

DOCUMENT RESUME

ED 256 753

SP 026 075

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TITLE The First Year of Teacher Preparation: Transition to Pedagogical Thinking? Research Series No. 156.
INSTITUTION Michigan State Univ., East Lansing. Inst. for Research on Teaching.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Jan 85
CONTRACT 400-81-0014
NOTE 36p.
AVAILABLE FROM Institute for Research on Teaching, College of Education, Michigan State University, 252 Erickson Hall, East Lansing, MI 48824 (\$3.50).
PUB TYPE Reports - Research/Technical (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Cognitive Style; *Education Majors; Fundamental Concepts; Higher Education; *Individual Differences; Learning Experience; Learning Processes; Maturity (Individuals); Personality Traits; *Preservice Teacher Education; *Program Attitudes; *Student Attitudes

ABSTRACT

In considering the questions of what sense teachers make of their professional education and what they learn during teacher preparation, two case studies are presented, based on an analysis of interviews across the first year of teacher preparation. The first student was enrolled in an academic-learning program which emphasized the importance of theoretical and subject matter knowledge in learning to teach. Field experiences were limited, brief, and connected with specific course requirements. The other student participated in a decision-making program, emphasizing generic methods of teaching and research-based decision making with personal reflection. Regular time was spent in classrooms aiding, observing, and teaching small and large group lessons. The studies reveal how differences in personal history and formal preparation can help or hinder the transition from commonsense to professional thinking. They also suggest that very little normatively correct learning can be trusted to come about in teacher preparation without instruction that takes into account the preconceptions of future teachers.

(Author/JD)

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Research Series No. 156

THE FIRST YEAR OF TEACHER PREPARATION:
TRANSITION TO PEDAGOGICAL THINKING?

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Published by

The Institute for Research on Teaching
252 Erickson Hall
Michigan State University
East Lansing, Michigan 48824-1034

January 1985

This work is sponsored in part by the Institute for Research on Teaching, College of Education, Michigan State University. The Institute for Research on Teaching is funded primarily by the Program for Teaching and Instruction of the National Institute of Education, United States Department of Education. The opinions expressed in this publication do not necessarily reflect the position, policy, or endorsement of the National Institute of Education. (Contract No. 400-81-0014)

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Abstract

What sense do teachers make of their professional education? What do they learn during teacher preparation? This paper presents two case studies based on an analysis of interviews across the first year of teacher preparation. The stories of Janice and Sarah offer different versions of an honest quest for professional understanding and competence in the context of two contrasting preservice programs. They show how differences in personal history and formal preparation can help or hinder the transition from commonsense to professional thinking. They suggest that very little normatively correct learning can be trusted to come about in teacher preparation without instruction that takes the preconceptions of future teachers into account.

THE FIRST YEAR OF TEACHER PREPARATION:
TRANSITION TO PEDAGOGICAL THINKING?¹

Sharon Feiman-Nemser and Margret Buchmann²

For prospective teachers, teacher preparation is the first formal encounter with professional modes of thought and action. Still, prospective teachers do not come to this encounter feeling unprepared. From years of teacher watching in elementary and secondary schools, they have many ideas about what teachers do. Thinking about teaching from a student's perspective, however, is not the same as looking at teaching in a pedagogically oriented way.

Teaching means helping people learn worthwhile things. It is a moral activity that requires thought about ends, means, and their consequences. Since teaching is concerned with learning, it also requires thinking about how to build bridges between one's own understanding and that of one's students. There is a difference between going through the motions of teaching (e.g., checking seatwork and talking at the blackboard) and connecting these activities to what students are learning over time. In the encounter between teacher and student, subject matter provides the common meeting ground (Hawkins, 1974).

¹An earlier version of this paper was presented as part of a symposium entitled "Teacher Thinking and Curriculum Change: New Perspectives," at the annual meeting of the American Educational Research Association, New Orleans, April 1984. The authors wish to acknowledge and thank Deborah Ball, who assisted in project management and data collection.

²Sharon Feiman-Nemser is the coordinator of the Knowledge Use in Learning to Teach Project. Margret Buchmann, a researcher with that project, is also the coordinator of the Conceptual-Analytic Project. Both Feiman-Nemser and Buchmann are associate professors of teacher education.

Ends-means thinking and attention to student learning are central to pedagogical thinking. While teachers cannot directly observe learning, they can learn to detect the signs of understanding and confusion, of feigned interest and genuine absorption. Thus pedagogical thinking is strategic, imaginative, and grounded in knowledge of self, children, and subject matter. Perhaps most difficult for the novice is the shift of attention from self or subject matter alone to what needs explaining to children. Hight (1966) puts this powerfully:

You must think, not what you know, but what they know; not what you find hard, but what they will find hard; then, after putting yourself inside their minds, obstinate or puzzled, groping or mistaken as they are, explain what they need to learn. (p. 280)

Puzzling about what is going on inside the heads of young people is difficult enough when teachers and students share a culture; it is even more so when they do not. Yet teachers must assume some responsibility for equal access to knowledge. This requires, in addition, that they examine their own beliefs about the capacities and needs of different students and pay attention to the effects of different teaching strategies on them.

