

Lives of Teachers: Update on a Longitudinal Case Study

By Barbara B. Levin

The customary folklore in teacher education is that the effects of teacher preparation programs “wash out” as soon as beginning teachers graduate and enter the real world of the classroom (Lortie, 1975; Zeichner & Liston, 1987; Zeichner & Tabachnik, 1981; Zeichner, Tabachnik & Densmore, 1987). But is this necessarily the case? Is everything learned during a teacher preparation program lost or changed when beginning teachers face the reality of classroom life and become socialized into the profession and to school culture? How does the pedagogical understanding of teachers grow or change over time? What are some of the personal and professional influences on teachers’ thinking? Studies based on longitudinal research are needed to answer these and other questions.

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This article provides an update on one case study taken from a longitudinal study of the pedagogical development of four 1987 graduates of the Developmental Teacher Education (DTE) Program at the University of California at Berkeley (UC-Berkeley). The purpose of presenting this case study as an exemplar of “lives of teachers” is (a) to gain an understanding of the development of one teacher’s pedagogical thinking over time, especially how the quality of thinking about teaching, learning, behavior, and development changes, progresses, or stabi-

lizes over the course of a career in the field of education, and (b) to examine how personal and professional influences from life history may impact the development and understanding of pedagogy during a teacher's career.

Theoretical Perspectives

Researchers associated with the DTE program at UC-Berkeley proposed a model of the development of teachers' thinking in the pedagogical domain (Ammon & Hutcheson, 1989; Ammon, Hutcheson & Black, 1985; Ammon & Levin, 1993; Hutcheson & Ammon, 1986, 1987), based on data from journals and interviews of preservice and inservice teachers associated with the DTE program beginning in the early 1980s. Since that time the model has been evaluated empirically in several studies (Ammon, et al, 1985; Hutcheson & Ammon, 1986; Levin & Ammon, 1992, 1996) and found to represent the developmental trajectory of teachers' thinking about teaching and learning, behavior, and development. The Ammon and Hutcheson Model of Pedagogical Thinking provides the theoretical framework for the this longitudinal study and data collected for this study is based on the same set of clinical interview questions on which the model was originally developed and tested (Ammon, et al, 1985; Hutcheson & Ammon, 1986; Levin & Ammon, 1992, 1996). In this study, Ammon and Hutcheson's Model of Teachers' Pedagogical Thinking provides an *etic*, or outside, perspective on the longitudinal data collected in this study.

The Ammon and Hutcheson Model of Pedagogical Thinking is a cognitive-developmental structural model, which suggests that more complex, multi-dimensional thinking about pedagogy evolves from simpler, uni-dimensional thinking in an invariant sequence that represents progressively more sophisticated and well-developed understandings of pedagogy. The essential qualities of pedagogical understanding that teachers go through as their understanding of learning and teaching develops from the perspective of Ammon and Hutcheson's model can be found in Appendix A.

Due to the changing nature of qualitative research over the past two decades and increasing recognition of the importance of context and life history in understanding the development of teachers' thinking, the original clinical interview protocol was modified slightly in 1997. This was done to gain an *emic*, or inside, perspective from the participants. At the start of the interviews conducted in 1997 and 1999, each educator was asked to "Tell me what has been going on with you since we last talked," before responding to any of the clinical interview questions. Combined with classroom observations, the two kinds of interviews (open-ended and structured) used in this study form the basis for understanding changes in teachers' thinking about pedagogy over time.

Findings from the first six years of the longitudinal research described in this paper (Levin & Ammon, 1992, 1996), based on periodic clinical interviews and

classroom observations, indicated that the development of teachers' thinking in the pedagogical domain is not smooth or linear. In addition, the washout effect suggested by earlier researchers was not evident in these earlier studies (Levin & Ammon, 1992, 1996). Furthermore, these findings suggested that the teacher preparation experience of the four educators offered a theoretically coherent program of study and later provided opportunities for graduates of the program to mentor student teachers and teach classes for the program. These opportunities apparently allowed the program graduates who are the focus of this longitudinal research to think, rethink, and articulate reasons for how and why they teach as they do. Analysis of more recent data from this longitudinal study is offered here to provide an in-depth look at the life and career of one educator with a special focus on understanding how this teacher's pedagogical thinking has developed over time and to describe what it looks like when played out in classroom practices.

