positive, social activity, as being in a family or on a team. While they also view their secondary school experience like this, some hold views of high school as being

less positive and cohesive (i.e., prison/crowd). For both levels of schooling, students' preferred images were positive, social phenomenon (i.e., family and team). These results were consistent with those of an earlier study involving students in the USA and in other countries (Hardcastle et al., 1985).

The participants were asked to choose metaphorical images of life and childhood. Elementary majors chose four metaphors of life (tree, ocean, mountain, and trail) for 80% of their responses; secondary majors selected the same metaphors, which accounted for 55% of their responses. Eighty percent of elementary preservice students chose the metaphors of a flower blossoming (64%) or a bubbling spring (14%) to describe their childhoods. In contrast, secondary preservice teachers chose flower, spring and wind for 60% of their responses and 'other' for 29%. The differences between elementary and secondary teachers have been a constant over the course of our studies. The possible explanation for the differences probably reflects differing views of children and schooling at these levels.

When contrasting the selected metaphors by elementary and secondary participants, it appears that in most cases their choices are more similar than dissimilar, with two major exceptions. First, the secondary participants supplied 'other' metaphor choices (5–15% of the time) in all four categories (elementary and secondary school, life, and childhood) reported, while elementary participants declined from choosing 'other.' Second, elementary participants were more than twice as likely to describe their high school experience as like being in a family (43%) compared to their secondary peers (17%).

Contrary to our findings, other studies have noted rather marked differences between sub-groups. For example, in their large scale ($N = 1142$) study of Turkish preservice students, Saban et al. (2007) found differences by elementary and secondary program type. Their elementary or 'Classroom Teaching' group generated more 'shaping-oriented,' 'growth-oriented,' and 'counseling-oriented' metaphors than their secondary or 'English education' counterparts. Their secondary group produced more 'facilitation-oriented' images.

Interpretations for our findings of similarities might be understood on two levels. First, most studies in this area use open-ended instruments to solicit metaphors and related constructs. As noted in the investigating metaphor section of this paper, we have used a closed-form approach in which we supplied the metaphor list and from which participants made choices. The provided metaphors are tied to dominant constructs in the professional education literature and are not necessarily ones that individual teachers-to-be might have developed as a function of their own life experience. In short, we framed the choice of metaphor based on widely accepted themes in the professional education literature. We recognize that the narrative psychology tradition offers yet another perspective from which to interpret the findings, namely every individual is the ultimate author of his/her life story. By seeking coherence in life across experiences we construct a life narrative (Bruner, 1987) of which metaphors and the self emerges (Blackmore, 1999). Second, our subjects are a highly selective group of students. We admit a small number of undergraduates via a very competitive admission system; thus, we may have sampled a more homogeneous group than may be found in the larger teacher education population of students nationally, thereby reducing sub-group differences.

In sum, it appears that the two groups of teachers-to-be share some considerably similar metaphorical views. The favored life metaphor for both is that life is like a tree growing and the majority felt that being a child is like a flower blossoming – metaphors

that have been identified in other studies with similar populations and in roughly comparable proportions to that found in this study (Yamamoto et al., 1990). These metaphors suggest the notion of organic development, either of the 'organic' kind, suggested by Ashton-Warner (1973), i.e., that is deep-seated and fully contained within the individual, created, and affected by one's life. Both interpretations pose potential conflict for candidates in some teacher preparation programs where the dominant theme is that knowledge and the development of knowledge and self are socially constructed.

Conceptualization

One of the objectives of Study 2 (Mahlios & Maxson, 1998) was to look within metaphorical categories to examine the adjectives respondents supplied in order to gain a better understanding of their formation of various adult roles (parent, teacher, principal). To do this, we drew on the concept of metaphorical entailments as defined by Lakoff and Johnson (1980). Entailments describe how two metaphors link, and, thus, forecast possible cognitive structures guiding thinking and practice possibilities. We wondered if persons within the same metaphor groups would select similar adjectives to describe these adult roles. In order to address this particular research objective, we cross-referenced the most frequently selected adjectives by the most frequently selected metaphors of life and childhood. We found some interesting entailment patterns within each group, as well as some interesting contrasts between the groups. Our findings suggested that for at least some of the metaphor groups there may be core traits, or entailment relationships, that are central to the notions of teaching, and that these traits may cross grade level concerns. Further, our data analysis suggests that preservice teachers as a whole enter the profession with some common preconceptions about roles (for students, parents, and teachers) that may influence how they approach their professional preparation.

We started with the idea that preservice teachers would separate themselves into distinct groups by root metaphors that would provide complex descriptions uniquely consistent with these particular analogical views. What we found instead was considerable overlap in the descriptions (adjectives) across the metaphor groups. This finding suggested that students may be operating from simplistic and naive views of children that ignore actual differences in the root images that some teachers-to-be hold within themselves. These findings are consistent with some of the developmental and life span/contextual models of teacher development noted by Pintrich (1990). They also support Comeaux's (1992) finding that preservice teachers differentiated between the way they preferred to learn as students and the methods they selected for use with their future pupils. Namely, as students, they enjoyed learning in-groups and dialoguing with their teacher, yet they designed lessons for pupils utilizing didactic methods.

In these earlier studies, we were also interested in identifying whether students' sense of teaching could be used as an indicator of their unique conceptualization of and orientation to classroom life. One hundred twenty elementary and 118 secondary participants responded with metaphors or words to express their sense of teaching. The dominant theme that cuts across both elementary and secondary teacher candidates is the tendency to idealize teaching and children. For example, teacher candidates view childhood as innocent and a time of freedom and choice. They believe students are eager to learn and ready for the information they will present. In many ways, the teacher candidates see their future role as teachers as easy.

Four additional themes emerged from their collective sense of teaching: teaching as guiding (leading students to new knowledge), teaching as nurturing (teachers provide environment that supports growth and development), teaching as stimulating (teachers prod and encourage learners), and teaching as telling (teachers pass on information and knowledge). Interestingly enough, these were the same top four categories of conceptual metaphors generated by Puerto Rican teachers at a TESOL convention (Guerrero & Villamil, 2002).