A major challenge for teacher educators is to help prospective teachers make a complex conceptual shift from commonsense to professional views of teaching. In this paper we present two case studies based on an analysis of eight interviews across the first year of teacher preparation.³ The case

³The study followed eight elementary education students through two years of undergraduate preparation, including student teaching. The students were chosen from candidates nominated by program coordinators and matched on the basis of survey data collected on all undergraduate teacher education students at Michigan State University. Four are enrolled in the Academic-Learning Program, and four in the Decision-Making Program. These two programs differ in structure, content, and ideology. Each term and at the end of the year, students were interviewed about what they were learning and how that might help them in teaching and learning to teach. The interviews probed parallel aspects of the observed curriculum in relation to these issues.

studies illustrate how personal experience, new knowledge, and previous training influence the thinking of two elementary education students. The stories of Janice and Sarah⁴ offer different versions of an honest quest for understanding and competence in the context of contrasting teacher education programs.

Janice is enrolled in the Academic-Learning Program, which emphasizes the importance of theoretical and subject matter knowledge in learning to teach. The first course, which is on the psychology and epistemology of school subjects, sets the tone for the year. Her field experiences are limited, brief, and connected with specific course requirements. Sarah participates in the Decision-Making Program, which emphasizes generic methods of teaching and research-based decision making with personal reflection. Most of her program takes place in an elementary school, and she regularly spends time in classrooms aiding, observing, and teaching small- and large-group lessons.

For both students, teacher preparation is hard in different ways. Janice struggles with the academic part of her program that seems remote from teaching. She feels she is missing out on learning to teach. Sarah also finds professional preparation hard--not only because her program is demanding, but because teaching is difficult work. Janice and Sarah also begin their professional studies at different starting points. While Janice does not feel ready to go to college, Sarah feels mature and confident in her decision to teach.

⁴All names used in the two case studies are same-sex pseudonyms.

The case studies of Janice and Sarah highlight the difficulties in making the transition to pedagogical thinking and provide direction for thinking more clearly about how teacher educators can foster this conceptual change. In order to preserve the integrity of the cases and dramatize the contrast, we present both individuals first before drawing implications and conclusions.

Janice

Not Being Ready

Janice comes from a sizeable farm family. Her youngest sister is three years old. Janice learned from her mother that reading is good for people but she sometimes feels she could do without it. Still, she thinks she ought to read more, even "things that don't really interest me, but I know that they are important."⁵ Her mother made her go to college although she did not feel ready:

I kept dragging my butt, you know, I just, I wouldn't get the form, the application. I wouldn't sign up for the SAT test and those kind of things. I wouldn't put out the application, and I finally did it . . . after I got accepted to MSU, then I got into it . . . but before that I just, I didn't know what I wanted to do, I thought, "Oh, I'm just not ready." I remember being really upset about it.

Janice's mother wants her girls to go to school so that "if anything ever happened to our husbands, we would be able to take care of ourselves."

Home and personal experience often come to Janice's mind as she thinks about teaching. She concludes her first interview by stating: "My experience with my mother and going to school, I think, you know, that's my attitude."

⁵Excerpts from the interview protocols are unedited, except for the deletion of repetitions and "uh's." Occasionally, we have highlighted key terms and phrases and structured long excerpts by introducing paragraphs.

Janice worries a lot about her "attitude"--patience and readiness. During her first year of professional preparation, she feels that readiness is the heart of the matter. Until recently, Janice did not feel ready for teaching.

A couple of years ago I didn't want to work with little kids, I didn't think I had the patience. But now I think I have the patience to, you know, I think that's just part of maturing that I've gotten used to it, little things like that, like standing in line, I have the patience to do it again.

Now Janice feels that she has the patience a teacher needs, but she is also aware of (perhaps troubled by) the fact that things that have affected her personally are shaping her orientations as a teacher.

Sometimes I think I should have waited, because I got up here and I wasted so much time, so much money. And a lot of times I think that that will reflect on my teaching, my attitude towards my students and everything . . . Cuz, now I have this thing, you know, some kids just aren't ready and everybody is a different, you know, they're ready at different stages.

By the time she finishes student teaching, Janice hopes she will be ready to teach.

Teacher Preparation Is Hard

In her first year of professional study, Janice has courses in the Academic-Learning Program that play into her personal concerns about readiness and reading, giving them new poignancy. For one thing, there is a lot of reading to do, but books do not seem to get her into what she calls "the nitty-gritty" of teaching. Added to personal ambivalence is her question, asked hesitantly at first, "What is the point of all this reading in learning to teach?" Reading books may make one a good student, but it does not make one a good teacher, according to Janice. To learn teaching, Janice would rather be "out there," observing children and teachers who know what they are doing.

To Janice, her first professional course seems "just a course in philosophy," where she learns new terms, ideas, and theories to talk about. It is true that she had never thought about assessing students' understanding, an idea that instructors in this class emphasized and that Janice came to regard as important. The philosophy texts she reads for this class, however, exacerbate her feelings of being not ready and make her feel stupid, an experience that is new to her. As she talks about these texts, Janice says, "A couple of books, I just, there's no point in me ever saving, because I'll never want to ever pick 'em up again and I sold 'em." She says she saves case studies because they make her "stop and think." Still, her ambivalence about reading is always present.

It bothers me that I don't like reading, and I think I should make an effort to read, and as I said, I would rather have more outside fieldwork and everything, because it bothers me that I don't like reading them (the case studies). Maybe I could get the same experiences out of both if I just sit for an hour and read something or sit for an hour and observe.