Methods

The focus of the case study in this article is on Rick Kleine, a Caucasian male who has been teaching full-time in the same classroom in the same school since he graduated from the DTE program in 1987. Originally Rick taught fifth graders and then a combination of fourth and fifth graders. He now loops with his students so that he teaches each for two years. Rick is married to a former teacher who is now a doctoral student in education and they have two school-age daughters.

Data Sources

Data sources for this longitudinal study include: (a) transcripts of responses to the same set of clinical interview questions administered to the participant six times (1985, 1987, 1989-90, 1993, 1997, and 1999); (b) classroom observations of at least two mathematics and reading or language arts lessons conducted around the time of the interviews; (c) additional interviews following classroom observations to check the researcher's interpretations of these lessons; (d) responses to an open-ended interview question in 1997 and 1999 (Tell me what has been going on with you since we last talked); and (e) the researcher's field notes during observations, which include detailed maps and narrative descriptions of the classrooms.

Clinical interviews, which take about two to three hours, were conducted one-on-one and recorded. The interviews took place originally at the university and also in the teacher's classroom. The participant was asked the same set of questions every time, and additional probes were used when necessary for clarification or elaboration. (For a copy of the interview protocol see Levin & Ammon, 1996). The open-ended interviews collected for this paper occurred before any of the clinical interview questions were asked.

Classroom observations, using the Developmental Teacher Observation Instrument (DTOI) developed by Kroll and Black (1993), were also conducted of at

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least two lessons in math and reading-language arts during 1989-90, 1993, 1997, and 1999. Lessons were scripted and running records were analyzed using the DTOI instrument, which identifies the extent of developmental and constructivist praxis in evidence during the lesson. A summary of the kinds of teacher and student activities captured by the DTOI instrument, which are expected in a classroom that is developmentally appropriate and constructivist, is provided in Appendix B.

Classroom observations were followed by additional interviews, usually at the end of the day or directly following the lesson, to help clarify the observations and make explicit the thinking and decision-making of the teacher during the lessons. Notes from these sources along with the researcher's field notes during site visits provided additional data to help triangulate the actions of the participant as they relate to the thoughts and beliefs he expressed during the interviews.

Data Analysis Procedures

Qualitative data analysis methods employed in this study are designed to provide both *emic* (from the inside) and *etic* (from the outside) perspectives on the development of teachers' thinking and pedagogical practices over time. The techniques of constant comparative analysis (Glaser & Strauss, 1967; Strauss & Corbin, 1990), pattern matching (Merriam, 1998; Yin, 1994), and triangulation of data sources (Merriam, 1998; Miles & Huberman, 1994; Strauss & Corbin, 1990) were employed during the data analysis (Merriam, 1998; Stake, 1995; Yin, 1994). In order to develop each longitudinal case study, content analysis procedures (Merriam, 1998; Miles & Huberman, 1994; Yin, 1994) were applied to all classroom observations, field notes, and interviews with the participants. The goal of content analysis is to develop rich descriptions of the participant's classroom, his teaching practices, and also to describe his thoughts and actions from an *emic* perspective.

Findings and Discussion

Rick's Teaching Context

Rick continues to teach about 30 fourth and fifth grade students each year in the same school in which he took his first teaching position in 1987. During this time, Rick's school has been on a year-round schedule. Rick doesn't relish the year-round schedule because he feels that he has to start school four times a year. He thinks he and the students lose their momentum at each break and have to spend time getting back into the routines that were flowing so well before a break (Clinical interview, Time 4: May, 1993). However, Rick does enjoy having time to observe and volunteer in his daughters' classrooms during the school year and feels he benefits from being able to compare his children's school experiences with those he is trying to provide in his own classroom.

Recently Rick has been able to "loop" with his students so that he has them for two years as both fourth and fifth graders. For Rick, this opportunity to work with

students over a longer period of time is one of several factors that keeps him from changing schools or districts and helps him feel like he can make a difference in his students' lives. He feels that looping gives him more freedom to help his students develop into the kind of people he wants them to become, and also gives them time to get used to him and to the kinds of expectations he has for them:

I have a good situation right now with the looping. I'd like to see that out. I need more practice at that. I want to see what they can—I want to push that and see what it can do.... The reason I want 4-5 now is because of this looping thing. It's what I've wanted all along. And I finally got it and I'm happy with it.... And in the looping situation where half the class is already comfortable here and knows me real well, I can work on how to integrate them quickly and make them empowered to speak and to take leadership.... the wonderful thing about the looping thing is that I get 2 years with them. So I don't feel any pressure. If we spend more time on something that feels real important or they're real invested in, I've got a whole year to make up the time... (Clinical interview, Time 6: May, 1999)

