

## CLASSROOM TEACHERS BECOMING TEACHER EDUCATORS: "JUST" FACILITATORS OR ACTIVE AGENTS?<sup>1</sup>

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This paper considers two case studies of classroom teachers who took on specific professional development responsibilities in their own schools. Analysis of the two cases focuses on the teachers' definitions of their roles as leaders among peers and decisions to take action based on their developing understanding of their responsibilities.

Enacting the proposed reforms in mathematics education requires fundamental rethinking of basic assumptions about the mathematics students learn, how they learn it, and which classroom structures best support that learning (Cohen et al., 1993; Schifter & Fosnot, 1993; Sykes, 1996). In order to support change in substantial numbers of elementary classrooms, ongoing, long-term staff development is required at the local level. Such "scaling up" requires a large work force of teacher educators—a work force we do not have. The obvious source for expanding this work force is teachers themselves—teachers who are committed, prepared, and skilled at working with other teachers (Friel & Bright, 1997; Mumme & Acquarelli, 1996). Yet, the necessity of involving classroom teachers as primary agents in teacher education in mathematics raises many questions, from what the roles of these teachers should be to how the effort can be sustained financially to what kind of preparation teachers need as they move into the role of teacher educator.

The teachers considered here were part of a project, Teaching to the Big Ideas (TBI) (Schifter et al., in press).<sup>2</sup> In addition to the professional development work with 36 teachers, TBI developed a course about the ideas of arithmetic in the elementary grades for use outside of the project.<sup>3</sup> In this intellectually rigorous course, participants read and discuss teacher-written cases, view and discuss videotapes, engage in mathematics activities, and do a variety of assignments, including conducting interviews with students and writing their own episodes. It is this course that the TBI teachers, three years after they had begun the project and now as teacher leaders, decided to offer in their own school systems during the 1996-'97 school year. In

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<sup>2</sup> Teaching to the Big Ideas was co-directed by Deborah Schifter, Education Development Center, Virginia Bastable, Summermath for Teachers at Mt. Holyoke College, and Susan Jo Russell, TERC.

<sup>3</sup> The course is called Developing Mathematical Ideas (Schifter, Bastable, & Russell, 1998). The first module, Building a System of Tens (eight 3-hour sessions), focuses on how students come to construct an understanding of the base ten number system. The second module, Making Meaning of Operations (eight 3-hour sessions), focuses on students' understanding of addition, subtraction, multiplication, and division of whole numbers and rational numbers.

addition to offering the seminars in their own schools, the teacher leaders would meet together monthly with TBI staff and keep a portfolio of reflections about their work.

In the summer of 1996, as they prepared to teach the course in the fall, teachers in the group expressed concerns about taking on the role of teacher educator. In TBI, they had established a learning community in which seriousness of purpose and a stance of inquiry were taken for granted. They were used to thinking hard about children's thinking and engaging deeply with mathematical ideas. However, they knew that many of their colleagues had different images of professional development—as an endeavor that provides clever classroom activities that could be implemented immediately. In this view, staff development did not have homework, did not require a multiple session commitment, and was certainly not expected to challenge strongly held ideas about learning, content, or pedagogy.

The teacher leaders left their summer institute with doubts about their own expertise in being able to bring about engagement and reflection in their seminars. Many of the teacher leaders described their roles as no more than facilitative: they weren't teaching, they argued; they didn't have any special expertise; they were simply providing the context and the material through which others could learn for themselves. However, while they hesitated to attribute potential learning to their own efficacy, they nevertheless had goals in mind for their groups:

*I hope they will allow themselves the pleasure of listening to their students and 'hearing' what THEY have to say. I hope they will be able to appreciate their students' struggles and understand that understanding IS a STRUGGLE!!*

*I expect teachers to develop the habit of posing questions for themselves about their practice: about what children understand, about what they themselves understand, about how to ask questions to stimulate rather than inhibit children's thinking . . . .*

As the seminars began, the teacher leaders began to confront the tension between being "only a facilitator" and having strong beliefs about and goals for the outcomes of this staff development experience. Two cases, summarized below, illustrate this development. Data for this paper include the teacher leaders' portfolios, journals they kept during the summer 1996 two-week institute, and written notes as well as transcriptions of audio tapes of the monthly meetings.

