Constructing and Reconstructing Teaching Roles: a focus on generative metaphors and dichotomies

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ABSTRACT Over the last several decades, a shift in thinking has brought to the fore the power of language as more than simply a method of expression. Indeed, language is a constituent part of social practices and social identity. For teachers, both pre-service and in-service, teaching roles are often represented through surface and generative metaphors, the latter of which are tacit. In order to study the way in which language, and in particular metaphor, influences thinking about teaching roles, the authors of this article combined their data to examine the metaphoric discourse of both pre-service and in-service teachers. Contextualizing two separate studies in their respective teacher education programs, this article highlights the obstacle of unexposed generative metaphors and the value of ongoing professional development. In addition, it emphasizes the importance of deconstructing traditional dichotomies as central to teacher education reform.

Introduction

Proponents of postmodern thinking have unveiled the connections among language and power, knowledge, identity, and social structures, as well as the power of language to change social practices, power relations and identity (Bourdieu, 1991; Chouliaraki & Fairclough, 1999; Fairclough, 1989; 1992; Foucault, 1980). The 'turn to language' (e.g. Bernstein, 1976) and the 'crisis of representation' (e.g. Lather, 1991) are two of the discourses that point to reconceptualizing and re-evaluating the role of language as a constituting component of any social practice. This new role contrasts with the traditional idea of language transparency in which language, as a neutral medium, is merely a channel, used in social practices to communicate meaning. It also builds upon Voloshinov's (1986) work recognizing that language, as a system of signs, has both a material and an ideological nature created through the dialogic link between one consciousness and another. Signs are material in that they are associated with a particular form, sound, or gesture, and they are ideological in that they reflect an alternative 'reality', acquiring a meaning that moves beyond what is given.
While teacher education has traditionally ignored the power of language to transform teaching, and conversely, how teaching experiences transform the ways educators talk about them, this article examines how teacher education experiences shape discourse and, through discourse, in turn, how teaching roles are constructed. The purpose of this paper is twofold. First, we document and categorize the metaphors used by pre-service and in-service teachers, in two separate programs, to describe their development and the conceptualization of their teaching roles over time. Second, we compare and contrast their use of metaphors in light of the surface and generative metaphors underlying their teaching roles. In this way we construct a picture of the way in which pre-service and in-service teachers both shape and are shaped by the metaphors that are embedded in their exposure to and use of educational discourse.

A Closer Look at Metaphor

Over the past several decades, metaphors have been used in education at all levels. With counselors, for example, metaphors have been linked with clinical hypothesis formation and supervisor characteristics (Young & Borders, 1998) and with shifting metaphors of the self (Hoskins & Lesche, 1996). In educational leadership and administration, metaphors have been used to structure and model supervision theories (Sergiovanni, 1987) and to aid curriculum development and planning (MacDonald & Purpel, 1987). In experiential education, metaphors have been used to stimulate learning (Evans & Evans, 1989) and foster creativity (Gundry & Kickul, 1996). In teacher education, metaphors have been used as tools to guide teaching practices and the rethinking of teachers' roles (Tobin, 1990; Tobin & LaMaster, 1995), for understanding the way pre-service teachers talk about their needs during socialization (McWilliam, 1994), and for shifting traditional ways of thinking about teachers' roles and fostering conceptual change and role redefinition (Vadeboncoeur, 1998).

The Work of Metaphors

Traditionally, the realist worldview identifies language as a transparent or neutral medium, which communicates an objective reality. In this view, metaphoric or figurative language has been conceived of in contrast to literal language and, as such, is seen as rather unimportant, or even deviant (Ortony, 1979). A postmodern view of metaphor, however, entails an 'important role for metaphors in both language and thought, though it tends to break down the distinction between literal and metaphoric language given that meaning must be constructed rather than merely absorbed from the words' (Ortony, 1979, p. 2). This view allows us to consider more than one reality and more than one description of that reality. Indeed, according to Ortony (1979), metaphor is an essential characteristic of language which allows for creativity and envisioning alternative worlds. Interestingly, some theorists would argue that metaphor is deeply embedded both in the organization of systems of human communication and in cognition (e.g. Johnson, 1980; Lakoff & Johnson, 1980; Lakoff, 1987).

Schön (1979) maintains that something new is constructed when a metaphor is understood, and that metaphors make possible different ways of perceiving. Analyzing metaphor at the macrolevel, Schön (1979) adopts a radical view of metaphor as 'generative'. In this view, 'metaphor' refers both to a certain kind of product—a perspective or frame, a way of looking at things; and to a certain kind of process—a process by which new perspectives on the world come into existence' (p. 254). With the
use of metaphor we construct different stories of the same phenomenon in a given situation; stories that provide us with ways of seeing as, or seeing A as B. Hence, for Schön (1979), we may face different views of reality: ‘Each story constructs its view of reality through a complementary process of naming and framing’ (p. 264, italics in the original). Part of our work is to inquire critically into the language and ideas that have structured situations in order to unveil the ‘generative metaphors’ that underlie each story. Each generative metaphor represents the values, models and cultural patterns and ‘derives its normative force from certain purposes and values, certain normative images, which have long been powerful in our culture’ (Schön, 1979, p. 266). As such, it is not uncommon for ‘generative metaphors’ to become axiomatic or taken for granted.