In his teaching context, Rick values his colleagues and especially the ongoing support of his principal, whom he considers to be exemplary (Levin & Ammon, 1996). Rick's principal continues to engage him in discussions of educational methods and theories and challenges him to grow as a teacher:

I have a principal who understands what I do and values what I do. I'm not sure I could do what I do just anywhere.... Not everyone at this school teaches the way I would like them to, but I believe that everybody, every teacher at this school truly cares about kids and is trying to do the right thing for kids.... I need to be around people like that. (Open-ended interview, Time 6: May, 1999)

Another important aspect of Rick's professional context is that he feels part of a community at his school. For example, on Mondays at lunchtime, Rick regularly joins several of the teachers at his school to share and talk about their triumphs and tribulations. For Rick, this is an opportunity to talk about teaching, to share perspectives, and to problem solve with his peers. Ironically, this is very similar to the kinds of experiences he tries to establish for his fourth and fifth grade students. He believes strongly that his students should also work in groups, learn from their peers, be engaged in activities that allow them to understand each other's perspectives, and see how others might solve a problem.

I want to be in this really dynamic environment where people are thinking about the same kind of things that I am and they are working with their kids and when I get them they have already had a few years of it and I can take them someplace new with that, they have some background in them. I have a lot of energy for that. What we are doing on these Mondays is a part of that. It is satisfying something for me... (Clinical interview, Time 5: May, 1997)

In recent years Rick has also engaged in several professional development opportunities with other teachers at his school that he feels are helping him stay fresh and open to sharing and exploring ideas to see how they fit with his philosophy.

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For example, since 1997 his school's affiliation with the Developmental Study Center (DSC) has been a good match for Rick's goals for his students:

I guess the biggest thing that's changed is that our school got a grant to work with the Developmental Study Center, so they came out here. And I've been incorporating a lot of what happens in Developmental Study Center and a lot of the reading, that along with the cooperative adventures stuff that I've always done... and that's probably the biggest change. (Open-ended interview, Time 6: May, 1999).

This is the other thing that the DSC helped me do. It helped me to frame what I do. I'm trying to create academically and socially and ethically responsible kids. And it makes—what I do is I look at everything I teach and I think about “Does it meet all three of those criteria?” If it doesn't then I have to stop doing it and I have to do something else. (Clinical Interview, Time 6: May, 1999)

In summary, Rick's professional teaching context remains very stable because he has taught in the same school for many years. And, although he doesn't relish the year-round schedule at this school, he feels that he has an ideal situation because he is able to loop with his students as they move from fourth to fifth grade, which allows him to work with the same students for two years. Furthermore, he continues to have the support of a principal he admires, as well as teaching colleagues with whom he feels comfortable sharing and problem solving with on a weekly basis. He also continues to participate in school-wide professional development opportunities that engage and challenge him. These professional influences on Rick's thinking, along with personal and family influences in his life that are described next, all influence Rick's current pedagogical thinking about children's behavior, development, learning, and teaching.

Rick's Personal Life Today: Family Life and Other Influences

Besides enjoying the opportunity to talk with his colleagues and educators from the Developmental Study Center about teaching, Rick likes being able to discuss teaching and educational ideas with his wife. She was also a classroom teacher for many years but recently returned to graduate school. Rick's point of view is that wife's experiences are a big influence on his development as a teacher because her own learning impacts his learning too, especially as he tries to apply what he is reading and discussing with her to his own classroom praxis:

I guess the other big influence that's happening is [my wife] going back to school. She's teaching me all kinds of things, keeping me up on all the literature.... It's nice to hear those theorists' names again and hear what they're talking about and thinking about how that fits with what I'm doing and whether I'm really putting that into practice or whether it's just ideals. And then trying, I guess, the big, the struggle is always to think about those things and how do you put that into practice with kids.... So that's it's a challenge; it's fun. (Open-ended interview, Time 6: May, 1999)

Rick's view is that interactions with his wife have greatly influenced his

thinking because he reads or rereads books and articles and then discusses theory and research about education with her. This appears to influence his thinking in two ways: First, Rick sees these conversations as opportunities to think more about things that he is in flux about. Second, Rick always tries to use his readings and discussions with his wife as opportunities to think about and solve problems in his classroom, and especially to help him understand individual students in his class.

