Dorothy's and Mary's Mediation of a Curriculum Invention

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Nothing seems so clear to eductators, so self-evident, as that schools must improve. They must move ever more proximate to the good. But what is the pull? And what responses are possible, other than dutifully churning out ever more ameliorative "plans" for schools to "implement"? What are the contours of *praxis* in such times? The inquiry detailed below originated in such questions and my desire to contribute to the larger hermeneutic community that seeks more satisfying interpretations of curriculum change and the people who live it.

There is no paucity of advice for teachers. Their work world is a prescriptive milieu peppered with criticism, exhortations, and mandates, among which are the curriculum innovations or inventions (Westbury, 1984) of educational researchers and curriculum workers. My purpose in this study was to generate grounded speculations, or hypotheses, about the mediating influence of teachers, conceived as autonomous agents, on the implementation of one such curriculum invention in their classrooms.

Computer assisted instruction (CAI) was deemed an appropriate invention for this exploration of teachers as curriculum agents. First, it was accessible. Most schools in the United States now have computers (Quality Educational Data, 1984), and many of them are in some way implementing CAI. Second, CAI is a relatively unplanned invention and, consequently, its potential in the hands of teachers is vast. They can take the basic abstraction of CAI (using computers to help students learn the curriculum) in myriad directions and express it in as many forms. The invention itself is feeble compared to the level of development needed before it can be used in actual situations for particular purposes, so the terrain between invention and implementation is rich with practical mediation.

Dorothy and Mary

I interviewed two teachers over a period of eight months as they inquired into CAI and attempted to develop classroom applications. Their interest in this *au courant* invention had inclined them to enroll in a local university course on CAI, and in addition to this self-selection, each had indicated a desire to carry on the inquiry in their elementary school settings. They worked in different elementary schools in the same suburban school district in the Southwest of the United States.

One teacher, referred to here as Dorothy, was a second grade teacher in an eleven-year-old open space building. She had taught for eight years, the first two as a junior high math teacher and the past six at this school. Dorothy was completing an interdisciplinary Master of Arts degree in the fields of education and computer math, but emphasized she had "no desire to be anything other than a second grade teacher." She particularly liked working with her "top math students" and was proud of being a "demanding yet loving" teacher. Dorothy's implementation of CAI was taking two forms at the time of the study. First, she wanted her students to have frequent opportunities to "play on and experiment with" the keyboard and monitor. For this, she was collecting games and math software without much concern for its design. Secondly, she wanted to phase in "some good math programs" that were "designed intelligently for second graders in particular," and that avoided "silly design flaws like not accounting for the carrying function in addition." For Dorothy, this problem represented a general shoddiness in educational software for younger children. She referred to it as "the left-to-right, rather than right-to-left problem," meaning that addition is taught and learned by adding first the right-most column, carrying to the top of the column to the left, then adding that column and so on, moving always to the left. Typical software, she complained, presented the addition problem expecting children to compute the answer in their heads and then enter the whole sum at once, right-to-left. Dorothy was hoping to have time to design the "intelligent" software herself, incorporating both the right-to-left functions as well as the sort of feedback and correctives "that my children need." She expressed frustration at being "behind schedule" on the design of both phases.

The other teacher, here called Mary, taught fourth, fifth, and sixth grade students. As a "resource teacher," she worked with learning disabled and emotionally disturbed students for one or two periods of their school day. Mary had been teaching for nine years, always a special education teacher at this school. Her students, like Dorothy's, were from both working class and professional homes. She also worked in an open space school, but her resource room was a small, self-contained room just off the library. Mary was hoping to complete an interdisciplinary Master of Arts degree some time in the next year in the fields of education and social work.

Mary had two microcomputers in her classroom, both gifts of the PTA. Her implementation plan was to introduce her children to keyboard skills—an ambitious task, she pointed out, because so many of her students failed to see the "connection between the buttons pushed and the resulting display on the screen." Simple math games designed for second and third grade children were to be the vehicle, although she also hoped their working with the math software would "pay off for them on their grade level tests."

Undergirding these aims, Mary's hope was that "these kids' involvement with computers will motivate them and make school more interesting and rewarding for them. It [school] is all so difficult and frustrating for them. So many failures. So far behind."

Emergent Themes

Numerous themes appeared in these teachers' mediation of CAI—among them, hope, ambiguity, prior commitments, weariness, excitement, knowing and not knowing, being organized, being innovative, seeking approval, being cooperative and collegial, handling parents and administrators, and personal life. The first three were especially salient in Dorothy's and Mary's mediation of CAI and will be sketched below. Excerpts are presented here not as "proofs" or verification for the theme but as illustrations that lend the reader some direct access to the same text I am interpreting.