Study 3

Entering classrooms

Drawing on our findings about preservice students' conceptualizations of children and teaching and how these influenced their practice, we conducted our third study. Having previously concluded that there was little difference between elementary and secondary preservice teachers' perspectives and conceptualizations, we focused this third study on 50 secondary education majors at a Midwestern university. We selected one preservice teacher whose metaphor profiles conformed to those identified in Studies 1 and 2 from each secondary content area (English, science, social studies, mathematics, and foreign language) for further analysis. The selection criteria included metaphors (life, childhood, etc.), adjectives of idea roles (student, teacher, parent, etc.), and overall sense of teaching described in detail in Study 2 (Mahlios & Maxson, 1998). For the purpose of synthesis and length of this manuscript we will report on two of the five preservice teachers (see published study 3: Massengill et al., 2005, for all five profiles). We have chosen to present these two profiles as individual case studies. Each begins with the preservice teacher's beliefs and metaphors about schooling and teaching, life, and childhood. Further, teaching scenarios are described to illustrate relationships between the participant's beliefs and practices. Changes that may have occurred between the internship year and the first full year of classroom teaching are discussed.

Case Study 1: Svetlana

Svetlana, who teaches science, emphasized the idea of 'growth' throughout her responses. For example, Svetlana said life is like a tree growing because one continually learns and grows. Reflecting on her own childhood when her parents helped and encouraged her to think and explore, she described being a child as like a flower blossoming. Svetlana said secondary school should be like a garden where everyone knows a wide variety of people and they are supportive of each other. She concluded by describing her sense of teaching as, 'At first a young tree, then growing to be a strong tree. A young tree because I am still learning what I need to know about being an effective teacher, but eventually becoming more sure of myself and my abilities.' Svetlana rarely spoke directly about what constituted support, but emphasized how various experiences and situations in life helped her grow as a person.

During Svetlana's student internship, we observed one classroom biology lesson. Svetlana's instructional practice represents her metaphor of gardening: for her, a garden is a safe place where students can be nurtured through teacher-student interactions; there are a variety of people in a garden and each will have different needs; students respect others' differences and support each other; and, as students are free to think and explore, they grow in their knowledge.

During this biology class, students studied anatomy (respiratory/circulatory systems). They were dissecting a fetal pig, an activity on which they had begun in the previous class period. Students came into class, and Svetlana told them to continue working with a partner on their pig dissection. She encouraged the students to work together and to support each other. They started their assignment while Svetlana walked around the classroom meeting with small groups based on their needs. As Svetlana circulated, she created many opportunities to discuss content and interact with students. She regularly provided positive affirmation to show her support for learning. By providing feedback and leading students to new knowledge through her interactions, Svetlana saw herself ‘helping students think and grow.’

A second example of Svetlana’s teaching occurred during her first year as a full-time teacher. This time her biology class was studying protozoa. Again, we saw that her acts of teaching seem consistent with her perceptions and conceptualizations of support and growth.

She began class by giving students a quiz. They were allowed to use the concept maps they had made while reading the text chapter. After the quiz, Svetlana discussed the answers with the students to provide immediate feedback. Next, she provided more background information and used websites to show illustrations of various *protists*. Students were then told to join with a partner of their choice. They were asked to look through a microscope at six slides of *protists* and draw what they saw. The practice of directing students to work collaboratively and to support each other in their learning exemplifies Svetlana’s metaphors of schooling and life. Svetlana walked around and talked to students, constantly offering information and advice.

Just put algae on that. You might find some euglena. No, just look around. You got some new pond samples. (Student commented). Sue, do you want some protozoan? See if it’s flowing down because you might not spot amoebae too quickly. No, no mixed diatoms. We’re going to save those.

As Svetlana asked questions and assisted students, she believed she was matching her conceptualization to practice by helping them think and learn. When students finished the microscope task, they were asked to put their things away and use a work sheet. After 15 minutes, Svetlana asked the students to pull out their concept maps again. These served as summary tools. She directed them to add relevant information while she discussed real world connections via diseases caused by protists and the effects the diseases had on humans (e.g., African sleeping sickness). At the conclusion of her lesson, Svetlana assigned students to read the next section in their biology textbook, make a concept map and be prepared for a quiz on Monday.

The context of these sample-teaching scenarios provides more information about Svetlana and her conceptualizations of teaching. As a new teacher, the reality of teaching required dealing with numerous management issues. Although the students did not always react to her discipline, they responded to her content information and her questioning when she interacted with small groups. Based on our observations of Svetlana, we concluded that she played the role of gardener by scaffolding her students’ learning. Further, she provided occasion for the students to know a wide variety of people (by working together) and to support each other in their learning of concepts. In Svetlana’s mind, these were opportunities for her to operationalize her secondary school gardening concept of students ‘supporting each other.’

In the post-interview at the completion of her first-year of teaching, Svetlana said she maintained her original beliefs, although she admitted to some modification with the metaphor of, 'a child is like a flower blossoming.' She said that some students were like the wind and others acted like they were in a prison. At that point, Svetlana seemed to begin to realize that childhood is not entirely ideal although a safe, nurturing learning environment is ideal. Svetlana indicated that inquiry teaching was 'much harder done than said,' but she felt inquiry was essential to her view of good teaching. She reverted to more lecturing than she originally intended because she felt students did not understand the curriculum if she didn't lecture. Svetlana affirmed her sense of teaching as consistent with the growth metaphor – that her roots were growing and she was feeling a bit stronger and a lot sturdier in her teaching because of one year of experience. In sum, Svetlana consistently spoke about and reflected the 'growth' theme as a major focus in her thinking and practices about schooling, life, children, and teaching.

Case Study 2: Juan

Juan, a social studies teacher, believed that life is like following a trail. 'As we go through life, we are confronted by choices (forks in the road) and obstacles, which we must overcome to continue going down the path we select.' Juan's view of childhood is like a flower blossoming. 'Children grow and "blossom" as a flower, but need good ground and care to fully develop into what and who they are.' Further, Juan felt secondary school should be like being on a team. He believed the teacher and students should work together to achieve common educational goals. Juan's sense of teaching reflected his view of secondary school and life. 'Teaming is the way in which we help others reach their potential. As teachers we guide children, giving them the tools and hopefully the environment to fulfill their dreams and abilities.'

Juan clearly expressed the idea that other people are important in reaching one's potential, i.e., teaming provides support; children need good care. Juan's ideas are internally consistent: sense of teaching (teaming and guiding), ideal school (teaming and working together), metaphor of life (following a trail), and being a child (need good care for a good learning environment). Thus, for Juan, education helps prepare students for the path they select in life, and teaches them how they can deal with obstacles that will come their way and how to make wise choices when dealing with life problems.