And then, just books. Books, books, always books. I'll get one author and then that author will lead me to some other author. Just some new take always on how to present this, how to think about it, how to frame it, make it easier for kids, or make it easier for me to understand and make it part of a life. (Clinical interview, Time 6: May, 1999)

In summary, from Rick's perspective the things that changed personally for him between the interviews and observations in 1993 and 1999 include his wife's starting graduate school, having ongoing opportunities to share and discuss educational issues with her, and also discussing the books he reads.

Example of Rick's Current Praxis

Based on observations of Rick's teaching at Time 5 (1997) and Time 6 (1999), it is clear that his thoughts and actions are highly coordinated. That is, what he talks about in his interviews and what he does in the classroom are highly congruent. Rick's stated goal is to help his students develop into academically, socially, and ethically responsible people; and he designs learning activities to meet this goal. For example, he uses Literature Circles and Writer's Workshop as structures for teaching reading and writing to his fourth and fifth graders.

When I observed in May 1999, Rick's students had already selected chapter books they wanted to read from about eight class sets available to them. Earlier, Rick previewed each of these books for the students and allowed them to make their choices. They were already well into reading their self-selected novels during this particular observation. After lunch the students spread out around the room to read by themselves or in pairs before discussing their reading in small Literature Circle groups. The discussion leader for the day posed a question from a series of generic questions Rick had provided earlier. After talking with those who were reading the same novel, Rick asked each student to talk about their book with a student from a different group.

Following this, the students wrote in their literature journals about today's reading and group discussion. When they finished recording their responses to the novel and the discussion with their peers, they began to work on their writing. During this time, Rick met with each literature group briefly to talk with them about their book. He made sure that each student told him something about the reading or the group's discussion. A parent volunteer arrived in time to work with several of the Literature Circle groups and to help conference with the students about their writing.

For most of the afternoon these fourth and fifth graders worked with their

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Literature Circle groups, met with Rick to talk about their book, and then worked independently or sometimes with a peer on their writing. The shift from reading to writing was very subtle as the students were working at different paces in both areas. They were also self-directed and clearly knew what they were supposed to be doing.

In asking Rick to elaborate on what has been going on with his teaching of reading and writing since my last observation two years ago, Rick described changes in his praxis in this way:

I think the big difference that's changed in the last few years for me is that I've really started to—I really wanted to know more about what each kid could do and where their thought processes were going and why they were writing the kinds of things they were writing, and how to get them from one place to the next—to move them further along and to be more individualized about that. So I've really made an effort to conference with them individually much more often both in reading and writing, and when they come to me I'm asking them about what they decided to discuss.... I want to hear from each person about what their discussion was, what they thought about it, what was their idea. I want to impress upon them that I'm expecting each person to be involved, be part of that group. That's the part that's really much better now. When they have discussions, 90 percent of them are really involved in that discussion. They know they are supposed to, and they get into it and they do it so I'm happy about that. So it's just I want to make sure that I have—the thing for me now is that I want to make sure that I touch base with every single kid in reading and writing every day. (Clinical interview, Time 6: May, 1999)

From this example of Rick's classroom practice, it is clear that his pedagogical actions in the classroom are congruent with his expressed goal that everything he does should have academic, social, and ethical value for his students, or it isn't worth doing. It is also clear that he has shifted the responsibility of learning to his students by establishing situations where they are responsible for making choices, working together with their peers, solving problems in their groups, and learning in a social context.

Rick's Current Pedagogical Beliefs

Every time I interview Rick I ask him what goals he has as a teacher and what he most wants to accomplish. Most recently, in May, 1999, Rick responded clearly and succinctly: “*Academically, socially and ethically responsible kids. Kids who know how to win in any contest*” (Clinical interview, Time 6: May, 1999).

In response to my question about how he sees his students as being different after being with him, Rick stated:

I guess the general kind of lens that I'm looking for is a sense of self-evaluation. The ability to value giving your personal best is very important to me. It's one I'd like to pass on to them. So we spend a lot of time talking about that. What your best looks like.... They self assess a lot. I ask them. I cause them to do it a lot. Through portfolios and through individual assignments and through—and not just on

content, but everything—you know we did it outside, too. You know we talked about getting them to visualize. That skill of being able to visualize and see the possibility of something different in order to get beyond the concrete, the factual - and see how it could be different. (Clinical interview, Time 6: May, 1999)

He also described the teacher's role in the learning process in the following way:

I would describe my role as the...definitely that facilitator model. I see myself not so much as teaching content, but teaching them how to learn, how to access things. And so I spend a lot of time working with them, thinking about how to prepare themselves, how to have the right tools available, how to—kind of clueing them in on the social customs, and the educational customs, and academic customs, and ethical customs of a society. And then how to research - how do people who are good at math go about the business of problem solving? My role also is to give them space. Let them struggle. Make them feel comfortable struggling. Create an environment where struggling is valued, where effort, painstaking effort, is valued. And an understanding of the value of practice and the value of mistakes as information... in a place where they're supported and have people collaborate with them. (Clinical interview, Time 6: May, 1999)

Changes in Rick's Pedagogical Beliefs over Time

While these responses appear to be similar to the answers Rick has given to these same questions over time, especially seeing himself as a facilitator and a guide of student learning, there are qualitative changes evident in his thinking. For example, at Time 2 in 1987 when Rick was about to graduate from the DTE program at UC-Berkeley, he stated in his interview that he wanted to be a facilitator and set up a learning environment and experiences for his students and then guide them through their interactions. At that time, Rick's overall pedagogical understanding was coded as Level 3 on the Ammon and Hutcheson model because he wasn't quite able to think about the importance of teachers knowing what they want their students to get out of particular learning experiences, just that they want to provide such an environment (see Appendix A). At that time, setting up learning opportunities seemed to be enough for Rick.

By Time 3 in 1990, after three years of teaching, Rick had a much better sense of not only what he wanted his students to learn from his lessons but also how he was going to begin to help them think like a mathematician or a social scientist. He still expected to be a facilitator and a guide who would be there to ask questions at the right time and he believed in promoting disequilibrium, challenging students' thinking, and encouraging risk-taking. So, while Rick still believed in the value of earlier thinking about providing a hands-on, active learning environment, and continued to believe that his role as the teacher was to guide and facilitate learning, his pedagogical understandings were becoming less global and more differentiated.

As developmental stage models predict (Kohlberg & Armon, 1984), Rick

didn't completely abandon his earlier ways of thinking. Rather, he included them in his more advanced schema of pedagogy as it developed. In fact, his idea that his role should be one of a facilitator and guide became a logical necessity. However, what continued to develop over time, with more experience and with thoughtful reflection on his role as a teacher, was Rick's understanding of *how* he could facilitate learning and *how* he could more purposefully set up the learning environment for his students.

By Time 4 in 1993 when Rick had been teaching the same aged students in the same school for six years, his understanding of pedagogy continued to advance. At this time he still felt the teacher should guide and facilitate learning, but he saw that this should happen in both social and academic domains. He was also beginning to encourage his students to think about their own thinking and learning (metacognitive thinking) in much the same way that he was thinking metacognitively about his praxis. At Time 4 Rick saw that his role as a teacher still included asking challenging questions, offering choices to students, and encouraging independence. But he now saw that these things had to be done in both the social and the academic worlds of his students. After six years of teaching he understood that learning is interconnected with everything social and academic, and also with the child's development, which is a Level 5 way of thinking about pedagogy according to the Ammon and Hutcheson model. He also understood that it is the students who have to resolve their disequilibrium, not the teacher, and that when students experience disequilibrium they may have to reorganize everything they know into a new way of thinking about things. This kind of thinking represents many aspects of Level 5 thinking in Ammon and Hutcheson's model, and Rick's thinking about pedagogy was becoming more integrated within and across domains - also a Level 5 way of thinking.

By Time 5 in 1997 and Time 6 in 1999 when Rick had been teaching fourth and fifth graders for ten and twelve years, respectively, he continued to see the teacher's role as that of facilitator and guide. However, by his tenth year of teaching (1997) Rick also believed that his job included setting parameters or boundaries for the learning activities and then guiding students' choices within those purposeful boundaries. He could no longer imagine just setting out materials to explore or designing learning activities without specific academic and social purposes in mind. For example, he routinely integrated academic lessons (such as language arts) with developing skills his students needed (such as listening) while also encouraging the social needs of his students (such as developing empathy and perspective-taking and learning to work in groups). By his tenth year Rick also began to embrace and use the concepts of learning styles and multiple intelligences as frameworks for planning various access points into learning opportunities for his diverse students.

At Time 5 after 10 years of teaching, Rick's actions and classroom practices were in sync with his level of pedagogical understanding of teaching, learning, behavior, and development. In fact, the examples he provided in his interviews to

explain his thinking and the lessons I observed were very tightly coupled. Everything about his praxis was integrated with his thinking, and his was definitely an excellent example of Level 5 thinking. However, at Time 5 in 1997 Rick still felt that he should be in charge of making this all happen for his students. He wasn't content to be the catalyst for helping his students learn; rather, he felt he had to control this and make it happen. He felt that he was not only the facilitator and the guide for learning but also the director.