Hope

Dorothy's and Mary's talk about CAI was forever embedded in their relationship with "their" children. Relation per se was ontological in their practice, and hope was constituent of relation. In their own words, first Dorothy:

I want my students to be the best they can be, and for them to achieve—no, not achieve, but to feel good about themselves, scholastically and emotionally, and to have good self-concepts. If I can just have the child's love and respect, and trust, then I can work—I won't say miracles—I can work wonders with that child. The sky's the limit. That's why my relationship with them is *so* important, and so much more important than all other things, because without the relationship, the other things might not happen. . . . Here's what I mean.

Dorothy got up to get something from her desk. It was an invitation to a dinner in a neighboring district honoring its teacher of the year. She handed it to me to read, and on the front was this quote: "The important thing is not so much that every child can be taught, as that every child be given the wish to learn."

It's near my desk at all times. You can see it's getting rumpled up. . . .

You can become so attached to your knowledge of the student, particularly his background, that you can no longer be completely fair in evaluating him or her. I have a child now, for example, who gets absolutely zero at home. Zero. And, even trying to talk to the mother is like talking to a bookcase. She refuses to come to school, to do anything for the child, and sometimes I think I let him get by with a little more than the other children because I know that all he's doing is trying to get my attention. That's a "minus" of my working to develop a real relationship with them. And, probably if I weren't so involved with my kids and wanting to know what's going on in their lives I could be a lot more consistent or fair or whatever the word is for that. . . . But it is worth it, particularly in the

first and second grade, maybe not in the sixth. But in first and second, they are just so vulnerable and so trusting. And they really don't have any options. You know, if they go to a home where there's no love, what choice do they have but to get their attention by being bad?

So, maybe being involved in CAI will make them feel better about themselves, and better because they have been given this opportunity. Maybe they will feel more proud. But I do not think these computers can teach them everything. You need a human there—to support them. I, not a computer, can help them in the ways that count the most.

Now Mary:

Working with CAI is worth it, though, because this will be *the* thing, you know, that helps some kid learn . . . the light that you can see come on in their eyes. Maybe this will be the thing that does it. And, it's interesting and different too. Maybe they will decide school's not so bad after all. . . . I mean I want my kids to all pass fifth grade this year. I would like for them all to learn the skills—this is unrealistic, I know—that are required of them at their particular grade level so they won't fail a grade and be held back. That is so frustrating for them. These kids already have pretty bad self-concepts which have already deteriorated so much because of all the failures they've accumulated in grade school by fifth grade. They know which grade they're in and the one they're supposed to be in. So, I would like to see them happy, at their grade level.

Most of these kids have been exposed to computers in their other classes even though they may not have been exposed at home—and I'm not saying that if a child doesn't have a computer at home that he is deprived. I don't mean that at all. More important, though, than being exposed to them at home is that they haven't had parents who talk with them and explain manners—why we don't say, you know, "That's an ugly coat!"—or who talk with them about what kind of animals live on a farm or how the mountains were made. That type of deprivation exists here and has more of an impact on them than the presence or absence of computers at home. Several even have them. But computers don't teach them *these* things—not manners. We try, but it is hard since they don't get the practice or reinforcement from home. . . . I mean, social skills and self-concept are more important than computer literacy and most of the other skills we teach at school, especially for these special education kids, because they *have* to learn to get along.

I will elaborate on this theme, hope, first by highlighting some moments in the above excerpts through which it was revealed to me; then, I will submit a brief exegetic anlaysis (see Merleau-Ponty, 1968) to be considered here a speculation on the nature of hope in teachers' mediation of curriculum inventions. The question will arise: How did *those* moments suggest *this* theme to *this* researcher? My response here cannot hope to summarize the great literature on this question, but let me say, with Heidegger, that description is interpretation, which, in turn, is bound up in history. A "moment" that flies up at me "like a spark" (Merleau-Ponty, 1962)

may be of no particular merit to another interpreter. My selection of these moments from all the possibilities required also the converse—the rejection of others—either because I saw them but they did not seem central to me or because this interpreter, so entangled in his particular history, lacked the capacity even to see them.

Highlights, Dorothy

1. I want my students to be the best they can be.
2. If I can just have the child's love and respect, and trust.
3. The sky's the limit.
4. Without the relationship, the other things might not happen.
5. You can become so attached.
6. I have a child now . . . who gets absolutely zero at home. Zero.
7. They are just so vulnerable and trusting.
8. A home where there's no love.
9. CAI will make them feel better about themselves.
10. I, not a computer, can help them in the ways that count the most.