Juan's first sample teaching scenario occurred during his student internship experience. It represents his attempts to match his metaphor of teaming to his instructional practice: defining a team; each member belongs; each member has a role; the members learn to work together and support each other; and the team moves forward with a common goal. The class was American History and students were reviewing for a test to be taken the next day by playing the game Jeopardy.

In a game format, two teams were formed with a common goal of reviewing information and answering questions correctly. Teammates were available to assist as a lifeline if a student on the team did not know the answer, and they also worked together to decide how much to wager for the final question. The game followed the sequence in which Juan asked a question to one team member and the student answered. Then Juan usually clarified or expanded the student's answer. For example,

Okay. That's good. You were right. A lot of times, basically what the flappers did was to help try to change the perception of women. By doing that, they did things like smoking,

drinking, driving. Not necessarily at the same times. Wearing short skirts, bobbing their hair.

Through his actions, Juan sought to guide students to knowledge clarification and the creation of new knowledge. The game continued to be played and the students responded to Juan, and seemed to be enjoying the game review (e.g., 'Andrea is about to explode over there.'). Throughout the lesson, Juan provided positive reinforcement with statements like 'good job' or 'very good.' He gave students the benefit of the doubt when possible, therefore encouraging engagement. Classroom interactions appeared to illustrate Juan's belief that as a teacher, he should provide students with a safe learning environment, improve their academic knowledge and abilities; and work together to achieve socially negotiated educational goals.

The second sample-teaching scenario occurred during Juan's first year of teaching social studies. Although the lesson portrays less 'teaming,' Juan believed it still reflected his sense of 'guiding.' The class period began with students and teacher talking about current events. During this time, students could share information they had heard on the news or questions they had about current events. Juan explained many events, which he characterized as guiding and scaffolding students to expand their knowledge and understanding. Next, Juan answered students' homework questions. Juan discussed the homework assignment and students often were willing to read their answers. Juan typically responded with one of the following, 'Okay. Very good. That is correct,' thus attempting to create a positive environment through affirmation of student work efforts. Students turned in their homework assignment after tallying their points. The main focus of the day's lesson occurred when Juan gave the students a diary excerpt from a mother who had a son in war. Juan wanted the students to understand how this excerpt related to the war we are currently fighting with terrorists. He frequently related the past to the present.

The context of Juan's classroom also provides insights into understanding his teaching behavior. After two years of contact with Juan, it was evident that his typical lesson included questioning and discussion. Many students participated even though Juan rarely called directly on a specific student. Juan attempted to create a team-like atmosphere for Jeopardy and other class games and projects. However, he said that these interactions created management issues. Therefore, Juan said he resorted to more lecturing than he originally intended because it was easier to cover content with limited time and planning and maintain control of the class. His goals for the following year were to make the curriculum more hands-on, with role-playing, and simulation activities, which would lend themselves to more collaboration. Juan spoke of the importance of being a good role model. He also said he tried to respect students and not single out any one of them.

Juan named teaming and guiding as his life and school metaphors. Through his teaching, Juan attempted to establish a guiding environment by questioning students and discussing knowledge, such as chapter review, current events, and new learning material. Juan frequently guided through scaffolding, clarifying, and expanding on the information students provided. He said that his understanding of teaming meant that they should all work together toward the common goal of successfully learning course content. Juan also felt he was teaming with his students when he respected them and expected their respect for him and each other in return.

In sum, it appears that our two preservice teachers' beliefs remained similar after one year of actual teaching experience. In our data we found that the teaching context

contributed to the reaffirmation of beliefs with only some slight changes in basic conceptualizations of teaching and children over the two years of Study 3. These beliefs and conceptual metaphors of both Svetlana and Juan stand in stark contrast to the findings of Cook-Sather (2003). It is her conclusion that the two metaphors that historically and currently still dominate US schooling are (1) education as production with the school as a factory and (2) education as remedy with students as diseased individuals in need of a cure. Cook-Sather concludes that the school needs to become a more 'revolutionary' site.

Practices

The purpose of the third study (Massengill et al., 2005) was to observe the ways in which metaphorical constructs influenced teachers' work with their students over the first two years of teaching. We were interested in seeing whether modifications occurred in teaching metaphors as a result of changes in content taught, student characteristics, and the environmental context of learning.

Of these two participants, Svetlana selected the metaphor of life as a tree growing, while Juan chose the metaphor of life as following a trail. Both participants viewed childhood as a flower blossoming, which indicates their belief that interaction with children should focus on nurturing, care, gentleness, and innocence. In essence, these teachers felt it was their responsibility to create a student-centered environment that promoted growth. This idea is also reflected in their sense of teaching which they perceived as a growing experience for themselves and their students. It should also be noted that both participants' metaphor of life, childhood, and sense of teaching remained fairly consistent over the two-year time period of this study.

Juan (social studies, team, trail) believed that students should be guided to new knowledge and understanding. In his lessons, Juan typically began each lesson with a discussion of current events. As students mentioned news that interested them, Juan would supplement their knowledge and clarify misunderstandings. He incorporated team games like Jeopardy to encourage collaboration and keep questioning lively. If particular responses were disputed, students were told to find the answers in the book, and he was flexible enough to accept responses that were reasonable but different from those given in the teacher's manual. Juan also used study guides, note taking, visuals (photos and video clips), and 'writing to learn' via research papers. Multiple texts (e.g., primary source documents as well as texts and reference materials) were used to foster critical thinking.

Another way Juan guided by scaffolding his students was in the grading of a homework assignment. Juan did not simply read the answers or indicate correct/incorrect responses. Rather, he took the opportunity to discuss each question/answer, helping students to deepen their understanding of the focal idea. He provided students with feedback on their first drafts of research papers with 'corrections' and 'suggestions.' Juan regularly asked students if they needed clarification and he shared his methods of problem solving via 'think aloud.' Through these examples, Juan guided students to new knowledge and understanding.

Svetlana (science, family, and tree) believed that teaching is a form of nurturing and it was her responsibility to create an environment that promoted student academic growth. Svetlana taught in block-schedule classes, and during her instruction, she frequently provided students opportunities for hands-on experience. For example, during lab, Svetlana interacted with students, answered questions, clarified science

concepts, and gave students feedback. She realized science terminology was difficult, so she often reviewed terms with students to help them comprehend the vocabulary. Further, Svetlana used several analogies to help students learn concepts, (e.g., a spleen is a leech-looking object and trachea is like a hard washboard).

