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ABSTRACT

This publication explores the literature on teacher action research and authentic instruction, and draws on investigations of teacher research activities in order to promote the use of more "authentic" curriculum and instruction, especially for students at risk. "Authentic" instruction is defined as instruction based around problems, questions, or application tasks of personal interest to the students. These explorations and discussions are intended to ground the program in an understanding of fundamental issues in this approach to school improvement. As an approach to promoting such instruction, action research by teachers and classroom-based inquiry into teaching and learning are advocated. The report is organized in two sections. The first section examines teacher action research; the second investigates authentic curriculum and instruction. Appendixes comprising the bulk of the document include: (1) advisory meeting materials; (2) a bibliography on Teacher/Action Research; (3) an article entitled "What Is a Teacher-Researcher?" (Glenda L. Bissex); (4) a bibliography on Authentic Instruction; and (5) excerpts about Authentic Instruction. (LL)

An Action Research Approach to Authentic Curriculum and Instruction

August 1991

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An Action Research Approach to Authentic Curriculum and Instruction

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August 30, 1991

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An Action Research Approach to Authentic Curriculum and Instruction

(ABSTRACT)

A goal of the Effective Instruction Program at Far West Laboratory is to promote the use of more "authentic" curriculum and instruction, especially for students at risk. By authentic, we mean instruction based around problems, questions, or application tasks of personal interest to the students. As an approach to promoting such instruction, we will be supporting action research by teachers – classroom-based inquiry into teaching and learning. In this paper, we explore the literature on these two topics – teacher action research and authentic instruction. We also draw on investigations of teacher research activities within the region. These explorations, discussions, and this written summary are intended to ground the program in an understanding of fundamental issues in this approach to school improvement.

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An Action Research Approach to Authentic Curriculumand Instruction

A goal of the Effective Instruction Program is to promote the use of more "authentic" curriculum and instruction, especially for students at risk. By authentic, we mean instruction based around problems, questions, or application tasks of personal interest to the students. As an approach to promoting such instruction, we will be supporting action research by teachers – classroom-based inquiry into teaching and learning. In this paper, we explore the literature on these two topics – teacher action research and authentic instruction. We also draw on investigations of teacher research activities within the region, including the content of a daylong discussion held at Far West Laboratory on June 20, 1991 (see Appendix A). These explorations, discussions, and this written summary are intended to ground the program in an understanding of fundamental issues in this approach to school improvement.