Generative metaphors are usually tacit: ‘Often we are unaware of the metaphor that shapes our perception and understanding of social situations’ (Schön, 1979, pp. 266–267). Without reflection and consideration of generative metaphors the possible solutions that we construct for problems and the possible actions that we take may be limited. Schön (1979) argues that we ‘ought to become critically aware of generative metaphors in order to reconstruct and reframe our identification of social problems’ (p. 256). Through cognitive ‘frame restructuring’, we may be more able to take in conflicting frames of information generated by inquiry, and reorganize them in such a way as to expose new perceptions and ways of understanding issues.

Generative and Surface Metaphors

Schön (1979) distinguishes between generative or ‘deep’ metaphors and ‘surface’ metaphors. A generative metaphor is a metaphor that accounts for ‘centrally important features of the story’—

which makes it understandable that certain elements of the situation are included in the story while others are omitted; that certain assumptions are taken as true although there is evidence that would appear to disconfirm them; and, especially, that the normative conclusions are found to follow so obviously from the facts. (p. 267)

In this way, a generative metaphor provides a set of assumptions that establish a way of seeing. Deeply embedded in language, generative metaphors often limit our perceptions of issues and approaches to problem solving in ways that, when exposed, are arbitrarily narrow and not conducive to the creation of thoughtful solutions.

Meanwhile, ‘surface’ or explicit metaphors provide us with clues to unveil the deep generative metaphor. ‘Surface’ metaphors, may or may not contain similar features of ‘deep generative metaphors'; when they do, those features may have been reframed and restructured. A new surface metaphor may involve ‘participants in attending the new features and relations of the phenomena, and in renaming, regrouping and reordering those features and relations’ (Schön, 1979, pp. 276–277). This new metaphor may generate ‘new perceptions, explanations and inventions’ (Schön, 1979, p. 259).

We think that Schön’s view of both generative and surface metaphor is relevant to the analysis and understanding of the metaphors used by the pre-service and in-service teacher participants in this study. Schön’s generative metaphor helps us to understand the tacit deep metaphors that underlie teachers’ discourse, as well as the frame restructuring of their roles as teachers. A focus on surface metaphors helps us to analyze the process of construction and reconstruction of metaphor—and hence, construction and reconstruction of teaching roles—by the participants in this study.
Bringing Together Two Separate Studies

Two qualitative studies were conducted by the authors in separate pre-service and in-service teacher education programs in the western United States. When metaphors surfaced as conceptual tools in both studies, the authors decided to combine their research and compare and contrast their findings. The first author worked with pre-service teachers, the second author worked with in-service teachers.

Participants and Programs

An ethnographic study over two years documented the experiences of four pre-service teachers from their entrance into their teacher education program through student teaching. There were two male and two female students; two elementary education majors (females), one secondary English major (male), and one K-12 (kindergarten through grade 12) art major (male). The pre-service teachers were European-American with middle class backgrounds.

The teacher education program included a three-seminar series of foundations courses, which emphasized an examination of the lived experiences and inequities faced by students on the basis of class, ethnicity, gender, sexual orientation, special needs, and linguistic diversity. In addition, the courses emphasized the role of pre-service teachers as active constructors of knowledge through participation in service learning, a method for providing service in community guided activities while applying curricular knowledge.

The first semester course was coupled with a service learning requirement of 50 hours in the community while the second semester course was coupled with a service learning requirement of 50 hours in a local school. The series culminated with a third foundations course held concurrently with student teaching at the student teaching site.

It is important to note that the teacher education program had been recently restructured to meet several goals, two of which were as follows: first, the coupling of service learning with the foundations courses was both to provide the students with an application site for the theories and practices discussed in class, and to engage them with real community-identified issues; second, the third foundations course held concurrently with student teaching was expected to support the emphasis of the program, as discussed above, throughout the duration of the student teaching process.

The in-service teacher participants in this study were four European-American female teachers. They were attending a 14-month mid-career enhancement program with 22 other experienced teachers. Three of them were teaching in elementary schools and the fourth was teaching in a middle school gifted education program. These four teachers were matched with the pre-service teachers on the basis of their cultural backgrounds.

The enhancement program, which in-service teachers attended, was a mid-career collaborative university-school district program. It had a holistic view of teaching and teacher professionalization, and promoted reflective practice, community building and collaborative work. The program vision was a commitment to 'progressive liberal' goals based on the active construction of knowledge and a participatory role for both teachers and students. The enhancement program aimed at: (a) counteracting, with a holistic approach, the superspecialization of most of the graduate teacher education programs and the splitting of theoretical and practice-oriented courses; (b) fostering collegial dialogue, as opposed to the isolation of teachers at schools; and (c) providing opportunities for studying and reflecting on teaching. Participants taught four days per week; on the fifth day they attended the program. The curriculum included a classroom systematic inquiry project in which participants studied their own teaching practice. This project
facilitated the integration of reflection, theory and practice. The staff of the program—composed of a program coordinator, support teachers, a senior and a junior university faculty member—acted as a team to plan, conduct and evaluate the activities of the in-service teachers.