Both case studies illustrate well-documented phenomenon of novice teachers attempting to match their beliefs and teaching style. Even though beginning teachers face numerous challenges, there is evidence that they seek to relate their beliefs and practices. As Richardson (1998) pointed out, 'I found that when a teacher tries new activities she assesses them on the basis of whether they work: Whether they fit within her set of beliefs about teaching and learning, engage the students, and allow her the degree of classroom control she feels is necessary' (p. 2).

Discussion

The discussion examines our findings in light of the larger literature on the relationship of beliefs and practices as it relates to learning to teach and teacher education. To date, Richardson (1996) provides the most comprehensive synthesis of research related to this topic. We have used her framework to interpret our findings and have categorized the discussion into three relevant areas: relationship of beliefs and practices in learning to teach, teacher education, and recommendations for future research.

Relationship of beliefs and practices in learning to teach

A belief is a proposition, or statement, accepted as true by the person holding the belief, but which actually does not have to satisfy a truth condition as knowledge does (Green, 1971; Munby, Russell, & Martin, 2001). In literature, related terms are often used interchangeably for beliefs and include the following: attitudes, beliefs, conceptions, theories, understandings, practical knowledge, and values (Richardson, 1996). In our research, we have used the construct of metaphor and assert that metaphors are psychologically held understandings that lead to beliefs about the world that are felt to be true. Teachers hold beliefs in clusters (e.g., life metaphors, schooling metaphors, childhood metaphors) and each cluster within a belief system may be protected from other clusters (Green, 1971). The clusters may not be necessarily parallel to one another and thus, incompatible beliefs may be sustained by an individual. Tacit belief clusters that are not examined explicitly may remain latent in the individual. It was our goal to look at the consistency of beliefs through profiles of metaphors, adjectives, and sense of teaching, and the concept of entailment patterns among and between elementary and secondary preservice teachers.

In comparing elementary and secondary participants' responses, there are some differences among metaphorical beliefs and subsequent practice, yet far more similarities. For example, the participants idealized childhood and shared similar views of life (i.e., life is like a tree, ocean, mountain, or trail). Differences were more noticeable with regard to adjectives describing ideal adult roles. For example, secondary participants put more emphasis on intellectual qualities for both adult and student roles, whereas elementary teachers felt nurturing was a most desirable quality. Overall, elementary responses were more homogenous and positive than the secondary ones. In our studies, we did not find much differentiation between elementary and secondary preservice teachers. Therefore, our findings were incongruous with previous research (Richardson, 1996) that says there are clear distinctions between elementary and

secondary preservice teachers. Perhaps, our data are different because our institution's teacher preparation program is highly competitive and selective. Writing samples are used in the selection process for prospective elementary and secondary students. It may be that faculty choose individuals who display nurturing, supporting, and developmental dispositions, thus skewing our sample. Our analysis indicates that there are core metaphorical views that most teachers hold regardless of the grade level they teach: namely, that they idealize childhood and have a common perspective on life.

The relationship between belief and action is interactive or 'bi-directional' as Haney, Lumpe, Czerniak, and Egan (2002) explain, 'and as such, one construct tends to influence the other' (p. 181). Beliefs drive actions, and in turn, experiences and reflection of actions may lead to changes in beliefs. As Cochran-Smith and Lytle (1990) said, teachers' beliefs and theories are 'sets of interrelated conceptual frameworks grounded in practice' (p. 7). Further, Schubert (1991) described the operation of beliefs and actions as 'a union of theory and practice in reflective action' (p. 214). We concur that the participants' root metaphors and sense of teaching affected their conceptualizations and orientation toward classroom practices. It is also noted that the participants' beliefs and their relations to practice showed no noticeable change over two years of teaching. It appears that their practices reaffirmed their conceptualizations and beliefs and that the influence of perspectives and practices is indeed bi-directional.

Beliefs, the proposition of truth, derive from three sources: personal experience, previous schooling, and formal knowledge. Richardson (1996) suggests that metaphors originated from personal experience like the model Connelly and Clandinin (1988) and Bullough, Knowles and Crow (1992) have used in their work. In our study, we found that the preservice teachers' metaphors often originated from their own childhood and elementary schooling experience. Above all, the findings for metaphors of life and childhood suggest that beginning teachers see the school as an environment that needs to nurture children. The data show that students believe the schooling experience should be like a family and/or team. In the American culture, the concepts of family and team are both built upon notions of caring, support, and interdependency of their members. The selected adjectives similarly describe these functions for adult roles. The emphasis that teaching should be grounded in interpersonal relationships was predominant among the secondary preservice teachers, which is consistent with previous studies (e.g., Brookhart & Freeman, 1992).

The nurturing conceptualization appears to be common among many elementary and secondary teachers, including preservice ones and has been documented by several prominent researchers including Bronfenbrenner, 1979; Combs, 1982; Heck & Williams, 1984. The feminist literature also reports that nurturing has typically been related to the caring professions like teaching (Johnson, Bruce, Graham, Oliver, Oppong, Park and Mansberger 2005). This perception may create a dissonance between student ideals and teacher preparation programs, especially when the education program emphasizes the primacy of academic content knowledge (Korthagen, 1995). There is a notion that well-conceived teacher education programs have a clearly expressed definition of 'good teaching' and thus specific goals for beginning teachers.

Research has shown that the ability to change beliefs of preservice teachers is more difficult than for inservice teachers. Change usually occurs when the context of a classroom experience powerfully influences teachers' beliefs and knowledge (Richardson, 1996). Therefore, it appears that teachers' beliefs change with practice and experience.

We, however, did not see any modification of their thinking. When asked to re-evaluate their sense of teaching and metaphors of life, school, and childhood, the participants chose not to make changes. This indicates the persistence of ideas (i.e. metaphors, beliefs, and overall sense of teaching) that teachers-to-be bring to their university preparation program and that those beliefs extend into actual classroom practice after one year of classroom teaching.