Teacher Action Research

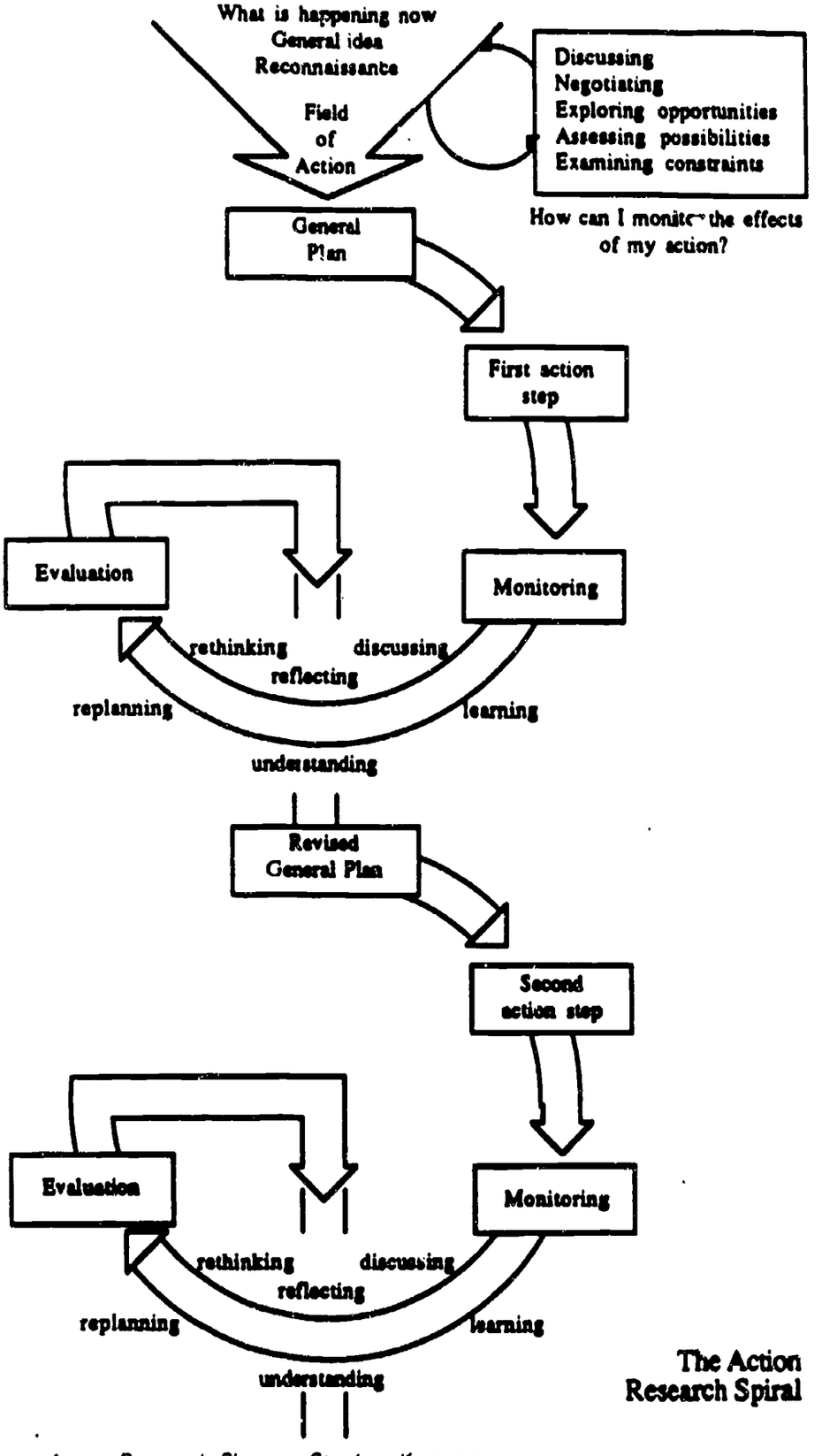
Teacher as researcher is an idea that is (once again) on the rise. Witness the creation of an AERA special interest group on Teacher as Researcher three years ago, the growing bibliography of references (see Appendix B), and the growth of organized teacher research activities (e.g. Evans, 1991; Hahn, 1990, 1991; Sagor, 1991).

A number of references provide background and guidelines on the process of teacher action research (see especially Elliott, 1991; McKay, 1991; Mohr & MacLean, 1987; Stevenson, 1986). As core definitions, we go along with these:

> *Action research: The study of a social situation with a view to improving the quality of action within it.*
>
> *Inquiry teachers undertake to understand and improve their own practice.*

These definitions emphasize the role of the teacher as both actor and inquirer, with each feeding the other. Teachers engage in inquiry not so much for the value of formal knowledge but so as to understand and improve their own teaching. Their questions are practical and routed in their own context and experience. Their audience is themselves and their colleagues who face similar questions and challenges.

The cyclical nature of action research is well captured in the figure by Stephen Kemmis (next page).



Source: Ebbutt, D (1985) 'Educational action research: Some general concerns and specific quibbles,' in Burgess, R. (Ed) *Issues in Educational Research: Qualitative Methods*, Lewes, Falmer Press, p 163, figure 1

Figure 1

Of several such figures, this one is preferred for its rich array of verbs. For instance, at the top or beginning stage, teachers may spend considerable time in "reconnaissance," observing and reflecting on their situation before moving into a more formal cycle of deliberate action and research. At this stage of "problem identification," teachers are encouraged to verbalize the intuitive, to recognize discrepant events, to pose questions of genuine interest.