Looking across Programs

The pre-service teachers were exposed to a wider range of systems of thought in education, in general, and in teaching, in particular. The foundations courses for pre-service teachers included critical social issues and their impact on schools, which were examined from different philosophical perspectives: conservative, progressive, and social reconstruction. These students were given the frameworks and the encouragement to work through issues of racism, classism, sexism, ableism, and heteronormativity, in their open and covert manifestations in schools and society in general. Students' deeply held beliefs were challenged through asking them to construct surface metaphors for teaching roles and then examining them critically. They were encouraged to construct alternative views of teaching including a socially transformative role. In addition, the generative metaphor underlying traditional teaching, 'teaching as transmission', was challenged through practices that supported frame restructuring.

In contrast with the socially transformative orientation of the foundations courses in which pre-service teachers were enrolled, the basic orientation of the enhancement program was characterized as 'progressive liberal'. Most of the staff members and the participants shared the generative metaphors of an active and participatory approach to teaching. Readings, discussions and reflections centered around issues such as teachers' voices, collaboration, risk taking, caring, increasing choices in work partners and assignments, engaging students in curriculum decisions and evaluation criteria, encouraging students to be self-directed learners, and melding cultural differences into individual differences. Thus, culturally relevant teaching was mostly conceived as responding to individual needs. Social and educational issues of inequity in schools and in society were not conversation topics either among teachers or in the staff meetings. The second author, as junior faculty member of the program staff, attempted several times to include critical social issues in the program agenda, without success. Merely mentioning topics such as 'culturally relevant teaching' made some staff members anxious and uncomfortable. Indeed, the second author was a 'double minority'; first, because of her cultural background (originating from Colombia), and second, because of her 'radical' ideas about teaching.

Sources of Data

Data collected to examine the use of metaphor by the pre-service teachers—Claire, Kyle, Andrew, and Becca—were gathered during two years, from several sources. For this paper, data included baseline questionnaires from the beginning of the teacher preparation program, interviews with each of the four pre-service teachers, and field notes of student teaching. Finally, an analysis of metaphors was based on interviews and course requirements such as journals, papers, and presentations.

For the in-service teachers—Gina, Carole, Melissa, and Christine—the master's degree project and presentation was the situation in which these teachers best conceptualized and elaborated their experiences in the program and in their classrooms as a result
of being in the program. Therefore, these texts became the main focus of the metaphor analysis. Supplementary data included audiotapes of whole-group discussions, small-group conversations, written self-evaluations, and field notes.

**Analyzing Teachers’ Metaphoric Discourse**

Changes in the construction of roles for teaching were documented with the pre-service teachers through changes in the language used in interviews and coursework. Linguistic markers surfaced repeatedly for each of the participants throughout the study, highlighting teaching roles and role elaboration. Role elaboration was exemplified through the elaboration of metaphors for teaching and the subsequent subcategories of metaphors that developed relating to learning, curriculum, and knowledge.

Over the course of the study, several metaphors surfaced as the pre-service teachers articulated their developing teaching roles. Some were explicitly elicited by teacher educators and others were used implicitly by the pre-service teachers. Indeed, as expected from research conducted by Lakoff and Johnson (1980) and Munby (1986; 1987), the pre-service teachers conceptualized and reconceptualized their teaching roles through metaphor. Through metaphor they described their teaching role, the students’ roles, and the role of knowledge in their classroom.

The in-service teachers chose to develop their master’s degree presentation on the basis of a metaphor that best captured their experience through the program. Each teacher purposely used an explicit ‘surface’ metaphor as a conceptual and an imaging tool to reconstruct the transformation in their teaching role resulting from their participation in the enhancement program. They carefully tailored a metaphor that allowed them to frame the presentation, describe their experiences, and reconceptualize their roles and philosophy of teaching. In both studies, tacit ‘generative’ metaphors surfaced and in some instances they were exposed through frame restructuring and by eliciting ‘surface’ metaphors.

**Surface and Generative Metaphors Used by Pre-service Teachers**

*Claire: teacher as gardener*

Throughout the elementary program, Claire focused on the individual responsibilities of teachers and students, though her teaching metaphor changed from ‘teacher as super-hero’ to ‘teacher as gardener’. By the end of the second semester her teaching role and expectations of students reflected movement toward a more progressive teaching approach. However, when she was placed in a fairly traditional second-grade classroom for student teaching, Claire reported that she felt ‘relieved’ to be working with ‘good students’. She ended up adopting the role of her cooperating teacher and described it in progressive terms, although the children used worksheets and their desks were lined up in rows for the majority of the time.