Professional growth may have its roots in the resolution of conflict between held beliefs and the reality of teaching and schooling. When the opportunity comes for novice teachers to implement their metaphorical beliefs and sense of teaching in their classroom, they are often faced with unforeseen challenges, which result in dissonance between the ideal and real. These discrepancies are not unanticipated and have been noted by other researchers (e.g., Argyris & Schon, 1974; McCarty, Abott-Shim, & Lambert, 2001). In this study, both Svetlana and Juan struggled with this disconnect. When questioned, both participants readily expressed the challenges that limited their ability to fully display their beliefs in action. Certainly, some of these challenges stemmed from their contexts, including the numbers of students in their classes who struggled with reading and learning or who were labeled 'at risk.' Svetlana had 16 and Juan 5 such students in their classes. Nevertheless, they asserted their metaphors remained unchanged. Svetlana and Juan appeared to be cognizant of the dissonance, but believed internal coherence between beliefs and actions would someday come together if they held to their beliefs.

Richardson (1996) raised the question whether changes in beliefs and practices are actually 'growth.' Oftentimes, growth implies that changes have occurred in a positive direction. Kagan (1992) defines professional growth as 'changes over time in the behavior, knowledge, images, beliefs, or perceptions of novice teachers' (p. 131). In our research, Svetlana maintained her original beliefs after one year of teaching, yet she felt her roots were growing and she was feeling stronger and sturdier (the tree metaphor).

Teacher education

These three studies of preservice teachers' beliefs about teaching, schooling, and how metaphors guide their teaching and learning with students offer educators some ideas about the types of beliefs candidates may bring with them to their preparation program and classrooms. Coupled with our finding that those beliefs do not show much change after one year of teaching experience suggests that teacher educators should seek to understand candidates' beliefs and to design teacher preparation programs that help preservice teachers understand their beliefs and how they relate to program conceptualization and varying school contexts.

Beginning elementary and secondary students come into teacher education programs with fairly consistent, yet vague, views of schooling and children. Our research reveals something of the nature of these views and how these characteristics interact with the dominant elements of classroom practice. It may be that the failure of some of our students to 'learn' program concepts is a result of the clash between views within themselves and those contained in our preparation programs. This general phenomenon has been reported by Bullough et al. (1992). More recently Inbar (1996) found a discrepancy between teachers and students on their view that schooling is like prison, and Martinez et al. (2001) discovered differences between experienced and prospective teachers on their views of behaviorism and

constructivism. This may explain some of the frustration faculty feel when students do not adopt professed program views of schooling, teaching, and learning (e.g., a constructivist approach, which at a root level, strikes a contrast to the preeminence of 'organic' metaphors). As Pajares (1992) points out, it may also be the reason why some teaching practices continue despite the fact that they are ineffective and counterproductive. This 'clash' may also explain research results showing little effect for program design on students' acquisition of the extant knowledge of learning to teach (Tabachnick & Zeichner, 1984).

One way to reduce the negative consequences of such a clash and the resultant loss of student professional learning would be to provide entering students feedback on their held beliefs, surfaced through techniques like that used in this study (cf. Yonemura, 1982), and discuss how these contrast with dominant program concepts and orientations. As noted earlier, other avenues for allowing students to express beliefs may be life-history interviews and narrative accounts (Kelchtermans, 2005); matching images of themselves with drawings of other occupations, e.g., animal keeper or entertainer (Ben-Peretz et al., 2003); portfolio essays (Parsons et al., 2004); questionnaires and surveys (Minor et al., 2002); or open-ended responses (Bozlk, 2002). By providing students with prior information about possible points of disagreement between their ideas and those of faculty and program elements greater congruence and accommodation may be achieved and more optimal outcomes attained.

Because many faculty in teacher education programs operate with little knowledge of who their students are and what dominant beliefs they hold upon entry into teacher preparation programs, we recommend that faculty in teacher preparation programs incorporate the fundamental views of their students into their professional programs of study. By incorporate, we mean to acknowledge and show relation between students' metaphors, beliefs and those upon which the teacher preparation program rests. For example, given that students entering elementary education programs believe that teaching should be based upon a caring and nurturing relationship with children these qualities must become a starting point for selecting and orienting students to professional education programs. These characteristics should become a central element in the dialogue of core education courses that serve to guide and reinforce the content of the professional experience. Such dialogues will enable students to better bridge their held beliefs with the core concepts and responsibilities they will assume as they enter teaching.

We also recommend that faculty directly challenge student-held beliefs where they determine them to be inappropriate or dysfunctional. This faculty role may need to continue once students enter the classroom. For example, in a study focused on Sarah, a high school science teacher, Tobin (1990) explained how Sarah's management role as 'comedian' elicited aggressive, uncooperative students' behaviors that disrupted learning. With guidance, Sarah was able to reflect on her practice and reconceptualize the management component of her teaching role in terms of being a 'social director.' This metaphorical role allowed Sarah to 'invite students to learn, as guests are invited to a party' as long as students were courteous to the teacher and each other and did not disrupt learning. 'Student's misbehavior,' according to Tobin, 'which was previously widespread, disappeared almost overnight' (p. 125). It is through metaphors that teachers can be stimulated to explore new conceptual territories in a safe, alternative way (Martinez et al., 2001). When educators become critically aware of their students' metaphors they are able 'to increase the rigour and precision' of their 'analysis of education and schooling' (Butt and Raymond, 1987, p. 90).

Conclusion

This research, in relation to prior research, presents several important concepts for teacher educators. First, the combination of personal experience, prior schooling, and student teaching are more influential in building conceptions of teaching than the teacher education programs (Richardson, 1996). Second, teacher education programs, with the exception of student teaching, have minimal effects on teachers' beliefs and practices. Prior life experiences and actual teaching experiences are the two most potent influences on beliefs about teaching, children, and schooling. Third, it appears that change in metaphors and beliefs is easier to achieve at the inservice level than at the preservice level (Richardson, 1996). In fact, the use of metaphor may be an ideal starting point from which inservice teachers can take stock of their professional selves. The current climate of reform may actually force such reflections. In this way changes made can be harmonious with one's own goals and philosophies. Gillis and Johnson (2002) even suggest exercises for using metaphors as a tool to explore personal attitudes and beliefs. Researchers like Goldstein (2005) recognize the difficulties some preservice teachers may have in constructing their own metaphor and, therefore, suggest a procedure for providing students with pre-selected metaphors with which to connect their nascent teaching lives.