Modes of Learning to Teach: Reading and Remembering

Even when she buckles down to do the task, Janice is aware that she doesn't get what she could from reading case studies: "I don't think I can get the full picture out of them all the time." It may be that descriptions of teaching lack the texture and vividness of firsthand experience making it hard for a novice to imagine what is being described. In order to learn from vicarious experience (e.g., case studies) teacher education students need help unpacking what is there and figuring out what to make of it.

Like most people, Janice already has a sense of what teaching is all about. She feels she started learning to teach at home where she taught her brother and sister (12 and 13 years old) to drive the family tractor:

Because we live on a farm and they're about the age that they can learn how to do this and so I had to go through and show them every little thing about the tractor, because it's old and there's certain little things they have to do just to get it started. And I saw that, you know, *I really got into showing 'em and explaining it to 'em so that when they were all done, they would be able to do it as well as I and it made me, I was really pleased, I liked doing it, you know.* I was there giving, you know, positive reinforcement, "Oh, you're doing so well" and that type of thing. And that made me, you know, think, "Well, I can, I can keep going, I can do this, it won't be that hard." (emphasis added)

Here are important elements of acting, thinking, and feeling like a teacher in the context of everyday life on a farm. Janice takes delight in helping her brother and sister to do something well that she herself does well. In this setting, motivation and management are no problem, and Janice begins thinking that she likes teaching and can stick with it.

In reading for her teacher education classes, Janice feels she is missing out on something, or, maybe, that she is missing the point. "Am I getting it?" and "What am I *not* getting?" are questions that sum up her concerns as a student and as a student of teaching. At the beginning of the year, Janice wonders whether this sense of missing out on something--education for teaching--stemmed from her missing the point of instruction. At the end of her first year of professional preparation, Janice is more confident as a student and clearer about what she thought she was not getting:

Janice: Big deal, going through books from the library and do some research and write and type a paper. It is all stuff I know about and I am just . . . just, maybe, I don't want to write a paper anymore to show that I have learned. *I want to demonstrate that I know it in some other way.*

Interviewer: How would you rather do it? To show "that I know it in some other way," like what? What would you like to do?

Janice: Get out in the classroom. That is what I would really like to do is, *get out in the classroom*. Maybe work as a group with people . . . I don't think I get to see enough, actually of kids, students. A lot of the stuff we learn, and it gets real general but, they never get specific. What about a sixth grader and then what about the first grader? We talk about reading and writing but we never get specific about the different ages. (emphasis added)

The Gap Between Theory and Practice

Janice wants practice in teaching, including its mental activities, and she wants to meet the realities of teaching face-to-face. She has one such encounter as part of a major assignment in the curriculum course in her second term. Working in groups, students are supposed to develop a spiral curriculum⁶ around some topic. The instructor has emphasized the importance of finding out about children's preconceptions and knowledge prior to instruction and required the groups to conduct clinical interviews with children at different grade levels. Janice's group focuses on poetry. She talks about her experience interviewing three third-graders for 20 minutes each:

I was doing upper elementary. And I had to have a set of questions. And I wanted to find out, you know, what the students know, what prior knowledge they had, what preconceptions they had. *And I thought to myself, you know, I just don't know what to ask them.* I just, I don't know, and where in my education, teaching education, am I going to get some experience and some practice and to know, like, what are good questions to ask. And so, I think a lot of my questions just didn't help me at all, because a lot of times the kids just didn't seem to be able to answer them that well.

With one of her questions, though, she manages to get children to move beyond "I don't know". Janice asks,

⁶A spiral curriculum allows for increasingly more sophisticated study of the same topic across grade levels.

"Why do you think people write poems?" And a little boy said, "Because they like 'em." And then, the other little girl said, "So people will have something to read." And she was the one, yeah, she said when you get bored and you have nothing to do, you write these little "stories," she called them.

Pausing reflectively, Janice comments:

Yeah. But, when we were developing our spiral curriculum, we were going on the idea that writing poems was a way of creating thoughts or expressing thoughts, and they didn't seem to really, you know, have that idea that it was a thought put into words.

What did Janice's group make of what they found out about children's conceptions and how these differed from what teacher educators had taught them about poetry? Nothing. The group simply decided that the children at the upper elementary level "could start writing and putting their thoughts into words." They ignored what the children said and went ahead with their university assignment.

Janice feels strongly that she is missing out on learning "the mechanics of actual teaching." While she may have gotten some new terms and ideas in the first year of her professional preparation, she can not tie them in with teaching. She wants to get out into the classroom to watch teachers and children in action--learning to look at and to relate things (with advance preparation by an instructor)--and to see actual teaching in relation to lesson plans and an instructional program beyond following the textbook. In the end, Janice concludes that she will have to learn how to teach "when I get right out into a classroom, actually my own classroom." She feels she will learn to teach by trial-and-error and through talking with other teachers.

Not Learning School Subjects

Janice also thinks she is missing out on learning subject matter. She recalls her first course, Psychology and Epistemology of School Subjects:

Janice: But I really don't remember ever learning school subjects. The title doesn't seem to go along very well with what we actually did.

Interviewer: What was what you actually did more like?

Janice: We did things more along the line of just in general the way students think. We didn't get specific about school subjects and the way students learn different school subjects. It was just in a more general way, the way students learn and think differently.