### **I. Laurie's experience: "My job is only to facilitate. It is their job to learn."**

Laurie and Beth co-taught a seminar for 15 teachers from their school in Riverside, a small urban center. Early in the course, Laurie already felt challenged by the task of running the seminar on top of her own full-time classroom teaching. She wrote after the first session:

*As I wrapped up a day of teaching and realized that the session was about to begin I felt totally overwhelmed. . . . What helped me was to remind myself that this is not about*

*my learning but about the teachers' learning, and that my job is only to facilitate. It is their job to learn.*

In the first semester, Laurie faced a variety of issues: a few seminar participants had very firm ideas about teaching mathematics and did not seem open to reflecting on them further, and a few were reluctant or unable to think hard about mathematical ideas. However, some good discussions occurred and Laurie noticed that many of the teachers *were* willing to think hard about new ideas. She noted, "Often they express their views as questions, as if they have heard this view and don't necessarily agree with it." Laurie also noticed that some teachers were consistently having a dampening effect on others in the group. She was concerned that these teachers did not seem to be open to learning from the study of children's thinking, but she was even more concerned that they were overshadowing the participation of some of the less confident participants:

*I have noticed that the more rigid ideas come from people who have often seen themselves as more adept at teaching (or understanding) math. . . . What bothers me . . . is that I allowed this atmosphere of dismissiveness to continue. I believe that has put a stop to the expression of ideas by some of the most thoughtful and observant members of our seminar. . . . their ideas are not emerging and receiving full notice as I wish they would. Now that I have thought about this . . . I will try harder to make it happen.*

By the end of the first semester, Laurie was focusing on this issue with determination. In one of her pieces of writing, she described the approaches she was using to support the teachers—many of them teachers of the primary grades—who were thinking hard about children's thinking but were reluctant to express their thoughts. She talked with these teachers individually to let them know "how much I value their ideas and questions and how much I feel they contribute to the seminar." During the seminar, she brought comments they had made in small group discussion to the attention of the larger group and, once she had done this, she attempted to "slow down the discussion" so that those ideas were given careful consideration. She noticed the effects of these actions in the seminar; although some participants still seemed satisfied with the knowledge they had, others became engaged and eager to share their thinking. For example she recounted what happened as small groups worked to represent thousandths in some way. One small group was

*secure in their own "knowledge" already, declared that "you can't use base 10 blocks to represent thousandths because it will just confuse the kids because they are so used to using them another way." They sat back, and even their body language conveyed they were not going to think harder about the issue. However, the other two groups were not deterred this time from sharing their excitement at their discoveries and from acknowledging to each other how their various interpretations enriched each other's understandings.*

Laurie ended the first semester feeling that she had made progress towards her goals and felt confident that "things will continue to improve, just as they do in my classroom." However, a few weeks later, after Laurie and Beth told the group they might offer the course again the following school year, one participant came to Laurie to express her dissatisfaction. If Laurie were to offer the course again, the participant asserted, "you will need to make big changes. I looked around the room and counted at least eight other people who are as dissatisfied as I am . . . it's so repetitive. At first it was interesting, but now we've got the idea about listening to the children's thinking. We need to move on."

At first this conversation shook Laurie's and her co-leader's confidence: "I told Beth about the conversation, and we were both quite taken aback although not entirely surprised. All indications to us in class discussions and, especially, writings, have been that the teachers are benefiting a great deal from the course. Although they gripe about the usual little things, on the whole we had thought things were going well." After considerable thought, they decided to devise a questionnaire to give to the participants that would help sort out reality from exaggeration, both for the participants and for themselves. The respondents rated most elements of the course as "somewhat beneficial" to "very beneficial." Eleven of the twelve respondents reported they were "changing the way I teach math," and seven agreed that "Working with these ideas over the whole year is helping me." The co-leaders had other data as well. In the teachers' most recent writing assignments, they saw clear indications of real interest and excitement as well as evidence of learning and growth. They also remembered encounters with teachers outside of the seminars, like the two participants in heated discussion in the teachers' room who told Laurie, "We used to be able to come in here and relax and talk about recipes. Now all we talk about is math!"