Approaches to teacher research differ in how they treat this initial phase. For example, teachers associated with Project LEARN or others working with Peter Holly spend relatively little time in this phase. In an initial workshop, teachers identify issues or questions of key concern personally and select a research focus. This seems to work because it taps into a backlog of personal interest and allows, or even encourages, teachers to work within a domain of strong personal attachment. In contrast, teachers working with one of the National Writing Project groups might spend longer in the initial exploratory phase. They might keep journals, reflect on ongoing classroom processes, and talk with the group, before a research focus became clearly defined. They might also look at the existing research literature for input, although this is more likely to occur in successive cycles.

The Kemmis figure also offers a number of verbs for the data collection and analysis phase, although these terms themselves are not used. Instead, Kemmis offers verbs such as monitoring, discussing, reflecting and rethinking. This phase of data collection and analysis may be a particularly critical one for action research. It can be argued that teachers engage in action research all the time; they try something out and see what happens as a reflexive part of their practice. If action research is to become more deliberate and part of the enhancement of a profession, then the biggest change may be expanding the data collection and analysis phase.

Some evidence for this assertion comes from the reactions of a group of teachers involved in a discussion of action research at San Francisco State University, June 27, 1991. One teacher volunteered that she engaged in action research all the time, expect for the systematic recording of data/evidence. Another commented that when she did collect data she found it useful in two ways: she had a chance to see patterns that might escape her on the fly and she had evidence with which she could convince others of her conclusions. There was concern, however, about the **time** required for these activities. In several discussions, teachers have complained that there is little time available and generally no **paid** time, in which to carry out these expanded activities. A dedicated teacher researcher reported herself close to burnout because of the increased work load even though she found the work personally rewarding.

Figure 2 (next page) is an attempt to elaborate on the comparison between what a teacher does regularly, as part of reflective teaching, and what would be involved in a more systematic and complete action research cycle. Terms in the two outer columns are shorthand used to bracket the more extended description of the action research cycle provided in the middle column. It was this version which was the point of departure for the group discussion at San Francisco State reported above.

Figure 2

Phases of (Action) Research

"teacher's cycle"	"action researcher's cycle"	"researcher's cycle"
review frameworks, materials; consider past experience; plar lessons	observe & ponder; explore students' perspectives; read, attend workshops, talk to colleagues; articulate "personal theory"; look for "loose ends"; frame research question(s); plan action and data collection	review the literature; frame research question(s); design the study
take action: talking and working together	collect evidence; TRIANGULATE; consider: keeping a journal, collecting documents, observation notes, surveys, interviews, shadow studies, tape-recordings, video-recordings, photos; use your opportunities for action; do something in a different way and see what happens.	collect data
reflect	make sense of the evidence: look for patterns, check across data sources; talk to colleagues; try out your explanations; collect more/different data as needed; interpret the data in the light of different theories.	analyze data
consolidate	write about your experience and your learnings; describe research process & classroom context; make it personal and real; present the evidence for your conclusions; consider implications for yourself and others.	write: conclusions & implications

Regardless of approach, the teacher-researchers to whom we have spoken are enthusiastic about the activity and its effect on their own teaching. In our OERI proposal we included the following quote from Nancie Atwell (1987) about her experience with classroom research:

> I confess. I started out as a creationist. The first days of every school year I created; for the next 36 weeks I maintained my creation. My curriculum. From behind my big desk I set it in motion, managed and maintained it all year long. I wanted to be a great teacher – systematic, purposeful, in control. I wanted great results from my great practices. . . . These days, I learn in my classroom. What happens there has changed; it continually changes. I've become an evolutionist, and the curriculum unfolds now as my kids and I learn together. My aims stay constant – I want us to go deep inside language, using it to know and shape and play with our worlds – but my practices evolve as eighth graders and I go deeper. This going deeper is research. . . . What I learn with these students, collaborating with them as a writer and reader who wonders about writing and reading, makes me a better teacher . . . grounded in the logic of learning and growing. (p. 3)

Some of these same ideas were echoed by teacher researchers with whom we spoke. One talked, for instance, about how she thought differently about her classroom and the roles of teacher and students. For her, the term "community of learners" captured the classroom environment that she now maintains. When a difficulty arises, it is now a "project" rather than a "problem." She is more disposed to act rather than bemoan, and to act within a research orientation.