This problem comes up again when Janice considers her methods classes: We really didn't learn social studies, we just learned about social studies in the classroom and the way children learn it. The same way with math, different ways of teaching math to different age groups, reteaching." Asked by the interviewer about where she expects to learn social studies and math, Janice bursts out with, "Yeah, I know what you mean there. It means that you have to really know math in order to be able to teach math." Having to help her brother over the summer with his math (sixth-grade going into the seventh) has made this clear to her.

Janice talks at length about the strategies she will use to try to deal with this serious gap in her preparation. She stresses that she will have resources that a subject expert may not have. For example, she will know how to teach addition or subtraction in different ways, and she can rely on textbooks and films. Recalling what she was taught in elementary school and finding out about math and about students ahead of time will also help, she believes. Still, she concludes, if she can't understand a sixth-grade math book "there is something wrong with me."

Relying on her own schooling and textbooks to compensate for lacks in pedagogical and subject knowledge, however, present new problems. Both are

gives independent of teacher education, and Janice hears in her courses that textbooks are no substitute for one's own ideas about teaching and curriculum:

Janice: I keep hearing this over and over again, "get away from the textbooks," you know, the textbooks are just a tool, they're just a teaching tool, the actual teaching comes from up here (taps her forehead), from you.

Interviewer: In the head.

Janice: And so when I get out there, the only guidelines I am going to have are the textbook. So, so I'm going to end up using it again, and I think it just keeps reversing, it's the same cycle over and over again. If they don't, they don't give me some guidelines that I can work with, I'm going to have to follow the textbooks and keep teaching the way the textbooks are.

Preconceptions and Misconceptions

Janice feels that she has not learned enough about being a good teacher in her first year. She also believes that some of what she was told was simply common sense, or things she already knew. For example, Janice had an assignment to write a paper on children's tastes in books. From going to the library she discovers that children like to read about subjects related to their own lives. This strikes Janice as pretty obvious.

Yeah, and I can remember doing the same thing, you know, when I was in fifth grade I got interested in Nancy Drew and that seems to be the thing. Boys at that age seem to get interested in more adventure, more action than girls do. Girls, sort of romance, and it was the same thing, it was common sense.

Janice makes this connection during the interview, not while doing the assignment:

You know, I remember when I was 12 years old that I was interested in reading Nancy Drew and that type of book and I know a lot of other girls were too and I remember a lot of kids that did do reading, what type of books they read. Laura Ingalls Wilder, Little House books. I remember reading those when I was like in third or fourth grade.

Girls want romance, boys get into action. This idea fits with Janice's personal experience and has been validated by her teacher education class. What seems like common sense to Janice, however, is sexual stereotyping.

Janice also has views about what children who belong to out-of-power minorities (children of migrant workers, inner-city children, or ghetto children) are like. They are not interested in learning and learn slowly. They are low-achievers oriented towards the present, culturally deprived ("no poetry in their homes" and "no use for it in their class structure"), and from the lower classes. Bilingual and inner-city children fall into the same category. In short, they have difficulty with school. How did these stereotypes develop in Janice's mind? We can show how Janice puts information from different sources together during her first year in a way that appears to support her earlier beliefs.

When asked to describe a case study that really stood out for her from among those read in one of her courses, Janice selects "Social Class and School Knowledge" (Anyon, 1981), an article that critiques the unequal distribution of school knowledge by social class and school location. She sums up what Anyon writes as follows:

She dealt with class structures and the different social settings in schools. Some schools are like a working class; some are middle . . . It was interesting, you know, the aspects of what, what each school wanted for their students and the way they learned.

Continuing her response, Janice mentions reading something for another class on the topic of student motivation:

I was reading that low-class people are the kids and students from, from like ghettos and urban areas, they, their goals are really present-oriented, so you have to work out the success, so it's every day, they are achieving immediate type of success.

The notion that children from ghettos and urban areas are more oriented towards the present and require immediate reinforcement to get them to do school work was communicated in a methods class on teaching elementary math. The even more invidious assumption that children from ghettos and urban areas are slow learners and underachievers was conveyed to Janice through the organization of the course: Inner-city children were discussed in the section devoted to slow learners and underachievers.

When asked, in the same interview, whether she had any experiences with children from backgrounds different from her own, Janice talked at some length about Mexican migrants who worked on her family's farm.

One thing I always noticed that, when I was going to school and everything, *the kids, you know, they weren't all that interested in going to school.* A lot of times they wouldn't show up, 'cause they would just turn around and like, maybe, a couple of weeks go back to Texas, and so even the parents didn't seem to pressure 'em into going to school up here. They had trouble because they, a lot of times they didn't understand the language, *and it was more important that they work and get, you know, get enough money to go back.* (emphasis added)

What Janice has seen and heard as a youngster makes what she hears in her math methods class ring true. For her, it vividly exemplifies the apparent lack of interest in school and learning that she expects some children to have. Moreover, linking these orientations to economic need makes them seem inescapable.

Adding a final piece to this picture, Janice connects discussion questions from her curriculum class to her thoughts about the spiral curriculum assignment. In doing so, she equates school location, social class, and low achievement, as well as the importance and meaning of poetry with the use it may have for people:

One of the things Kelly was mentioning to us, "What is the *importance of poetry* to an, you know, a low class, a kid that is from the ghetto?" . . . A low achiever and things like that, poetry maybe doesn't *mean anything to him*, and does it, really? Is it that important to him? What good is he gonna, you know, how is he ever gonna use poetry in the class structure he's in?