Highlights, Mary

1. It's worth it.
2. Maybe this will be the thing that does it.
3. These kids' self-concepts have already deteriorated so much.
4. They know.
5. I would like them to be happy, at their grade level.
6. They haven't had parents who talk with them . . . about how the mountains were made.
7. That type of deprivation exists here.
8. Social skills and self-concepts are more important than computer literacy.

What is pedagogic hope? For Dorothy and Mary, it is a category of experience plainly discernible from teachers' talk about the more schoolish "goals" and "objectives." In contrast to the latter, which are experientially hollow, bureaucratic constructs, hope is a fully alive matter—evocative and emotional. Distinct from the thin, disembodied jargon of faculty meetings and district memoranda, Dorothy's and Mary's hope was heartfelt, whole, and bright with intersubjectivity. Their hope was embedded relationally in their lived experience as their "children's" *other* parents. Van Manen (1984) has remarked that "teachers and even parents seem to have forgotten a certain kind of understanding; what it means to bear children, to hope for children entrusted to their care," Dorothy and Mary had not forgotten, but embodied what van Manen wants: "The being of teaching as *in loco parentis*" (p. 66). There was longing and

zeal in their language, real warmth and affection. There was ardor in their concern for the children entrusted to their care. They spoke a meliorative language of possibility; a language uncomfortably aware of gaps between real and ideal, between what is given and what is envisioned as better. Dorothy and Mary, in a word, cared. Their hope was a loving orientation toward their "children" as beings *becoming*. Their hope was thus a way of being with beings becoming. Their hope was hope *for*, but not hope for particular accomplishments and successes that might await their children, hope that Gilligan (1982) found more typical of men; rather, theirs was a broader and deeper, less specified hope for the *well-being* of the ones hoped for. This hope is still hope *for*, but unlike hope for particulars (for example, a college degree or a good job), Dorothy's and Mary's hope was a more fundamental, less corporeal hope for Goodness.

Within Dorothy's and Mary's hope was a salient presupposition about social and family pathology—about circumstances threatening to pull the children down, harming them, against which their hope was the heartfelt desire for upward and forward movement, toward well being and healing, toward the good. Recall these moments:

> I have a child now who gets absolutely zero at home . . . A home where there's no love.

and

> They haven't had parents who talk with them about . . . how the mountains were made.

Here Dorothy and Mary, as ones hoping (see Noddings, 1984) at once recognize their *in loco parentis* role while unabashedly extending their commitment to these children beyond it.

To live the experience of such expansive affection and sympathy is to live its two edges: loss and completion. To hope thus is to recognize that something can go wrong, hurt, fail. It is to recognize and care deeply about the possibility of loss. It is "to cherish a desire with expectation" (Webster) in the face of this recognition; so, it is the longing for the good, knowing full well the possibility of the bad. It is being vulnerable. Pedagogic hope, then, is not lived as abstraction but as feeling acknowledging the concrete possibility of the undesirable coupled with the cherished desire that, in the face of such danger, all (both the one caring and the one cared for) will be well. Hope is thus linked dialectically with loss; with every "I hope they will . . ." lurks the flipside, "I hope they won't . . ." To have hopes is to have fears. For Dorothy and Mary, the belief that harmful home environments were holding their children back at the lower rungs of the

self-worth and achievement continuum, contributing to the very problems Dorothy and Mary were striving to help their children overcome, galvanized their hope.

In the same way that Dorothy's and Mary's hope persevered against a backdrop of perceived social and family pathology, so also was it linked dialectically to their concern for other forms of loss: Mary's hopes that her children's self-concepts would not deteriorate further, that they would not experience even more failure, that they would not fall farther behind grade level; and Dorothy's hope that her children's vulnerability would not be wrongly exploited. Again, we see that to speak explicitly of hope is to speak tacitly of fear.

In my view, the hope pervading Dorothy's and Mary's language as they talked about CAI provides an important, if nascent, understanding of their concern for implementing the invention in spite of already extreme demands placed on them by the state legislature, the school district central office, and the press. They were incorporating CAI into their curriculum, or attempting to do so, because they hoped for their children; and as the excerpts above indicate, they were emphatic that these machines were tertiary means to that relational end. Their invention-related work was thus teleological. Dorothy and Mary located the invention in that part of their relationship with the children and the school that contained not the mandated and supervised work of public school "technicians" but the mollifying work of caring adults who felt they knew "their" children intimately and whose beings were profoundly implicated in their students' happiness and well-being.