Claire’s metaphor, seeing the ‘teacher as gardener’, was reinterpreted at the end of her student teaching to include not only a focus on the teacher’s role in ‘cultivating her students as seeds’, but also on the potential that each ‘seed’ brings to the ‘garden’ and what is inherent in the ‘seed itself’. The university-structured support that was to be provided by the third foundations seminar was not useful to Claire because she did not need any help; she was ‘ready to be a teacher’.
Kyle: teachers as givers of knowledge

Kyle slipped through the program for a K-12 art credential maintaining his initial metaphor 'teachers as givers of knowledge'. Kyle elaborated this metaphor with another metaphor, 'knowledge as a book', and emphasized that 'teachers need to know what's on the pages and offer that to their students'. He felt that the teacher education program was 'uncomfortably progressive' and that if everyone just focused on 'good teaching' we wouldn't have to worry about 'becoming activists': 'good teachers' recognized inequity and enacted a democratic pedagogy in their classrooms.

Kyle's student teaching placement was also described as 'uncomfortably progressive'. His cooperating teacher gave him autonomy because she felt that he was ready to teach. This respect on her part for his teaching abilities left him unchallenged about some of his more traditional expectations. In terms of university support during student teaching, Kyle felt he was ready to be a teacher and that the third seminar was needlessly holding him back: 'It's time to prove I can do this.'

Andrew: teacher as agent of change

Andrew began the secondary program seeing his teaching role as 'coaching' and ended the program with the metaphor 'teacher as agent of change'. For Andrew, teachers were seen as capable and, indeed, responsible for 'working with students and parents to bring about the changes we want to see in the world'. The teacher's role was to facilitate conversations with the 'people involved, to help them see what can be'. His teaching role reflected a level of social consciousness that the program was hoping to foster.

While he was placed in a fairly progressive setting for his student teaching, Andrew was overwhelmed at first and realized too late that the type of teaching he wished to enact required a deeper relationship with his students than he had at that time. His cooperating teacher had a strong relationship with the students and Andrew was perceived by some of them as an outsider. Although Andrew was unable to enact his preferred teaching role in his classroom, he maintained his commitment to teaching for social change and felt he would be more able to enact it in his future classroom.

Becca: teacher as mediator of culture

Becca began the elementary program with the metaphor 'teacher as model' and over the course of the study began to see her role as a 'teacher as a mediator of culture'. Like Andrew, her teaching role reflected a level of social consciousness in that she saw the role of the teacher as one that 'mediates the impact of cultural differences and similarities in a way that helps people understand people who are different from them'. Becca saw herself as supporting new forms of 'cross cultural communication' between boys and girls, children with different backgrounds and ethnicities, and students who are differently abled. She was placed in a truly progressive classroom, and team-taught with her cooperating teacher.

Becca was the only pre-service teacher who was able to enact her preferred teaching role during student teaching, and it was more a function of her relationship with her cooperating teacher than of the university-structured support provided in her concurrent coursework. In fact, like each of the other pre-service teachers, Becca felt that the final seminar was both 'unsatisfying and unsupportive'.

Generative Metaphors for Pre-service Teachers

While each of the pre-service teachers utilized a different surface metaphor to elaborate their teaching role, two underlying generative metaphors shaped these conceptualizations as well. For these pre-service teachers, teaching was either seen as ‘transmission’ or ‘transformation’. Claire’s and Kyle’s preferred teaching styles allowed them to maintain an authoritative role in the classroom while they ‘improved’ their students through the provision of ‘nurturance’ and ‘knowledge’, as if both care and information could be transmitted from the teacher directly to the students. For Andrew and Becca, teaching was seen as a transformative experience that led to ‘empowerment’ and the ‘ability to bring about change in the world’. Creating a nurturing environment filled with opportunities for students to actively construct knowledge was merely a beginning. According to Andrew and Becca, the next step was to ‘do something’.

An additional generative metaphor surfaced for each of the pre-service teachers during student teaching. Indeed, all of the pre-service teachers conceptualized ‘student teaching as a proving ground’, a place to ‘survive or fail’. This generative metaphor influenced their perception of the university support offered through the third foundations course held concurrently with student teaching. They each felt that student teaching was a time to prove to the university that they were ready to be ‘out there on our own’. Powerfully experienced, this metaphor inhibited their use of the university-structured support system.

Surface and Generative Metaphors Used by In-service Teachers

Gina: teaching as building a home

Gina understood ‘teaching as building a home’ with her multigrade, first- and second-grade, classroom. She wanted her class to feel both ‘safe’ and ‘comfortable’ as they interacted and learned in the classroom: ‘As educator-learner, I worked hard to provide a home-like environment for my students and for myself... Together we built the place where we feel comfortable, safe, the place we want to be’. Building on this metaphor, Gina knew that the ‘foundation is the most important part of the structure’, and she constructed a foundation for ‘scaffolding’ the learning of her students. For example, she rearranged the environment of the classroom to facilitate interaction across ages and ability levels, through activities using art, literature, building blocks, and manipulatives. The structure of her classroom was like the frame of a home, requiring many designs and changes to adjust to the interests and needs of the children: ‘Just like a frame holds up the house and provides the organization for the structure, I needed to organize the structure of the new schedule to provide maximal support to instruction.’ Gina created an ‘options board’ to help the students understand and remember their new schedule.

Like a home that needs remodeling and readapting, Gina was aware that her home-like classroom was never finished. She noted, ‘As a home builder and a home owner, I know the home is never finished. As an educator-learner, I know I will never be finished building the knowledge and experience it takes to help all children. I will always strive to develop a plan to create and provide a place where they want to be.’