There is a hard pedagogical question here. Janice wavers between pursuing it and dismissing poetry as unimportant in some schools.

It made me think about it, you know, is it really necessary, or, you know, *how would you stress the importance of teaching poetry to somebody that didn't want to learn it?* It was really hard, and I couldn't . . . It's hard to, it was hard to, just put that into words . . . And, you know, you can interest them through the humor of poetry and interest them in some idea, write poetry on some area that they're interested in. You know, you can do poetry with cars and things like that. But, it just made me think that, maybe, some things maybe aren't important, and maybe we should stress other things. *Certain things should be stressed in certain schools, depending on where they're located.*

This example shows how Janice puts past experience together with things she picks up in her formal preparation--reinforcing earlier beliefs that work against equality of educational opportunity.

Sarah

Being Different

Sarah describes herself as different. While her friends and the people she knew were not "into academics," she was by her own description in the top half of her high school class. Sarah likes to read. Her mother used to get mad at her because she read instead of going outside to play. Sarah would read "stories of poor black kids in the ghetto and how they would be going to school" and "the teacher helped them and they really made it." Referring to these stories, Sarah said, "That really got me going. I always wanted to be a

teacher." This desire to serve others through teaching may have special poignancy for Sarah because she is black.

Writing an essay in high school on how the media affect black people won Sarah a scholarship to a summer workshop on journalism at MSU. She worked on her high school newspaper and her teachers encouraged her to pursue a career in journalism. Sarah studied journalism for two years in college. An English teacher who Sarah considered to be one of her "really good teachers" suggested she go into teaching, but she quit college and took a job that paid well.

After she got laid off and had a baby, Sarah decided to return to school because, as she put it, "my mind had matured." She had always been the kind of person that people came to with their problems. She saw that as part of being a teacher "cause students are gonna have problems . . . you're kind of like a social worker." Even now, as a teacher education student, Sarah sees herself as different. "I'm more mature than others in the program. They don't know what they really want to do."

Teacher Education: Difficult But Full of Object Lessons

This does not mean that going back to school to earn a teaching certificate has been easy for Sarah. In fact, the first year of formal preparation has been hard. Some of the pressure stems from the amount of work required. Looking back over the year, Sarah observes:

It's a lot of work for few credits . . . They are trying to throw everything in together in two years, when this program should be like a three year program or something.

But some of the difficulty stems from the fact that Sarah took 17 credits one term, has a small child to care for, and feels financially strapped. Despite

the stress, Sarah says she is determined "to stick it out," but she adds, "I'll just be so glad when it is over."

Being a student in the Decision-Making Program also makes Sarah feel different from teachers she encounters in schools as part of her course work and field assignments.

If we see a teacher that isn't doing the things that we're being taught to do, all you can say is they're doing the best they know how to do with what they've learned and they're doing it to the best of their ability.

Moreover, she sees her education courses as different from her other courses because there is more interaction and because "it relates to what I want to do . . . whereas a science class or something or a sociology class, who cares. It gets boring." This view of academic subjects fits with Sarah's notion that teaching is like social work.

After the first year, Sarah feels that her program hangs together. "All these classes are overlapping. You can't really use one without the other." She likes the close tie between coursework and fieldwork and sees many parallels between the way students in the Decision-Making Program are being taught and how they, in turn, should teach. For example, her educational psychology course first term is full of object lessons: opportunities to experience prescribed strategies and approaches.

The instructor said that teachers should give students a chance to practice what they will be tested on and he gave the class a practice midterm exam. This made a strong impression on Sarah who said that it helped her see the value of the advice. "We had it firsthand because that's what he (the instructor) did with us. So you know, it became meaningful for us and we saw how that would help." She also saw the Problem-Solving Lab as a deliberate

effort to have students in the Decision-Making Program "experience thinking through a problem so when we become teachers you can help a child think through a problem." If "teachers don't know how to think," she observes, "they can't teach children to think."

Modes of Learning to Teach: Seeing, Doing, and Thinking

Seeing and doing are the dominant modes of learning for Sarah during her first year of professional study, the means by which she comes to understand what she is being taught. The program provides numerous opportunities (structured and spontaneous) for observation and practice, and Sarah learns from both.

Since the beginning of the program, Sarah has spent two days each week in an elementary school classroom, which gives her a chance to watch an experienced teacher at work. Sarah notices that her teacher uses some of the methods she is learning about.

She uses them in her own way but I see that she's using them and you know it's helping me 'cause I can relate to how this subject we're learning in class is being used in the real world."

At times Sarah sees her teacher using things that she has been taught to avoid such as "high profile" techniques of classroom management. Still, Sarah sees that it works for her and she comments, "There's no set way."

A major feature of Sarah's program during the first year is the demonstration classroom where teacher candidates observe their reading-methods instructor teach fourth graders once a week. At first, Sarah (like many of her fellow students) did not know what to look for, but the reading instructor helped the group formulate a focus question each time so that they would benefit more from the experience. Gradually, Sarah learns how to observe in a

productive way. "I'm picking out things that Julie does, strategies that she uses and how the children react to her strategies."

Doing or practice takes different forms--working with a low reading group, helping one child, developing and teaching a social studies unit, adapting a lesson in a basal reader, assisting the reading-methods instructor in the demonstration room, trying out mini lessons on small groups of children. What stands out for Sarah are her experiences with the social-studies unit and working with one child in her reading group.