At Time 6 in 1999, Rick expressed his belief that the teacher is still a facilitator and guide, but he also believed that the teacher should not strive to control the outcome of instruction or determine the outcome of any problem solving. Rather, the teacher's role is to set up a learning environment that allows the students to learn how to make good choices, understand the consequences of their actions and decisions, resolve conflicts, and take risks. Furthermore, the teacher must do all this in a thoughtful and conscious way that includes consideration of the social, academic, and ethical dimensions of the problem to be solved or the material to be learned. Based on Rick's interview and observation data, the following features are hallmarks of Rick's current understanding of pedagogy:

- u The goal of instruction is for students to attain the attitudes, skills, and self-awareness to be responsible for their own learning; although the teacher should understand that if students don't have a passion or a need for learning, they may not be ready for this.
- u In order to obtain these learning objectives, students must learn to be responsible for their own learning and behavior both individually and within their groups; they must be allowed to select their own groups, make their own rules within their groups, and resolve their own conflicts; they must become aware of their own learning styles; and they must also begin to think metacognitively about their learning.
- u Teachers teach by having academic, social, and ethical purposes for all learning activities; they must know each student's thought processes well enough to customize instruction for every child when needed; they must touch base with children every day about their learning; and they should regularly and consciously use problems and conflicts to model, discuss, and think metacognitively with the students about possible resolutions.

Changes in Rick's Metaphors

Comparing Rick's metaphors for teaching across time is very telling and represents another way to show how his thinking about pedagogy changed and developed over time. His current image for his teaching may also provide a good metaphor for advances in his pedagogical thinking.

In the beginning Rick told me that his metaphor for teaching and learning had

to do with growing: *"It used to be the plant metaphor. That's always a good one for me.... I used the plant one for a long time."* When I asked Rick about a metaphor for his teaching in 1997 at the end of ten years of teaching, his response was the same as it had been in 1993 after six years of teaching. His metaphor was still the Monkey's Fist, which represents a complex knot of rope that Rick wears daily around his neck. The three strands of the rope are symbols for trust, risk and cooperation. One of the concepts behind the Monkey's Fist is that you can't achieve or learn without making mistakes and taking challenges and that you can't really do these things without trust, risk, and collaboration.

Rick's students have the opportunity to earn the Monkey's Fist necklace during or after their annual camping trip, although not everyone earns it their first year with him, and some never earn it. For Rick and his students the Monkey's Fist represents that they have pushed themselves to try something that is difficult for them personally, have made a good decision rather than a unwise or dangerous one, and have taken a risk and learned something about themselves as a result. Rick explains the Monkey's Fist this way:

When I talk to them about the Monkey's Fist I talk to them about the marble that is inside. For me it symbolizes the challenge that I work on for myself and that I chose for myself every year. And I talk about what it is and how my wearing it doesn't say that I conquered it. It's not a trophy but it is something that reminds me. It's there and it tells me that this is the thing that you said you were going to try to do, and that I screw up all the time, but it reminds me that I need to keep putting effort into that problem and it's not something I'm going to overcome—it's just always going to be there. (Clinical interview probe, Time 5: May, 1997)

However, in 1999 toward the end of his twelfth year of teaching, Rick's metaphor changed. This surprised me at the time, but in thinking about Rick's newest metaphor for his teaching, that of a flowing river, I believe it is very appropriate and captures a new quality to his thinking about pedagogy, especially about teaching and learning.

There's something about water now that's been grabbing me lately—something about being on a river and how rivers deal with obstacles.... Sometimes they're powerful enough to push through them and sometimes they don't need to be that powerful; they can just go around or under and I guess—that's important for me now because of the flexibility that that allows for. There are some times that I have to just be determined and plow through something and other times, that it's just beating your head against the wall and there are other ways to be creative about it. (Clinical interview probe, Time 6: May, 1999)

According to Csikszentmihalyi (1975), flow is, "the holistic sensation that people feel with total involvement." The person in a state of flow "experiences a unified flowing from one moment to the next, in which he is in control of his actions, and in which there is little distinction between self and environment, between stimulus and responses, or between past, present, and future." In Rick's case I believe

this captures the essence of his total immersion in his teaching, his being attuned to his students' individual needs, and his conscious striving to meet those needs at every moment of the day. It also matches his goals for his students as they work to become a cohesive unit, able to solve their own problems, and understanding of the needs of others in the group and not just their own needs. Being in a state of flow means that you are working in harmony with others and looking after the good of the whole and not just the parts, which is certainly a stated goal that Rick has for his students.