Recommendations for future research

We believe it is important to better understand the processes by which students' root metaphors and subsequent beliefs change over time and the factors which influence them to change. For example, some of these views change as a result of interaction with the program design or program materials (see Fradd, Lee, Sutman, & Saxton, 2001). Others view change as a result of maturation and some as a result of experience with children, teachers, schools, and parents (Richardson, 1996). Clearly metaphors are complex and overlapping. Growth and experience may allow preservice teachers to see the complexity of their metaphors. Nonetheless our knowledge of how these views are developed, sustained, and/or changed over time needs additional attention, and constitutes an important path for future scholarly inquiry.

Implications for future research also include a need to further investigate the relationship between program conceptualization and student metaphors and their images of teaching and schooling. The situation in our studies is fairly prevalent in many teacher preparation programs. It is often assumed that a conflict between student views and program conceptualization does not exist, or that, if a conflict does exist, then preservice teachers discount their ideas and adopt those of their preparation program. An important avenue for future research is to further analyze the alignment of student beliefs and program framework, using the students' metaphors as active elements in helping preservice teachers learn how to teach, as exemplified by the program at the University of Louisville (Price, 2002).

A second implication is to explore which category of metaphors is more likely to lead to more effective instruction. Tobin (1990) suggests there are qualitative differences between metaphorical viewpoints and the quality of one's teaching. While our studies did not gather data on the relationship between metaphorical view and teaching competence, they do point to needed further inquiry. Third, there is a continued need for longitudinal studies, like those conducted by Bullough and Baughman, 1995: 'Changing Contexts and Expertise in Teaching: First-Year Teacher after Seven

Years.’ Changes in beliefs and practice in these studies resulted from working with students who had special needs like Downs Syndrome and behavior disorders. Bullough and Stokes (1994) found preservice teachers are more open to change at critical events in their experience. In their seminal work, *Becoming a Student of Teaching*, Bullough and Gitlin (1995) provide longitudinal descriptions of beginning teachers, principally focused on how the ‘beginning teacher forges personal systems of meaning within the bounds of a particular context’ (p. xv)

Additional studies need to be conducted on the ways in which gender influences metaphors chosen; this is especially important in light of the work of individuals like Mills (2004) who argue that ‘misogyny is demonstrated by the ways in which teaching, especially in the early years, is associated with caring, and with the presumption that caring is women’s work’ (p. 32). However, there may be some cross-cultural qualities to these gendered assumptions about teaching. The beliefs of our male and female case study participants aligned with the categories of beliefs of the males and females in the study done by Saban et al. (2007) at Selcuk University, Turkey: Teacher education females ($N = 687$) generated more growth-oriented metaphors, like Svetlana (teacher as gardener); whereas Turkish males ($N = 455$) in teacher education at Selcuk generated more cooperation-oriented metaphors like our male case study participant, Juan. In fact, in terms of cultural comparisons overall, Saban et al. concluded, ‘there are major cross-cultural similarities in teachers’ conceptualization of teaching and learning’ (p. 134). Nevertheless, all areas of diversity and disability need to be considered in future research. Examination should continue into the images teachers hold about their classroom and learning, about how these beliefs and images are modified, and about the reasons for such change.

References

- Argyris, C., & Schon, D. (1974). *Theory into practice: Increasing professional effectiveness*. San Francisco: Jossey-Bass.
- Ashton-Warner, S. (1973). *Spearpoint*. New York: Alfred A. Knopf.
- Ausubel, D.P. (1963). *The psychology of meaningful verbal learning*. New York: Grunet Stratton.
- Ball, M.S., & Smith, G.W.H. (1992). *Analyzing visual data*. Newbury Park, CA: Sage.
- Ben-Peretz, M., Mendelson, N., & Kron, F.W. (2003). How teachers in different educational contexts view their roles. *Teaching and Teacher Education*, 19(2), 277–290.
- Blackmore, S. (1999). *The meme machine*. New York: Oxford University Press.
- Bozlk, M. (2002). The college student as learner: Insight gained through metaphor analysis. *College Student Journal*, 36(1), 142–151.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Brookhart, S.M., & Freeman, D.J. (1992). Characteristics of entering teacher candidates. *Review of Educational Research*, 62(1), 37–60.
- Bruner, J. (1987). Life as narrative. *Social Research*, 54, 11–32.
- Bullough, R.V., Jr. (1991). Exploring personal teaching metaphors in preservice teacher education. *Journal of Teacher Education*, 42(1), 42–51.
- Bullough, R.V., & Baughman, K. (1995). Changing contexts and expertise in teaching: First-year teacher after seven years. *Teaching and Teacher Education*, 11(5), 461–477.
- Bullough, R.V., & Gitlin, A. (1995). *Becoming a student of teaching*. New York: Garland.
- Bullough, R.V., Knowles, J.G., & Crow, N.A. (1992). *Emerging as a teacher*. New York: Routledge.
- Bullough, R.V., & Stokes, D.K. (1994). Analyzing personal teaching metaphors in preservice teacher education as a means for encouraging professional development. *American Educational Research Journal*, 31(1), 197–224.