Learning About Planning

The Decision-Making Program teaches Sarah that a professional teacher "is one who sits down and thinks through all the processes to get to that product which you want them to do." As a teacher, Sarah believes that she must decide "what am I gonna teach; why am I gonna teach it; then how am I gonna teach it." At first, Sarah does not realize that teachers have many decisions to make. She learns about setting objectives, defining terminal behavior, assessing students, doing a task analysis, and so on in her first term in an educational psychology class. This does not come easily for Sarah, and during the third term, she sets as her term goal to:

sit down and think about my objectives 'cause they (the program staff) say I'm a very good technical teacher right now but they're trying to turn out professionals, so I have to get into professional process.

Sarah contrasts planning with "grabbing a book and doing whatever the book says to do even if it's not appropriate with your students' attitudes." She plans to write objectives during her first year and hopes she will still believe in objectives after 10 years of teaching. At this point in her professional studies, Sarah's faith in planning is unqualified: "It's

good to plan ahead . . . you can't go wrong after you plan ahead." She also believes that, "If your planning is good and motivating, then you won't have management problems."

Teaching her social studies unit gives Sarah a chance to test the adequacy of her plans and to discover the ubiquity of unforeseen events in teaching. Here is how she explained what she learned about the relationship between planning and teaching:

If I'm gonna teach a certain concept and it's gonna be taught over weeks, I can't just wait till next week, the day before, and think of something to do. Like last night I sat down . . . and planned out every step of the way. It went smooth and it just went great.

As Sarah sees it, preparation for teaching involves careful planning ahead of time, not making it up as one goes along.

Sarah also talks about the things she didn't plan for that came up during teaching--how to fill in students who are absent so that they won't be "left out in the cold," how to tell when students are "taking you for a ride," what to say to students who get a bad grade. Rather than taking the unforeseen as something inevitable, Sarah attributes problems to lack of planning, the fact that this was her first experience with the whole class, and time constraints --only two days a week to fit everything in. (According to her teacher, the students were testing Sarah, and the project she assigned was too hard.)

What is comprehension? One of the biggest challenges for Sarah during her first year was trying to "teach comprehension" to one girl in her reading group. Not only was the concept of comprehension new to Sarah, but her focal student posed special problems.

Before her first reading course, Sarah said she "didn't even know what comprehension was." After reading a lot of material on the subject, she

learns that "comprehension is understanding what you are reading, getting some meaning out of it." She says,

If a child reads the story to you out loud, if he doesn't read every single word or if he reads a "this" for a "that," it's no big deal. The child would know that word when it came up in context . . . he was leaping ahead in his thinking process and reading for what the rest of the sentence was going to tell him or the rest of the story versus reading specifically each word and getting nothing out of it.

Sarah has picked up a concept of comprehension that will allow her to listen to a child reading and focus on what is going on in the child's head, not whether the child can read every single word. While she believes she understands comprehension in theory, she says,

. . . actually putting it into practice is the hard part. I could tell you what comprehension is, I can give you examples of comprehension, but when it comes to teaching, I know some methods with all the material we've been reading . . . I'm wondering am I really teaching comprehension or what?"

This difficulty is brought home to Sarah in the case of her focal student, who can recognize words and read books from the library but cannot tell about what she is reading. On top of it, she talks softly, mumbles, and stares into space. "It's frustrating," Sarah explains,

. . . because we have to write down what we've learned about the student in our group and what we think we've taught 'em and I just don't know. I'm frustrated because I am trying to find out why she's so withdrawn. It seems she has an emotional problem or something because it's just not so with the reading group.

The day the focal student was supposed to give her book report was a day when Julie, the reading instructor, observed Sarah.

I had to keep asking and asking the question and Julie the instructor says she doesn't see the purpose, that she's not motivated but *what do you do to motivate her? I don't know 'cause I've taken them away from the basal . . .* I take them to the library and they've gotten books that they want to read and I just threw away my whole lesson. I said all we're going to do is enjoy reading and we're going to write about it and you're going to tell me about a story you've read and you're going to write a story 'cause I

wanted to see if the student, given a chance to write about a story, would be able to tell me about it.

Sarah has abandoned the basal reader and given students a chance to read books of their own choosing, which she assumes will be intrinsically motivating. Disappointed that this does not improve the motivation or comprehension of her focal student, Sarah blames herself. "I don't think I helped her at all." She suspects that the child has special problems but also recognizes that "I didn't have the background or the knowledge to test her right."

Practicality: Beyond the Personal

Sarah's first year of teacher preparation has reinforced some common sense notions about teaching as practical activity. Much of what she says echoes the sentiments of experienced teachers--an individualistic stance toward teaching, reliance on firsthand experience, a belief that good teaching is something you have to work out in your own classroom (Lortie, 1975; Little, 1982; Huberman, 1982). Sarah believes that, in teaching, no one can tell you what to do. "It has to be your own idea." Nor can someone tell whether something is "a good idea" until one tries it oneself or actually sees someone else using it. This partly stems from the fact that teaching occurs in a particular context, which is why a teacher can't just "take the book and go straight through."