Carole: becoming a teacher-researcher as rafting

Carole conceived of her journey through the enhancement program as rafting, an
activity that challenged her physical capacities. She noted that ‘one of the most accelerating and exhilarating things I’ve ever done physically is to go rafting, and when I looked at my experience in this year, it was one of the most exhilarating things I’ve ever done mentally’. Like rafting, the journey through the program was filled with ‘exhilaration and excitement’, as well as ‘frightening’ moments. Periods of exhilaration came when she realized her dual role as a learner and also as a teacher; in particular, when she had to turn in papers and assignments, an experience she called ‘hitting the rapids’. At the same time, during these moments she felt supported by her peers, who represented the ‘life jackets’. After completing the ‘rapids’, she commented, ‘When you finish running some of the rapids you just feel a great sense of pride and accomplishment, you feel strong.’

For Carole, the inquiry project was ‘the high point of my rafting trip, was the lunch, was the nourishment’. Her students were partners in her inquiry project, and also in the intellectual challenge she experienced. She facilitated collaboration among students, and between them and herself. Finally, she also saw her students as partners at work and she found them to be very ‘insightful co-workers’.

Melissa: educating as a Möbius strip

Melissa used a ‘Möbius strip’, a closed strip of material that twists and loops back on itself, to represent her ‘way of thinking’, her ‘personal journey’, through the program. For her, reconceptualizing her role as an educator included teaching, learning, and researching, and the interconnectedness between each of these roles. She used the endlessness of the Möbius strip to envision the ongoing character of her development, which included research on her own teaching and learning from her students. As she redefined her role as educator, she found that in the classroom ‘everyone teaches and everyone learns’. She also saw her students as ‘co-researchers’, with whom she can ‘produce knowledge, and not merely consume it’.

In brief, Melissa saw the evolution of her role as educator as an endless loop: ‘This “strange loop” has traveled from learner to teacher, to learning while teaching, to learning from teaching and back again to teaching while learning.’

Christine: teaching and learning as a quilt

Christine found in the ‘quilt’ the way to represent her experience through the program: ‘We were all bound together by our thinking, our conversation, our experiences. And I see the stitches in the quilt as being much like our thinking, as we met together every week.’ The connection among all the pieces in the quilt represented the ‘connectedness’ she experienced in the program through ‘collaboration’ and the ‘integrated’ curriculum. At the individual level, she valued most the ‘holistic view’ adopted by the program. Through the reading and articulation of her story, she was able to experience a ‘wholeness’ and ‘connectedness’, which facilitated the effect that any change in one aspect affected all other aspects of the whole. Thus she said, ‘The change and the growth that is happening in one area is affecting all aspects of my life.’ Seeing teaching and learning as a ‘quilt’ gave Christine a visual representation of a ‘whole being greater than the sum of its parts’.
Generative Metaphors for In-service Teachers

Like the pre-service teachers, the in-service teachers articulated their transformative experience as a result of participation in the enhancement program through surface metaphors. Of particular importance was the emphasis on their classroom inquiry project and their newly developed relationships with their students. For Gina, students became ‘co-builders of a home-like classroom’. For Carole, they were perceived as ‘co-workers’ and ‘life jackets’. And for Melissa, they were ‘co-researchers’ and ‘co-producers of knowledge’. Even for Christine, the act of teaching became a collaborative one that reflected connectedness and integration. These views contrast with their previous roles that relied on more traditional metaphors for teaching, such as teacher as conductor or provider of knowledge, teacher as provider of feedback and validation, and teacher as nurturer for each child. Though their teaching role remained teacher-centered in terms of designing the learning environment and facilitating the interactions of their students, they shifted toward a gentle, often ‘invisible’ (Bernstein, 1975), control for their classes, from their own reports and descriptions of classroom strategies.

Each of the in-service teachers elaborated their teaching role over the course of their experience in the enhancement program in relation to the generative metaphor ‘teaching as transformation’. Using different paths and strategies, each of these teachers moved toward what could be called a holistic and participatory teaching approach. Their experience—learning to blend the roles of teacher/researcher/learner within their teaching methods—allowed them to offer more roles to their students and to view their relationships in the classroom more collaboratively. They allowed students to participate more actively in classroom decisions and to play roles as tutors, researchers, and producers of knowledge, which they had not allowed before. The in-service teachers also became open to embracing multiple roles themselves, as ‘learners’ and ‘researchers’, and to see themselves as ‘collaborators’ with students and colleagues. However, everything was framed within a liberal discourse of openness, social construction of knowledge, and collaboration toward improving participants’ subjective understanding of their own teaching and classrooms. Critical perspectives were not taken or encouraged.

Comparing Pre-service and In-service Teachers’ Metaphoric Discourse

Many aspects differed between these two studies of pre-service and in-service teachers, including: the programs, the teaching experiences, and the goals; the locations and the institutions of teacher education; and the academic levels of the students. While the in-service teachers were teaching four days a week, and attending the enhancement program the remaining day, the pre-service teachers were taking a two-semester course in foundations before their student teaching (integrated with a service learning practicum of 50 hours each semester), and then a third course concurrently with student teaching. Ultimately, the pre-service and in-service teachers participated in different experiences; however, it is worth emphasizing that both the teacher education program and the teacher enhancement program had, as a goal, a commitment to the integration of both theory and practice. Our comparison takes into account the contrasting contexts and the unique situation of each group.