Summary of Changes in Rick's Pedagogical Beliefs and Praxis

Influences on the nature, sources, and evolution of Rick's praxis and pedagogical beliefs appear to be both professional and personal. Personally, the development of Rick's thinking about pedagogy over the past several years has been influenced by seeing his own children develop and learn, especially as he compares their experiences after observing and volunteering in their classrooms, with his own students' experiences and development. Rick's personal life also overlaps with his professional life. This is partly because he is married to another educator with whom he shares professional interests but also because he has opportunities for ongoing dialogue with her about issues and theories of teaching and learning. Reading and discussing books about education, which Rick does regularly, is also a place where Rick's personal and professional life overlaps because he often discusses ideas he is reading and thinking about with his wife, his principal, friends, and sometimes his colleagues as well.

Professionally, Rick's thinking about pedagogy continues to develop in a school climate where he has colleagues he values, on-going professional development opportunities that he connects with, and a principal who supports and challenges him to continue thinking about pedagogical issues. At Time 5 in 1997 Rick described some of these influences this way:

I'm at the point where these Monday meetings are good for me because I'm trying to explain what I'm doing to somebody else and I'm really having to process it so much more deeply and catching myself in ways that I wouldn't if I was just doing it. The process of talking about it has really helped me. I am hoping this Developmental Studies Center project goes through and that will be a great source of change for me for sure. Some of the people in that group are also readers of educational literature and we've been tossing around titles to read (Clinical interview, Time 5: May, 1997)

Two years later at Time 6 in 1999, Rick described what happened in his class as a result of his professional development experiences with the Developmental Study Center in this way:

I've been incorporating a lot of what happens in Developmental Study Center and a lot of the reading, along with the cooperative adventures stuff that I've always done.... It was only a year but you know, it was enough for me. I went on and I read a bunch of stuff and found all these really good books about it and I got what

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I needed from it...it wasn't so much an eye-opening thing. It wasn't something I didn't know, but it put...into terms these ideas about "fairness" and "kindness" and "caring" and "responsibility". Being able to put it into those kinds of terms for kids is really important. I was always talking about those kinds of things. I was always talking about those kinds of values all the time. But labeling them for kids and having that be a consistent part of what we talk about has made a huge difference. It's just so much, it's just being taught better. You know, it's the difference between teaching something for the first time and then going back to it and fixing all the problems, working out the kinks. It just feels smooth; it feels easy. (Open-ended interview, Time 6: May, 1999)

For Rick, opportunities to continue to read and discuss books at both home and school, followed by his own efforts to test out his thoughts in his classroom, have influenced the development of his praxis and impacted his thoughts and his actions. *"I sit at home and I think about, 'OK, is this going to meet their needs academically, socially, ethically?' If it doesn't then I change it"* (Open-ended interview, Time 6: May, 1999).

Is Rick's Pedagogical Development Unique?

Many of the factors in teachers' lives, personal or professional, that might impact their development, especially a teacher's understanding of pedagogy, may not be the same as those that have influenced Rick's thoughts and actions. Other educators, even career teachers like Rick with 12 years of experience working with the same age group of students in a stable and supportive context, might not continue to develop their pedagogical understandings. For example, not all teachers continue to read and think about educational theory and research beyond their formal training. Not all teachers have personal relationships with other educators beyond their colleagues at school, or have the opportunity to visit other schools and classrooms to observe and work with children in different contexts. Not all teachers even identify their sense of "self" as a teacher (Nias, 1989). Not all teachers work in supportive places, experience effective professional development, or have quality principals who nurture their growth. Furthermore, there seem to be personal, internal factors that are necessary for continued growth as a teacher.

For Rick, there seems to be a combination of many factors, personal and professional that have influenced his development as a teacher and a pedagogue. Rick is a consummate professional who sees teaching as a career and a profession, not just a job. He continues to develop and work toward enacting the vision he has for his students. Not every educator has a vision, much less a highly sophisticated understanding of what children can be and do, which Rick has as part of his vision. Many teachers espouse the belief that "all children can learn," but few people work hard at making this come true for every student. Furthermore, the belief that all children can learn is a rather global, generalized view, which Rick has actualized in a more complex and sophisticated way, as he states his goal: *"I'm trying to create*

academically and socially and ethically responsible kids. And it makes—what I do is I look at everything I teach and I think about ‘Does it meet all three of those criteria?’ If it doesn’t then I have to stop doing it and I have to do something else” (Clinical Interview, Time 6: May, 1999).