For Sarah, seeing is believing and doing is the way to understanding. In fact, she believes the more experience, the better. Asked how she will learn the things she still needs to learn, Sarah answers:

I think mostly it will be from the interaction with the class, of being there and experiencing it. Because for me it's kind of hard to be told this is what you do and this is why you do it and then

not be able to back it up with going out and really seeing it happen. *Because if I experience it more, I understand it better.* So I am going to learn some of it in the (education) classes and the most part is going to be learned in the classroom with the students.

Sarah's reliance on practical experience in learning to teach may be confounded with an emphasis in the Decision-Making Program on figuring things out for yourself.

One thing we've learned this term is you don't get any answers here from Julie or anybody else. If you ask a question it's always, "Well, what do you think?" It's never, "I'll tell you." *You have to discover it your own way.*

Sarah is partially right in her notion of teaching as practical activity, but she does not go far enough. Doing is only a beginning in professional learning, and the policy "seeing is believing" can mislead. Besides the clarification of ends and means under particular circumstances, there are also questions of justification and considerations of consequences. In justifying belief and action in teaching, for example, one cannot only rely entirely on one's personal sense of what feels right (Buchmann, 1983). Nor is it true that teaching and learning to teach require discovering everything by oneself or doing it all one's own way. In becoming a professional, some things are properly learned through imitating experts and practicing new modes of acting and thinking under guidance.

Toward a Conclusion

These case studies illustrate how pedagogical thinking is different from teacher thinking that relies on common sense or the apprenticeship of observation. Sarah and Janice are good foils for each other. After her first year of teacher preparation, Sarah is making some progress in the transition to pedagogical thinking, while Janice seems behind in making this conceptual

shift. Some of the differences between the two teacher candidates relate to their opportunities to learn, which differ in content, instructional setting, modes of supervision, and general ideology. Sarah and Janice also rely on who they are as individuals. Thus our data highlight the influence of personal history and formal preparation in helping or hindering the transition to professional thinking.

How Far Have Sarah and Janice Progressed in Making the Shift to Pedagogical Thinking?

The world of teaching and learning is beginning to look different to Sarah. Sarah feels responsible for children's learning and works hard to foster it. She sees the need to think strategically and to plan for teaching with a larger scheme in mind. In trying alternatives, she thinks about what will help children learn. She is making connections between the way she has been taught in her program and the way she could teach.

Sarah is forming pedagogical habits of mind and ways of acting. She is trying to fit general notions (e.g., about planning) to particular situations (e.g., the social studies unit, and her reading group). In the process, she sometimes discovers that these general ideas don't work--as in her attempt to apply a concept of comprehension and an approach to teaching reading to her focal student. "Putting ideas into practice" makes vivid and concrete to her the importance of planning and adaptation. It also shows Sarah that good intentions are not enough. Working with her focal student makes her realize that she still lacks specific professional knowledge.

So far, little has changed in Janice's ways of thinking about teaching. She continues to believe that patience makes one ready for teaching--and standing in line for registration is one way the university helped her develop

this personal quality. Memories serve as a primary source of ideas about teachers, students, and the content of instruction. In making sense of new experiences or ideas, she "takes things home" for validation, exemplification, and explanation. This reliance on what she already knows contributes to a know-it-all attitude that shields her from change. An exception is the notion that teachers should pay attention to children's understanding and preconceptions.

Janice has little sense, however, of how she should think and act to uncover, deepen, redirect, or assess student understanding. Confronted with children, she gets some ideas (e.g., that she needs to know how to ask questions), and she feels, more concretely, that she is missing out on education for teaching. She is not getting enough particulars; general notions and injunctions (e.g., getting away from the basal) do not help her decide what to do with third rather than sixth graders. Like many teachers, Janice expects she will get her questions answered in student teaching and by learning on the job when she has her own classroom.

How Are Differences in Transition Related to Differences in Opportunities to Learn?

The Decision-Making Program helps Sarah begin the transition to pedagogical thinking. Different university assignments during her first year make her attend to goals, instructional activities, and the reactions of individual children. They all build an explicit sense of professional responsibility, exceeding good will and common sense. New ideas about teaching do not remain at a general level. In her field experiences, Sarah tries to put principles and procedures into practice (e.g. teaching comprehension, assessing students' understanding, stating purposes for a

lesson, adopting a proactive rather than a reactive approach to classroom management). The program emphasizes being a "professional" and not merely a "technical teacher;" it tries to enforce conceptual change through direct instruction, supervised practice, criticism, and guided reflection as students face some of the demands of teaching.

There is a clear message that the Decision-Making Program can teach students what they need to know to be professional teachers. Often, theories and methods are presented as procedures to be followed in the field. Neither the limits of professional knowledge nor the endemic uncertainties of teaching get much attention during this first year.

Sarah's unqualified faith in planning will no doubt be challenged as she learns more about teaching firsthand. At this point, we can only speculate on the consequences of letting her learn this from experience rather than from instruction about the nature of teaching and the difficulties of applying knowledge in the field.

For example, will Sarah abandon long-range planning when the rational model she has been taught does not prepare her to deal with the unexpected, or will she modify what the program has taught her? By fostering unrealistic views about how educational theory and research can help teachers, the Decision-Making Program may unwittingly strengthen teachers' tendency to reject formal knowledge and rely on firsthand experience. Ironically, the program also has an overlay of constructivist psychology that reinforces this reliance on personal preference and experience.⁷

⁷For a discussion of the underlying epistemology in both programs and their likely effects on students, see Feiman-Nemser & Ball (1984).