Both pre-service and in-service teachers experienced important changes in their teaching roles as a result of attending their respective programs. However, this transformation, as reflected in the surface and generative metaphors, led to a different result for each participant and for the two groups as well. At the beginning of their programs, the
pre-service teachers were well prepared to align their practice with a ‘teaching as transmission’ generative metaphor, whereas the in-service teachers used an elaborated form of transmission including ‘teaching as provider’ not only of knowledge but also of care, control, and curriculum.

With instructional support, the pre-service teachers were able to reconceptualize their ideas about teaching. However, the conceptual transformation achieved after two semesters of discussing various approaches to teaching was partially or completely lost during the student teaching practicum: Claire returned to the more ‘comfortable’ position of imitating her traditional cooperating teacher, and Kyle maintained his position as a ‘giver of knowledge’ and articulated his feelings of discomfort toward progressive education. Andrew and Becca came to see their teaching roles as an ‘agent for social change’ or as a ‘mediator of culture’; both associated with the generative metaphor ‘teaching as transformation’. Andrew attempted to enact a more socially conscious role, but was unable to; only Becca was committed to and able to teach on the basis of her generative metaphor.

What happened with regard to the pre-service teachers’ return to more traditional teaching roles is hardly surprising, but it is quite interesting given the attempt of the teacher education program to support them during student teaching. Despite having been ‘educated’ in transformative teaching roles—and despite the program restructuring to include not only theory-based coursework but also the service learning experiences before student teaching—their own schooling, the school environment and the veteran teachers who socialized them into the culture of student teaching were more powerful influences for three of the four pre-service teachers. In addition, and perhaps the primary influence, the pre-service teachers based their conceptions of student teaching on a generative metaphor that inhibited their use of the university-structed support offered in the course held concurrently with student teaching. Seeing ‘student teaching as a proving ground’ meant that, for these pre-service teachers, the goal was to ‘prove’ to the university that they were ready for teaching. They did not want to rely on their peers or university instructor to process their experiences. In fact, they felt that the university support was inappropriate because they were ‘ready to take on’ the role for which they had been preparing.

The transformation of in-service teachers is quite a different story from that of pre-service teachers. Their roles shifted from that of the traditional ‘good teacher’ to that of being a ‘teacher/learner/researcher in an integrated way. They changed positively according to their own perception, as well as that of the staff and other participants of the program—their philosophical perspectives on teaching, their educational practices, and consequently their own self-perception as teachers—mainly by revaluing their role as children’s educators. Of course, it is important to take into account that these were experienced teachers, with an average of ten years of teaching. In addition, the enhancement program was built on the idea that what teachers need most is the time and opportunity to share their experiences, concerns and ideas with colleagues, to reflect on and study their practices systematically, to examine the theories and beliefs underlying their practice, to explore new methods and strategies, and to rethink their theoretical frameworks in the light of other frameworks. The metaphors they developed—teaching as ‘building’, ‘rafting’, ‘a Möbius strip’ and a ‘quilt’—reflected the collaborative, nurturing, connected and holistic support they experienced in the program, as well as the creative ways they used to reproduce those experiences in their own classrooms.

In contrast to the pre-service teacher program, the enhancement program worked by establishing a dynamic between reflection and action (Carr & Kemmis, 1986; Freire,
1970; 1994). The dialectical relationship between reflection and action offered an alternative to the linear relationship between theory and practice, which tends to be the model dominating teacher education. Carr and Kemmis (1986) define praxis as the integration of theory and practice, in which the "enlightenment" of actors comes to bear directly on their transformed social action (p. 144). This accurately describes the experience of the in-service teachers: Their transformed practice became the major source of their understanding and motivation to embrace more thoroughly the systematic study of their teaching. This, in turn, was shared and reaffirmed by peers in dialogue, generating more innovations in their practices, and reinforcing the subsequent dynamics between their reflection and action. The in-service teachers' presentations were the occasion to reconstruct this spiraling cycle of reflection and action, while their inquiry project was a practice that engaged them in enacting their reconceptualized teaching roles.

**Looking for Generative Metaphors and Finding Dichotomies**

The implications of this research are central to the current discussion of teacher education reform. Our current political economy includes liberal and conservative discourses that stress increased teacher quality and accountability, at the same time that they argue for a reduction of funding and resources (Popkewitz, 1987). Emphasizing teacher professionalism, the discourses are largely created by political officials in an effort to regulate the work of teachers; a manifestation of unequal power relations (Popkewitz, 1993). In addition, embedded in teacher education reform discourses are a multitude of assumed dichotomies, though two are central for our discussion.