Ambiguity and prior commitments

Dorothy's and Mary's CAI projects were anchored in a way that restrained the scope and depth of changes in everyday practice that might result. The stabilizing force was a system of *a priori* pedagogic commitments that helped Dorothy and Mary steer a course between the desirable (implementing a program that would positively affect their students in accordance with their hopes for them) and the undesirable (upsetting their own sense of stability in practice).

While stability itself appeared in the first interviews to be an end, it later appeared as a means to Dorothy's and Mary's sense of satisfaction, or wholeness-in-practice, which was a pivotal aim. Both teachers considered themselves relatively content. The national reports decrying the state of schooling in general and teacher competency in particular, as well as local media specials, such as "The ABCs of Failure" and "How to Grade Your Child's Teacher," had, according to Dorothy and Mary, demoralized many with whom they worked. Moreover, the state legislature's new curriculum mandates were clearly upsetting their sense of stability. Dorothy and Mary saw themselves as having a decent, even cheerful year in spite of this

backdrop of unhappy colleagues, stressful new practices, and community suspicions, and they were not about to become distraught over what were admittedly very good reasons for being so. Their prior commitments, I am suggesting, were their source of stability.

I use the term *commitments* cautiously, wanting to avoid "psychobabble." I use it to mean loyalties or attachments to pedagogical assumptions and theories. Webster's is straightforward, giving as a first definition "to put into charge or trust," from the Latin *committere*: to connect or entrust. In such a fashion, Dorothy's and Mary's commitments served to domesticate the disparate pulls, requests, and demands of practice, ordering and entrusting them to stabilizing beliefs. My use of the term "commitments" is similar to "practical principles" as used by Gauthier (1963) and Elbaz (1983); the term "commitment," however, introduces the normative, indicating a preference for some principles over others. Practical principles "bring past experience to bear on present problems" (Gauthier, 1963), and the term "commitments" accounts for the differential attachment to these principles. Commitments are thus distinct from other staples of practice, such as teaching resources and teaching approaches, in both nature (cognitive, rather than material) and depth (commitments orient teachers' stances toward resources and approaches).

As Dorothy and Mary implemented CAI, their attention was directed toward the same issues and grounded in the same commitments that had been previously important to them. Dorothy was using this new resource to help her students increase their math achievement and "be the best they can be"—aims she was already pursuing with her students. Mary was intending to use CAI to help close the gap between her special education students and the other children at school and to help them succeed "at grade level." Both were intentions she held prior to and independent of her CAI endeavors. Incorporation of the microcomputers and software proceeded with no apparent alteration in these teachers' current preferred ways of thinking about learning, teaching, and schooling; indeed, the new resources were held in awareness in a way that reinforced existing theories and assumptions. Likewise the special teaching approaches Dorothy and Mary adopted for CAI were appropriated by their prior commitments.

For example, the following excerpt illustrates how the introduction of CAI was bound up with Dorothy's commitment to a particular management scheme. Here, moments are denoted by parentheses.

> I think one reason (I'm not so gung ho on the computers) is that before I can do CAI (I have to take half my students across the building to where the computers are. That's a problem, you know). Maybe if they were right here in this room we would be using them every day, and stu-

dents who were finished with something could just move right over to them. As it is, I stay with the half that's in the room. Now (I can trust my top math students; we've built up a relationship, and I can send them away without worry). And (that's why I like the open classrooms: I can see them and monitor them all the more easily). (A reason I have waited) until this semester to get started with the computers is that I am going to get a student observer from the university, and she will be able to stay here with the half that stays while I go with the rest.

Dorothy's commitment to "covering all my bases" further shaped both the nature and the extent of her involvement with CAI. Cooperative scheduling, organization, advanced planning, and next-day feedback on assignments were a few of the "bases" in Dorothy's practice with which the invention had to negotiate. Moreover, these commitments took priority, forcing CAI to the periphery. Again, Dorothy:

Right now, only the fifth and sixth grades are using the computers for math, and (what I wanted to do was experiment) with the second graders in math. So (I received approval) from my principal to use them for that. That was easy because I have a wonderful principal who, you know, as long as you're inventive, she says, "Go at it." Maybe I didn't even need her approval, but (I just like to know that I've covered all my bases). So I schedule it so I'm not interfering with the fifth or sixth graders' computer time, because (it is also a priority with me that those teachers are meeting *their* curriculum).