The Academic-Learning Program resembles its name; in the first year, it emphasizes text-based instruction and is remote from teaching, perhaps to avoid premature immersion in the culture of schools. There is some reliance on cases to bring home points or to make principles and ideas vivid. Yet these "cases" are uneven; they include a Platonic dialogue and excerpts from *Zen and the Art of Motorcycle Maintenance*. Since case studies do not have the urgency of reality, they can provide the shelter often necessary for new and consequential learning. Still, their challenge of the taken-for-granted may not be obvious to the novice without instruction that takes students' preconceptions into account. Recall, for example, how Janice construes a critique of the unequal distribution of knowledge by school location as the way things ought to be.

The spiral curriculum assignment provides an opportunity for students in the Academic-Learning Program to do some instructional planning during their first year. Here is a chance to find out about children's preconceptions, which are a major concern in the program and in pedagogical thinking. Because the students receive little help in figuring out what to make of what they discover, the assignment becomes academic, something to complete for a grade.

So far, teacher education has not been a source of professional knowledge for Janice. She wants more contact with classrooms and what she calls the "nitty-gritty" of teaching, but such opportunities are not yet available in the Academic-Learning Program. Thus it may not be surprising that she relies on her memories of school to make sense of teaching and hopes that practical experience will do the rest.

While Janice's program does introduce powerful ideas in the first year, it does not provide enough teacher education (instruction, supervision,

practice, and reflection) to shape new ways of acting and thinking. For example, the Academic-Learning Program calls attention to the importance of subject matter in teaching, but so far has not helped teacher candidates acquire such knowledge or provide guidance in adapting subject knowledge to teach particular children.

Equal Access to Knowledge and the Contingency
of Starting Points for Teachers

By her own testimony, Sarah has a personal interest in the fate of black children that shapes her commitment to teaching. During her first year, Janice's stereotypes are reinforced and elaborated in a way that makes unequal access to school knowledge seem unproblematic. While Sarah may seem closer to connecting issues of equity and diversity to the responsibilities of teaching, both teacher candidates rely on their personal experiences which are limited and subject to bias. Teacher educators must help the novice see and understand the limitations and pitfalls of personal experience in learning to teach (see Buchmann & Schwille, 1983; Feiman-Nemser & Buchmann, 1983). Like teachers, teacher educators must pay attention to what is going on in the heads of their students in order to identify and correct misconceptions.

Teacher educators cannot leave to chance the commitments of teachers to provide equal access to knowledge and opportunities for excellence for diverse students. Future teachers need help in examining their own beliefs about the needs and capacities of different children. Goodlad (1984) explains clearly why this is a requirement of teacher education:

If teaching practices are to reflect . . . the well-established notion that there are winners and losers in learning, as in everything else, teachers require only common sense and not much professional preparation. (p. 165)

Dispositions and beliefs alone cannot do the job. Teachers' capacities for providing equal access to knowledge depend on knowledge of children and the subjects they are supposed to teach.

Teachers' Knowledge of Subject Matter

Janice and Sarah share a weakness in subject knowledge that has not yet been remedied by their professional studies. They both need to learn the subjects they will teach and their pedagogy--how they are taught and learned (Buchmann, in press).

Both Janice and Sarah bring to their professional preparation some sense of personal readiness for what they think teaching is. Sarah starts with an idea of teaching as social work: People turn to her a lot because of the kind of person she is. In the process of working hard and being supervised in working with particular children, she begins to change her view of what a teacher is. Maybe she will come to see that she needs to know her subjects in order to contribute to children's "success stories." Janice starts out worried about her personal readiness for college and teaching. Now she feels she has enough patience to be a teacher. Still, she lacks a good sense of what teaching is all about, though she is concerned about her weakness in subject-matter knowledge.

This work in progress dramatizes the need for education and professional training in teacher education. Teachers must know their subjects from the inside; they are not social workers:

If anything is to be regarded as a specific preparation for teaching, priority must be given to a thorough grounding in something to teach. There are other things which a teacher must know well--about children, for instance, and the social conditions which shape their lives. But social workers, therapists, and juvenile employment officers must also know about these things. A

teacher, insofar as he is concerned with teaching and not just therapy, "socialization," or advice about careers, must have mastered something which he can impart to others. Without this he would be like an actor who was exquisitely sensitive to the reactions of an audience, a master of gesture and of subtle inflections of voice, but who omitted to do one thing--to learn his words. (Peters, 1977, p. 151)

Furthermore, while teaching is, in some sense, an everyday activity, thinking pedagogically is not natural. The transition to professional thinking in teaching marks a divide--a move in which future teachers learn to look beyond the familiar worlds of teaching and learning. The pull of prior beliefs is strong, however, not the least because of the long apprenticeship of observation that distinguishes teachers from other professionals.

Thus, in becoming a teacher, very little normatively correct learning can be trusted to come about without instruction that takes the preconceptions of future teachers into account--preconceptions that are warranted by common sense and the conventional practice that future teachers are already steeped in. In learning to teach, neither firsthand experience nor university instruction can be left to work themselves out by themselves. Without help in examining current beliefs and assumptions, teachers candidates are likely to maintain conventional beliefs and incorporate new information or puzzling experiences into old frameworks. Our thesis has implications for the charge that teachers are conservative and individualistic. The lack of explicit teaching in teacher education, not unalterable facts about teachers, may explain these features of teacher thinking.

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