- Butt, R.L., & Raymond, D. (1987). Arguments for using qualitative approaches in understanding teacher thinking: The case for biography. *Journal of Curriculum Theorizing*, 7(1), 66–93.
- Carter, K. (1990). Teachers' knowledge and learning to teach. In W.R. Houston, M. Haberman, & J. Sikula (Eds.), *Handbook of research on teacher education* (pp. 291–310). New York: Macmillan.
- Cochran-Smith, M., & Lytle, S.L. (1990). Research on teaching and teacher research: The issues that divide. *Educational Researcher*, 19(2), 2–10.
- Combs, A.W. (1982). *A personal approach to teaching: Beliefs that make a difference*. Boston: Allyn & Bacon.
- Comeaux, M. (1992, April). *Challenging students' views about teaching and learning: Constructivism in the social foundations classroom*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Connelly, F.M., & Clandinin, D.J. (1988). *Teachers as curriculum planner: Narratives of experience*. New York: Teachers College Press.
- Cook-Sather, A. (2003). Movements of mind: The matrix, metaphors, and re-imagining education. *Teachers College Record*, 105(6), 946–977.
- Craig, C.J. (2005). The epistemic role of novel metaphors in teachers' knowledge constructions of school reform. *Teachers and Teaching: Theory and Practice*, 11(2), 195–208.
- Fradd, S.H., Lee, O., Sutman, F.X., & Saxton, M.K. (2001). Promoting science literacy with English language learners through instructional materials development: A case study. *Bilingual Research Journal*, 25(4), 1–22.
- Gillis, C., & Johnson, C. (2002). Metaphor as renewal: Re-imagining our professional selves. *English Journal*, 91(6), 37–43.
- Goldstein, L.S. (2005). Becoming a teacher as a hero's journey: Using metaphor in preservice education. *Teacher Education Quarterly*, 32(1), 7–24.
- Green, T. (1971). *The activities of teaching*. New York: McGraw-Hill.
- Guerrero, M.C.M., & Villamil, O.S. (2002). Metaphorical conceptualizations of ESL teaching and learning. *Language Teaching Research*, 6, 95–120.
- Haney, J.J., Lumpe, A.T., Czerniak, C.M., & Egan, V.E. (2002). From beliefs to actions: The beliefs and actions of teachers implementing change. *Journal of Science Teacher Education*, 13(3), 171–187.
- Hardcastle, B., Yamamoto, K., Parkay, F.W., & Chan, J. (1985). Metaphorical views of school: A cross-cultural comparison of college students. *Teaching and Teacher Education*, 1(4), 309–315.
- Heck, S.F., & Williams, C.R. (1984). *The complex roles of the teacher*. New York: TC Press.
- Inbar, D.E. (1996). The free educational prison: Metaphors and images. *Educational Research*, 38(1), 77–92.
- Johnson, T.S., Bruce, M., Graham, P., Oliver, J.S., Oppong, N., Park, S., & Mansberger, D. (2005). Giving tree teachers: Women and the national board certification process. *Feminist Teacher: A Journal of the Practices, Theories, and Scholarship of Feminist Teaching*, 15(3), 234–249.
- Kagan, D.M. (1992). Professional growth among preservice and beginning teachers. *Review of Educational Research*, 62, 129–169.
- Kelchtermans, G. (2005). Teachers' emotions in educational reforms: Self-understanding, vulnerable commitment and micro political literacy. *Teaching and Teacher Education*, 21(8), 995–1006.
- Korthagen, F.A.J. (1995). *Teachers who teach teachers: Reflections on teacher education*. Washington, DC: Falmer Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.
- Lincoln, Y.S., & Guba, E.G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Mahlios, M., & Maxson, M. (1995). Capturing preservice teachers' beliefs about schooling, life, and childhood. *Journal of Teacher Education*, 46(3), 192–199.
- Mahlios, M., & Maxson, M. (1998). Metaphors as structures for elementary and secondary preservice teachers' thinking. *International Journal of Educational Research*, 29, 227–240.
- Martinez, M.A., Sauleda, N., & Huber, G.L. (2001). Metaphors as blueprints of thinking about teaching and learning. *Teaching and Teacher Education*, 17, 965–977.

- Massengill, D., Mahlios, M., & Barry, A. (2005). Metaphors and sense of teaching: How these constructs influence novice teachers. *Teaching Education, 16*(3), 213–229.
- McCarty, F., Abbott-Shim, M., & Lambert, R. (2001). The relationship between teacher beliefs and practices, and Head Start classroom quality. *Early Education and Development, 12*(2), 225–238.
- Mills, M. (2004). Male teachers, homophobia, misogyny and teacher education. *Teaching Education, 15*(1), 27–39.
- Minor, L.C., Onwuegbuzie, A.E., Witcher, A.E., & James, T.L. (2002). Preservice teacher's educational beliefs and their perceptions of characteristics of effective teachers. *Journal of Educational Research, 96*(2), 116–127.
- Munby, H. (1986). Metaphor in the thinking of teachers: An exploratory study. *Journal of Curriculum Studies, 18*(2), 197–209.
- Munby, H., Russell, T., & Martin, A.K. (2001). Teachers' knowledge and how it develops. In V. Richardson (Ed.), *Handbook of research on teaching* (pp. 877–904). Washington, DC: American Educational Research Association.
- Neisser, J.U. (2003). The swaying form: Imagination, metaphor, embodiment. *Phenomenology and the Cognitive Sciences, 2*, 27–53.
- Oxford, R.L., Tomlinson, S., Barcelos, A., Harrington, C., Lavine, R.Z., Saleh, A., et al. (1998). Clashing metaphors about classroom teachers: toward a systematic typology for the language teaching field. *System, 26*(1), 3–50.
- Pajares, M.F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307–332.
- Parsons, S.C., Brown, P.U., & Worley, V. (2004). A metaphor analysis of preservice teachers' reflective writings about diversity. *Curriculum and Teaching Dialogue, 6*(1), 49–58.
- Pintrich, P.R. (1990). Implications of psychological research on student learning and college teaching for teacher education. In W.R. Houston, M. Haberman, & J. Sikula (Eds.), *Handbook of research on teacher education* (pp. 826–857). New York: Macmillan.
- Price, C.G. (2002). *Exploring teaching metaphors: How they shape beliefs, professional knowledge and emergent practice of first through fifth year teachers*. Paper presented at the Association of Teacher Educators, February, in Denver, CO.
- Provenzo, E.F., Jr., McCloskey, G.N., Kottkamp, R.B., & Cohn, M.M. (1989). Metaphor and meaning in the language of teachers. *Teachers College Record, 90*(4), 551–573.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of research on teacher education* (pp. 102–119). New York: Macmillan.
- Richardson, V. (September, 1998). How teachers change. In *Focus on Basics, 2*, C. Newsletter of World Education/NCSALL.
- Saban, A., Kocbeker, B.N., & Saban, A. (2007). Prospective teachers' conceptions of teaching and learning revealed through metaphor analysis. *Learning and Instruction, 17*(2), 123–139.
- Schubert, W. (1991). Teacher lore: A basis for understanding praxis. In C. Witherell & N. Noddings (Eds.), *Stories lives tell: Narrative and dialogue in education* (pp. 207–233). New York: Teachers College Press.
- Tabachnick, B.R., & Zeichner, K.M. (1984). The impact of the student teaching experience on the development of teacher perspectives. *Journal of Teacher Education, 35*(6), 28–36.
- Tobin, K. (1990). Changing metaphors and beliefs: A master switch for teaching? *Theory into Practice, 29*(2), 122–127.
- Yamamoto, K., Hardcastle, B., Muehl, S., & Muehl, L. (1990). Metaphorical images of life in young and middle adulthood: An exploration. *Journal of Psychology, 124*(2), 143–154.
- Yob, I.M. (2003). Thinking constructively with metaphors. *Studies in Philosophy and Education, 22*, 127–138.
- Yonemura, M. (1982). Teacher conversations: A potential source of their own professional growth. *Curriculum Inquiry, 12*(3), 239–256.