The questionnaire results provided data the leaders could use to understand the dynamics of the group and to talk directly with the participants. In light of the results, Laurie reflected on her own analysis of the group. She identified three sub-groups within the seminar:

*One group of teachers is well launched in these ideas and working hard to implement them in their classrooms . . . A second group is somewhat intrigued by the ideas in the course. They are trying out a lot of things, but in the back of their minds they still believe that traditional procedures are the most "sophisticated" form of mathematics. . . . Talking about "mathematical understanding" generally leaves them cold. A third group is inbetween the other two groups. They are teachers who began the course with dissatisfaction with the way they were teaching math, but little vision of what they might be looking for. Some of them have really caught fire. Others are still wondering. They keep moving between the two other groups . . . .*

Considering these three groups as having different needs helped Laurie clarify her own role:

*When I think about these three groups, my mission (!!)* is pretty clear to me. I want to truly affirm and encourage the first group, especially since, ironically, many of them are teachers who do not feel strong mathematically . . . Next I hope to move more of the flip-flop group into that group. I'd like to see as many of them as possible end the course with a mission of their own . . . As to the second group, I'm trying to figure out how to shake them up without making them mad. When I respond to their writing I ask them lots of questions. Often I frame the questions as questions I have been asking myself . . . "I'm wondering just like you are why . . ." even though they weren't exactly wondering.

At this point, Laurie is no longer describing her role as "only facilitating," but as a "mission."

While her view that she can't shove learning down other teachers' throats, any more than she can force her students to learn, remains consistent, her description of the role of teacher educator in this setting has taken on a great deal of considered specificity.

## II. Jane's experience: "I wanted them to be mad for a good reason"

Jane and Margaret conducted a seminar for 8 teachers at their school in suburban Carbury. From the beginning, Jane had clear ideas about the kind of discussion she wanted to see among participants in the Carbury seminar, but she was worried about how to appropriately push the thinking of her peers. In the November monthly meeting of the teacher leaders, Jane expressed how difficult it was for her to learn how to do this:

*. . . how do you sort of push on someone's thinking in front of other people without it feeling like a challenge and without feeling like trying to say, 'now I know something you don't know,' which I don't feel like. . . . I feel quite clueless about this particular place, I feel so vulnerable in it and then I don't really know what to do.*

As the course progressed, Jane and Margaret became frustrated. Participants were not learning to engage in the depth of discussion they hoped for. In Jane's view, they often avoided delving into both the content of the mathematics and the complexity of the children's mathematical thinking. Following a particularly unsatisfactory session midway through the course, Jane and Margaret decided to make a consistent, clear, and explicit effort, as facilitators, to ask their seminar participants to focus on the mathematics. Jane wrote:

*I made a resolution that if they were going to be mad at me I wanted them to be mad for a good reason. By this I mean that all fall we never really got the questions about "Where's the math?" . . . [we were] absolutely resolved to continually bring the discussion back to that question.... "So what are the mathematical ideas here that this child is pushing on or bumping into?"*

This decision was a difficult one for Jane. She described how every time she did something "teachery," it felt like a risk, but, with Margaret, she maintained her determination to focus the discussion on the students' mathematical thinking. Yet they found that their strategy paid off: two sessions later, Jane and Margaret were seeing more extended discussion about mathematics and mathematical ideas. As participants raised issues, the facilitators asked them to define more clearly what they were saying. For example, Jane described how participants considered the relationship of repeated addition to multiplication:

*Questions revolved around the importance or lack of importance that repeated addition has for understanding multiplication. Efficiency came up loudly in this. Martha really clearly held onto her belief that when her kids can talk about multiplication as repeated addition she feels very good. . . . Tracy just kept . . . voicing her worry that it would be acceptable for children to just stop in their evolution of understanding multiplication with repeated addition. . . . Gloria raised [that] her picture of repeated addition feels very linear and that her picture of multiplication grows like concentric circles. Repeated addition doesn't feel as multiplicationy as multiplication. This continued through several rounds of working to understand what she was saying and what other people made of it.*

At this point in the seminar, Jane and Margaret had clarified for themselves not only what their roles were, but what kinds of actions and behaviors they needed to try, practice, and revise in order to support the participants in their seminar to have a deeper kind of discussion. Jane wrote:

*It is definitely helping for Margaret and me to be affirming over and over, "What is the question we want to keep bringing to the discussion back to when it strays?" . . . And the question is always some variation on "So what is the mathematics that these children are making sense of?" . . . We practice saying this in different ways so that it will sound more normal to us and so that we can imagine directing the discussion that much.*

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In Laurie's seminar, she faced the issue of those who feel they are already experts, who have the answers, and who dismiss thoughts different from their own. Part of the role she designed for herself as facilitator was to require of all participants that they be responsible learners. She recognized that reaching the part of the teacher that is intellectually curious is bound up with emotional and social components of perceived authority, power, and role, especially when participants are part of an already established teaching community, but she was not willing to accept the status quo those factors might maintain. Although, as she asserted early in the process, she can't do the learning *for* the learner, she became determined to do all she could to engage the teacher as learner and to change the norms for participation in professional development.

Making this subtle shift from "only a facilitator" to what we might call an "active facilitator" requires letting go of two concerns: 1) being liked and 2) creating a "nice" experience for participants. As Jane commented in the final teacher leader meeting of the year, "it feels like, I would be more expecting that there will be anger probably about a lot of things, about us saying, 'what are the mathematical issues that you see in here?' and they don't know; or when we say 'could you explain your thinking a little more?'; anything that felt like a challenge, there is anger. In order to be the best I can be at this, I can't not have them be angry." The focus shifts from questions about self—"can I do this?" and "do they think I'm doing a good job?"—to questions about participants—"how can I help her look more carefully at the evidence in the student cases?" and "how can I support his explorations of the mathematics of multiplication when he's afraid to show that he is confused?" This is part of what Laurie seems to mean by "goals" and "mission."

In the shift from passive facilitation to an active role, the teacher leaders are continually figuring out how to engage participants in seriously examining their practice. The normative mode of professional sharing in school culture involves teachers showing each other "activities that work." Analysis rarely moves beyond superficial reaction: "I like what she did when . . ." or

"Instead she should have . . . [Heaton, 1996]." Because the seminar leaders understood that questions of pedagogical strategy *follow and are based on* analysis of children's understandings, they came to see that participants needed help examining the cases for what they reveal about mathematics and children's mathematical thinking. In the same way they hoped participants would become more critical and analytical about their teaching, Laurie and Jane, with their partners, were analytical about their own teacher education practice. They engaged in the following four processes:

- establishing goals and an agenda for participation and outcomes
- analyzing what is happening during the staff development experience and assessing this experience in light of the teacher educator's goals
- deciding how to take action in order to improve the staff development experience
- carrying out the plan of action, seeing what happens, and continuing to analyze and revise.

Professional development that requires of participants hard thinking about mathematics content and deep reflection about children's mathematical thinking presents particular challenges for teachers who take on the role of teacher educator. The teacher leaders described in this paper were involved in several structures and experiences that supported them in their development as teacher educators. These included: 1) their own experience as participants in long-term professional development focused on mathematical ideas; 2) the use of a staff development curriculum that provided content and structure; 3) deliberate occasions (meetings, required writing) for considering issues of teacher education in the context of the teacher leaders' ongoing experience; and 4) the support of a community of those facing similar issues. It is critical that we continue to study how teachers learn to become teacher educators, what characterizes "good" teacher education practice, and what supports and experiences make it possible for dedicated teachers such as Laurie and Jane to carry out professional development in their own school settings.

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