While we sought out the influence of the use of surface and generative metaphors employed by pre-service and in-service teachers, we found, in addition, two related dichotomies embedded in the structure of the programs, to a greater or lesser extent: dichotomies that separate theory from practice, and university from school learning. These dichotomies are maintained by current reform movements that focus on the creation of professional development schools (Carnegie Forum on Education and the Economy, 1986; Goodlad, 1990; Holmes Group, 1990; Levine, 1988), along with federal reforms and resources allocated for this model of pre-service and in-service teacher education (US Senate, 1989; US Department of Education, 1998).

**Embedded Dichotomies**

The pre-service teachers' experiences, in particular, exemplify something that is widely known by teacher educators: the disconnection between the foundations of education courses and the 'real world' of educational practice engenders a dichotomy between educational theory and practice. Schön (1983) explains the shortcomings of professional education by attributing them to the 'technical rationality' that dominates the current thinking about the relationship between theory and practice. The positivist epistemology resulting from this 'technical rationality' generates, according to Schön (1983), three dichotomies, which pervade every important aspect of professional education:

Given the *separation of means from ends*, instrumental problem solving can be seen as a technical procedure to be measured by its effectiveness in achieving a pre-established objective. Given the *separation of research from practice*, rigorous practice can be seen as an application to instrumental problems of research-
based theories and techniques whose objectivity and generality derive from the method of controlled experiment. Given the separation of knowing from doing, action is only an implementation and test of technical decision. (p. 165, italics added)

The ideology of ‘technical rationality’, which leads to the separation of practice from theory and research, is reflected in the institutionalized curriculum design of different professions, including education. The dominant pattern of teacher education curricula follows a linear path described by Schon (1983): basic knowledge, then foundations of education, followed by methods and practicum. This pattern is particularly ineffective because it assumes that knowledge about teaching can be taught outside the context of teaching. Research by Anderson and colleagues (1995) argues a similar point highlighting the limitations of the ‘foundational metaphor’: assuming that theory can be taught in a decontextualized manner early in a teacher education program and applied later during student teaching.

When these dichotomies are assumed, pre-service teachers see their university work as theoretical and student teaching in schools as practical, and this physical separation continues in the way pre-service teachers conceptualize teacher education as well. The deeply embedded nature of this separation of university learning from student teaching is of special interest to us, precisely because the pre-service teacher education program had already been restructured in an attempt to reduce the effects of technical rationality. The integration of the service learning component, requiring 50 hours in a community agency the first semester and 50 hours in a school the second semester, was intended to enable pre-service teachers to merge theory and practice. And this was a process that was to continue through their university course offered during student teaching.

While an alternative way of organizing theory and practice was offered in the restructured program, the teacher educators did not engage in a substantive discussion deconstructing the dichotomy itself, nor did they address with their pre-service teachers the way they had reconstructed the program or the intent of the new structure. As a result, the pre-service teachers continued to rely on the theory/practice and university/school dichotomies to organize their thinking and participation, even though the program emphasized ‘merging theory and practice’ and integrating university and school experiences during student teaching. The differences made to the new teacher education program were not made explicit and, as a result, the pre-service teachers maintained their traditional conceptualizations reaffirming these two overlapping dichotomies. Indeed, for the four pre-service teachers, the university was the source of theory and the student teaching school was the site for practice.

We recognize the difficulty of changing the belief systems of pre-service teachers. For example, O’Loughlin (1990) notes that ‘teachers’ beliefs are culturally constructed ideological systems, frequently unconsciously held, pervading their entire ways of knowing and acting, not just their explicit philosophies of teaching and learning’ (p. 1). Consequently, he argues, a transformation of these beliefs is a complex undertaking that requires systemic reform and ongoing support. The teacher educators understood the difficulty of working with long-held beliefs, but focused on the course content and the discussions of social reconstructionism, rather than the dichotomies underlying traditional conceptions of teacher education. This was precisely why the third foundations course was to be offered during student teaching—to integrate university and school experiences during student teaching—though it did not have the intended effect.
Troubling Dichotomies

In contrast, the teacher-research paradigm, effectively used with the in-service teachers, was developed based on the idea of praxis, that is, an intimate and dynamic relation between teaching and research carried out by teachers themselves. Becoming a teacher-researcher did not imply adding a new role for teachers—that of researcher—but rather the reconceptualization of the teaching role as teacher-researchers. The difference here was that the theory/practice and university/school dichotomies were de-emphasized and the in-service teachers were ushered into a holistic role that included previously dichotomized components. They came to see pedagogy as research and knowledge construction, themselves as researchers and knowledge producers, and the university program as an extension of the school, created to foster dialogue and collaboration. As perceived by these in-service teachers themselves, their new role involved substantial changes in their practice and teaching philosophy, and consequently new roles for students in their classrooms.

Pioneers of the teacher-research movement in its latest wave see it as a way of legitimizing the ‘inside out’ knowledge of teaching, learning and schooling (Cochran-Smith & Lytle, 1993); a way to become a better theorist of one’s own practice (Goswami & Stillman, 1987); a ‘path for empowerment’ (Kincheloe, 1991); a way to ‘change schools from within’ (Wells, 1994); and a new paradigm of research and teacher-generated epistemology (Anderson et al., 1994). These pioneers were influenced by Freire’s (1970; 1994) participatory action research and liberating pedagogy in Latin America and Africa, by Carr and Kemmis’s (1986) work on critical social science and action research in Australia, and by Donald Schön and his work on the ‘reflective practitioner’ (1983) in the United States, among many others. A central aspect of this movement is the troubling dichotomies and attempts to envision alternatives to them.