Appendix

Interview questions

- (1) Why the interest in, and the decision for, teaching as a career?
- (2) Which level of schooling do you intend to teach? Why?
- (3) Under the most ideal circumstances, what sort of school organization and school climate would you prefer?
- (4) What is your main approach to teaching?
- (5) What are the important matters in your classroom? What do you think is the most critical thing that you have to focus on, control, assess, or establish?
- (6) Name three books that have most profoundly affected you in your life? Explain.
- (7) Name two people who have most profoundly affected you in your life? Explain.
- (8) As a teacher, how will you use your summers?
- (9) Describe/elaborate on teaching. In your survey you filled out for us you talk about your sense of teaching as (answer from instrument inserted here). Any additional thoughts on teaching now that you have completed student teaching? Anything that you would change? Any different feelings?
- (10) What is the difference between teaching students who are at-risk (for failing or dropping out) and those who are not at-risk?

Instrument

What was School Like?

Name: _____ Age: 22 or younger 23 to 30 31 to 45 46 to 65 66 or older Heritage: Anglo
 School: _____ Major: _____ Hispanic
 Class: (circle) Fr Soph Jr Sr Black
 Grad Other (specify) _____ Indian
 Current Job: _____ Oriental
 Today's Date: _____ Sex: (circle) F M Other (specify) _____

Size of School Attended

_____	100 or less	_____
_____	101 to 300	_____
Elementary _____	301 to 500	_____ Secondary
_____	501 to 1000	_____
_____	1001 to 2000	_____
_____	2001 or more	_____

Type of School Attended

_____	Public	_____
Elementary _____	Parochial	_____ Secondary
_____	Other (specify) _____	_____
Elementary _____	Number of Schools Attended _____	_____ Secondary

Your Overall Experience was

_____	Positive	_____
Elementary _____	Neutral	_____ Secondary
_____	Negative	_____
_____	Mixed	_____

The School Experience May Be Best Described As

	_____ in a family	_____
	_____ on a team	_____
	_____ in a garden	_____
	_____ at a circus	_____
Elementary	_____ in a prison	Secondary
	_____ in a zoo	
	_____ on a stage	
	_____ in a crowd	
	_____ in a factory	
	_____ other (describe) _____	

Why Do You Describe Your Experience So?

Elementary	_____	Secondary

What Should Your School Experience Have Been Like?

	_____ as in a family	_____
	_____ as on a team	_____
	_____ as in a garden	_____
	_____ as at a circus	_____
Elementary	_____ as in a prison	Secondary
	_____ as in a zoo	
	_____ as on a stage	
	_____ as in a crowd	
	_____ as in a factory	
	_____ other (describe) _____	

Why Do You Say That Above?

Elementary	_____	Secondary

How Would You Describe Yourself?

Please read the following statements about yourself carefully, and indicate your reaction to each of them by circling one of the five choices, provided, namely, SA (strongly agree), A

(agree), D (disagree), or SD (strongly disagree). Needless to say, there are no right or wrong answers – just your own feelings about yourself.

On the whole, I am satisfied with myself	SA	A	D	SD
At times I think I am no good at all	SA	A	D	SD
I feel that I have a number of good qualities	SA	A	D	SD
I am able to do things as well as most other people	SA	A	D	SD
I feel I do not have much to be proud of	SA	A	D	SD
I certainly feel useless at times	SA	A	D	SD
I feel that I am a person of worth, at least on On an equal plane with others	SA	A	D	SD
I wish I could have more respect for myself	SA	A	D	SD
All in all, I am inclined to feel that I am a failure	SA	A	D	SD
I take positive attitude toward myself	SA	A	D	SD

Thank you for your cooperation!

Thinking about Life, etc.

‘Speech is a mirror of the soul: as a man speaks, so is he.’ (Syrus)

‘Time the devourer of all things.’ (Ovid)

‘Sleep is a death ...’ (Sir Thomas Browne)

One finds this kind of expression everywhere – such a way of description somehow gets to the core of a given human experience, captures its flavor, and communicates its essence.

Now, if you were to come up with some expression that grasps *your* sense of life, what life is all about to *you*, what would that be? Pick one of the provided options below, or use your own descriptions.

LIFE is ___ Following a trail ___ The ripples across water
 ___ Going down a river ___ Chasing a rainbow
 ___ Climbing a mountain ___ A bird flying
 ___ A tree growing ___ An ocean with waves coming in and out
 ___ (in your own words) _____

Why do you look at life that way? _____

In a similar manner, if you were to capture *your* sense of childhood, the essence of being a child to *you*, what would you say?

BEING ___ A bubbling spring ___ A wind free to come and go
 A ___ A trapped animal ___ A cloud in the sky
 CHILD ___ A flower blossoming ___ A dark night with no moon or stars
 IS ___ (in your own words)

Why do you look at childhood that way? _____

How would you describe *your* sense of teaching? _____

Why? _____

Describing People

- A. Think about student you are going to work with. Suppose you can choose your IDEAL types at will – how would you describe such youngsters? Please pick *eight adjectives* that, to you, best capture the features, traits, manners, and characteristics of your ideal students.

(1) _____ (5) _____
(2) _____ (6) _____
(3) _____ (7) _____
(4) _____ (8) _____

- B. Now, think about your IDEAL teacher. What would you best characterize such a person? Please choose *eight adjectives* for her/him.

(1) _____ (5) _____
(2) _____ (6) _____
(3) _____ (7) _____
(4) _____ (8) _____

- C. Next, please think of your IDEAL school administrator, say, a principal. What would you see in such a person? Select *eight adjectives* that seem to describe her/him the best.

(1) _____ (5) _____
(2) _____ (6) _____
(3) _____ (7) _____
(4) _____ (8) _____

- D. Finally, think about your IDEAL parents, those whom you would love to have as parents of your students and to work with. Please choose eight adjectives for such people.

(1) _____
(2) _____
(3) _____
(4) _____
(5) _____
(6) _____
(7) _____
(8) _____

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