Summary and Conclusions

The original goals for this longitudinal research and for constructing this case study of Rick included understanding (a) how pedagogical thinking develops over time, and (b) how personal and professional influences from life history impact the development of teachers’ understanding of pedagogy. In this article I describe Rick’s thoughts and actions during his teaching career in order to shed light on how this teacher’s pedagogical understanding changed over the course of fifteen years in the field of education. I also described factors from Rick’s personal and professional life that affected his development in the pedagogical domain. However, Rick’s case is unique in many ways, as all lives of teachers are unique. In sharing Rick’s story I hoped to discover insights about how teachers’ lives and careers may impact their pedagogical development. In Rick’s case, I believe that we have an example of a highly sophisticated pedagogue, certainly of a man dedicated to being the best teacher he can for his students. We also have a picture of a teacher with both a strong foundation in pedagogy and on-going supports that interact with his own personal desire to continue to be a problem solver and a learner—just as he works with his own students to help them learn to be problem solvers and learners.

Appendix A

Developmental Sequences of Teachers’ Thinking about Pedagogy

Adapted from Black, A. & Ammon, P. (1990). Developmental teacher education. *The Educator*, 4(1), 4-9.

| Qualitative Level | The goal of instruction is for students to attain: | In order to obtain these learning objectives, students must: | Teachers teach by: |
|-------------------------|---|---|--|
| 1. Naïve Empiricism | A large store of facts and procedures. | Be able and receptive. | Showing and telling students what they need to know in ways that are appealing. |
| 2. Everyday Behaviorism | Skills that are essential for attaining and using facts and procedures. | Practice the new skills in question, having first acquired whatever prerequisites are needed. | Giving students a lot of directed practice, with corrective feedback and positive reinforcement as needed; modeling and reinforcing. |

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| | | | |
|----------------------------------|--|---|--|
| 3. Global Constructivism | Correct understanding of the concepts that underlie the facts, procedures, and skills in a given subject. | Explore and manipulate relevant aspects of the real world, having reached the stage of development at which the concepts in question can be correctly understood. | Giving students opportunities to explore and manipulate developmentally appropriate materials; providing hands-on experience. |
| 4. Differentiated Constructivism | Conceptual understandings of a sort that are better than before and may improve still further. | Be actively engaged in their most advanced ways of thinking to construct understandings of the concepts in question at their present level of development; engaged in sense-making. | Engaging student in thought-provoking activities and guiding their thinking toward better understandings within each domain. |
| 5. Integrated Constructivism | Conceptual understandings that integrate the academic, social, and ethical dimensions of each concept, procedure, or skill to be mastered. | Be actively engaged in problem-solving to construct understandings of the concepts in question at whatever the child's individual level of development. | Engaging students in challenging activities and guiding their metacognitive understandings of the academic, social, and ethical issues and concepts inherent across several domains. |

Appendix B

Teaching Methods Likely to be Found in a Developmentally-appropriate, Constructivist-based Classroom

Adapted from Black, A. & Ammon, P. (1990). Developmental teacher education. *The Educator*, 4(1), 4-9.

General Teaching Methods:

1. More small group than whole group instruction.
2. More heterogeneous grouping than homogeneous grouping.
3. Interaction between students seen as an important source of knowledge.
4. Students offered choices in grouping and in the content of the lesson.
5. A functional basis for learning is emphasized.
6. Students given reasons for learning particular lessons.

Literacy Instruction:

1. Writing to read and reading to write is emphasized.
2. Whole language approach is integrated into a balanced reading program.
3. Literature-based versus basal reader-based reading program.
4. Communication of meaning emphasized as a source of specific skill acquisition, not conversely.
5. Peer as well as teacher conferencing and editing of written products.

Mathematics and Science Instruction:

1. Hands-on, discovery-based science and manipulative-based, problem-solving orientation to mathematics instruction is emphasized.
2. Mathematics and science texts are supplemental to teacher-organized curriculum.
3. Science as a reading activity de-emphasized and science as observation, experimentation, and communication emphasized.
4. Mental mathematics, problem solving, and estimation emphasized over memorization of facts and algorithms.

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