In general, (I like to be prepared—to have looked at all that I'm going to do and to have alternatives in mind). (I want to be sure my principal knows what I'm doing) so she can explain it to parents, if needed. And (I like my parents to know what I'm doing, too). I have to be organized; (it's for my own well-being; that's how I work . . .). And I think every teacher in this state is going through some real problems with the new legislation, especially in the area of planning time. (No one feels like they have the time they had before. There *is* less time). Why, I've never! And that's one reason I'm behind on my computer plans. I've never brought so much work home from school before as I am this year. It's ridiculous, because (one thing I've always insisted on for myself is that I am organized). Yet (I bring home work; more than ever). With my low reading group and, well, with the lower grades in general (I am a thorough believer in immediate reinforcement, so by golly they get it). But that means I'm having to take more work home so that I can provide it while doing everything else, too. It just means (other things that need to be done get pushed aside. Like CAI). (Even in junior high I felt strongly about that; you've just got to get it back the next day) so you can go over it while it's fresh in their minds.

Another thing: (I insist on being planned for the next week by Friday). So on Monday, there is my file folder with everything that's needed on Monday. And for Tuesday, a folder, and so on. (Without a doubt, getting the homework back the next day and planning for the next week take priority.)

By holding their commitments constant, as foundations, Dorothy and Mary were able to work with CAI in ways that minimized what *had* to be minimized: strain in practice. Strain of some sort, at least the strain associated with ambiguity, seems to be inherent in curriculum change. The practical is "necessarily a realm of uncertainty" (Gauthier, 1963, p. 156). This uncertainty is no mere abstraction; it is felt concretely—sometimes sharply, sometimes in a dull and more diffused way. Listening to Dorothy and Mary portray the activity of teaching school and their endeavors to introduce something they considered fresh and worthwhile to their students was in large measure a listening to the themes of ambiguity and strain and their simultaneous reduction through ways of perceiving and thinking that made sense of the experiencing. Their previous commitments, structured the ambiguity aroused by the change effort.

A considerable body of theory has been developed to make sense of ambiguity and its consequences as social processes engendered in situations that are structurally conducive. In his theory of collective behavior, Neil Smelser (1962) argued that ambiguous situations require clarifying orientations and information that, in turn, function to reduce the attendant strain and prevent its subsequent escalation to anxiety. Beliefs to which we have some commitment supply that clarity, thereby transforming uncertainty. Smelser posited further that these beliefs are themselves quite arbitrary, which is to say that we are not particular about the beliefs we adopt when experiencing strain. Dorothy's and Mary's confidence—that is, the robust repertoire of explicit and tacit commitments with which they advanced through the uncertainty of their work-worlds—provided a ground on which their CAI pursuits could proceed with a minimum of strain and be construed as worthwhile. Of course, these resilient pedagogic beliefs, while stabilizing change efforts, can also attenuate change and contribute to the sameness so often observed in schools (see Goodlad & Klein, 1970; Levin, 1976; Popkewitz, Tabachnick, & Wehlage, 1982).

Conclusion

Although it is believed that any change endeavor necessarily involves ambivalence and loss (Marris, 1975), Dorothy and Mary were ostensibly a study in neither of these. They were instead a study in hope and stability. They help us understand that teachers are subjects who accept, reject, define, negotiate, and shape—in a word, mediate—the introduction (or intrusion, as the case may be) of curriculum inventions into their practice. Moreover, they tell us that this agency stands between a particular curriculum invention and its potential-in-practice (see Ben-Peretz, 1975), thereby determining in substantive ways whether an invention becomes an innovation. Dorothy and Mary did not invent CAI *qua* abstraction. Suppes (1980) did that. But they did invent CAI *qua* classroom

practice, and their hope, intertwined with their prior commitments as practitioners who sought to reduce strain, figured centrally in their mediation. That they construed CAI relevant to their hope for the well-being of their children helps us understand how they came to initiate this implementation project, but from that point CAI had to negotiate with their concern to stabilize their practice.

In my view, curriculum workers need to appreciate this hope/stability tension as a central feature in the lifeworlds of teachers. It is central to understanding how teacher agency *completes* a curriculum invention—that is, shapes its potential at the point where the invention is brought from the outside, as abstraction, to the inner, social, fabric of practice. Consequently, the notion of hope/stability may be central to our understanding how curriculum forms change *and* how they persist. The emergence of stability as a phenomenological theme in a study of change underscores Nisbet's argument that "Fixity, not change, is the required point of departure for the study of *not merely social order but social change*" (1969, p. 270).

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