Implications for Teacher Education

Comparing the metaphors for teaching roles constructed by pre-service and in-service teachers has led us to several conclusions pertaining to pre-service and in-service teacher education programs. Before we move to the final comments, however, we think it is interesting to note that while there is no question that unexamined generative metaphors have the power to regulate and control ways of thinking and acting through taken-for-granted ways of seeing, we initially de-emphasized the power of the effects of the traditional dichotomies embedded within Western conceptions of professional education. Indeed, the first author was hopeful that the restructuring of the pre-service teacher education program would exemplify a challenge to technical rationality and that her research would provide an illustration of ‘praxis’. The importance of uncovering tacit metaphors, dichotomies and beliefs, making them explicit along with their material effects, and deconstructing and reframing new, alternative ways of seeing, cannot be overstated. Our final comments will address teacher education reform and the dichotomies highlighted in our research as well.

First, in order to supplant ‘technical rationality’ as the dominant paradigm for teacher education, we need to devise a true dialectics between foundational coursework and the practice of education. As Freire (1970) succinctly states, ‘Sacrifice of action = verbalism; sacrifice of reflection = activism’ (p. 75). An authentic praxis of education implies an interactive and interdependent relationship at all times. While the service learning component that was incorporated into the pre-service teachers’ coursework was a step in
the right direction, the impact of community and school-based experiences may become more powerful if they are more closely linked with curriculum through explicit discussion and sustained reflection. The in-service teachers were in classrooms four days per week and were able to see the ideas in the enhancement program come to life.

In addition, this paper points to the power of a particular unexamined generative metaphor, 'student teaching as a proving ground', which limited the effectiveness of university-structured support for student teachers. Perhaps, by exposing this metaphor, student teachers may examine it in a way that leads to frame restructuring. In one sense, student teaching is a time to bring together what has been learned and to apply it in a 'real' setting. In another sense, developing an alternative metaphor of seeing 'teachers as learners' may help student teachers to see themselves engaged in a 'collaborative project', rather than as lone crusaders in a solitary battle.

Third, and in addition to frame restructuring, this research highlights the need for both pre-service and in-service teachers to devise strategies for support in future teaching situations. Seeing 'teaching as collaborative professional development' that includes the social construction of knowledge about teaching and learning may help student, novice, and experienced teachers shift their thinking about the value and importance of peer and collegial support. A place to begin may be with teacher educators and cooperating teachers.

Next, while the metaphors constructed and used by pre-service teachers helped them to create new roles for themselves as future teachers, and afforded them different ways of perceiving teaching, their lack of teaching experience may have inhibited the depth of their conceptualization about those new roles. Thus, when confronted with the 'realities' of student teaching, their range of available roles was limited. Alternatives to the traditional role were not conceptualized or elaborated to the extent necessary to sustain them. Perhaps this is why using metaphor to reconceptualize teaching roles had a more powerful effect with in-service teachers.

Fifth, to make permanent changes in generative metaphors about teaching roles, we need to study different systems of educational thought and the teaching roles derived from them, while engaging teachers in the opportunity to shift their beliefs about teaching and learning. Modeling and encouraging 'praxis' (Carr & Kemmis, 1986; Freire, 1970) and 'going beyond color blindness and basket making' (Gochran-Smith, 1995) should be central components of teacher education, in order for teachers to be prepared to work effectively with all children.

Finally, teacher education reform movements have suggested several improvements—including merging theory and practice, and reconceptualizing university-school partnerships. However, the major weakness attributable to these reforms is that they do not deconstruct the organization of the world into these dichotomies to begin with (see McWilliam [1994] for a detailed discussion). Professional development school models argue that teacher education will become more effective if theories are taught in the school setting and applied immediately. While these approaches have a legitimate point, they maintain the theory/practice and university/school dichotomies and have little to offer in regard to how to merge them other than physically going on-site. These reconceptualizations of teacher education help teacher educators think differently about their work, but they do not tackle the core issue—the influence of dichotomies on the way we think about the experiences of teacher education students and the work of teachers.

Calls to challenge the theory/practice and university/school dichotomies not only must offer an alternative, but, in addition, they must deconstruct the way in which the
separation of the world into these two exclusive parts influences our thinking, acting, language, and program structures. As illustrated in this study, pre-service and in-service teacher education programs must include an emphasis on the power of language to both afford and constrain thought and action, along with an ongoing discussion of surface and generative metaphor. While frame restructuring generative metaphors is an important process, it becomes all the more effective when employed in conjunction with a larger critique and deconstruction of the traditional dichotomies that limit the constructive reconceptualization of teacher education.

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REFERENCES


HOLMES GROUP (1990) Tomorrow’s Schools: principles for the design of professional development schools (East Lansing, MI).


US SENATE (1989) Senate Committee on Labor and Human Resources. A bill to provide financial assistance for teacher recruitment and training, and for other purposes (US Senate, Washington, DC, ERIC Digest 323 205).