In our conversations, it also became clear that teacher researchers and advocates for teacher research view the enterprise from a political as much as from a technical perspective. While they think it improves their teaching, they also want to enhance the prestige of teachers and the teaching profession. They want recognition as **researchers**. They want teacher voices to be heard and valued.

Such goals can be problematic for others. Teachers talked about unfriendly receptions from researchers who seemed to be denying teachers' rights and capabilities in order to protect their own turf. They talked about being wary of researchers who were teacher advocates, because status differences might cause even these professed colleagues to take over the enterprise. They talked about fellow teachers who thought that they were putting on airs to insist on calling their work "research."

There is a danger in the conflict between the political and technical agendas, especially as centered around the question "Is it research?" The label "research" carries prestige and is sought after (or sometimes rejected) on that basis. Questions about the nature of teacher inquiry, and the ways in which it is or is not research of a particular sort, need to be addressed carefully so as to enhance our understanding of the enterprise but with sensitivity to the political overtones.

A related message in our discussions had to do with the role of a regional laboratory. While teacher researchers and those who work with teacher researchers wanted technical assistance, they talked even more about the role of laboratory in providing legitimacy and recognition for the enterprise. We can call attention to teacher

research and serve to enhance its status within the broader educational community. Potential audiences included not just researchers but educational policy makers and administrators who provide the resources and opportunities for teacher research to take place.

The way that people view teacher research is bound up in their views of alternative research paradigms or traditions. Teachers, researching within their individual classrooms, and living as "observant participants," may be drawn toward more naturalistic inquiry. While they can and do report experimental studies, they are also in an ideal position to provide rich description and case studies. Some, especially those linked to the National Writing Project, are looking for new and better ways to write up their research. They are attempting compelling prose that captures the process as well as the learnings of research and that is more user-friendly than standard research reports. In fact, we realized through our discussions the close connection between the Case Institute work at the Laboratory and the teacher-research strategy in this program. Judy Shulman and others working with teacher-written cases have focused on the use of such cases for professional development through discussion and analysis. They have recognized the value of the reflection involved in case writing, but have not focused on that aspect of the process. We see now that case writing is a bridge activity drawing on (more or less formal or lengthy) research or reflection and sharing that research with the broader professional community.

It is important, though, not to get caught up in unhelpful debates about quantitative versus qualitative research. Erickson provides an alternative distinction in his chapter in the recent *Handbook of Research on Teaching* (1986). In his chapter on qualitative methods, he states that the difference is not in data collection methods – words versus numbers – but in the framework for thinking about the world. He uses his chapter to present the "interpretive" point of view:

> The interpretive point of view leads to research questions of a fundamentally different sort from those posed by standard research on teaching. Rather than ask which behaviors by teachers are positively correlated with student gains on tests of achievement, the interpretive researcher asks "What are the conditions of meaning that students and teachers create together, as some students appear to learn and others don't? Are there differences in the meaning-perspectives of teachers and students in classrooms characterized by higher achievement and more positive morale? How is it that it can make sense to students to learn in one situation and not in another? How are these meaning systems created and sustained in daily interaction?"
>
> These are the questions of basic significance in the study of pedagogy. They put *mind* back in the picture, in the central place it now occupies in cognitive psychology. The mental life of teachers and learners has again become crucially significant for the study of teaching (Shulman, 1981, and Shulman, this volume), and from an interpretive point of view mind is present not merely as a set of "mediating variables" between the major independent and dependent variables of teaching – the inputs and outputs. Sense-making is the heart of the matter, the medium of teaching and learning that is also the message.

Authentic Curriculum and Instruction

An interpretive approach to research is highly compatible with the focus on authentic instruction which is the other anchor, along with action research, of the Effective Instruction Program. While we believe that teacher action research is a valuable activity in its own right and for many reasons, we are particularly interested in classroom research as a way toward more authentic instruction. The interpretive approach focuses attention on how students are making sense of the world. This focus on sense-making – what students are thinking, wondering, misconstruing, interested in – is the necessary point of departure for authentic instruction. Thus, inquiring about students and their learning undergirds authentic instruction.

Some of the sense of this is conveyed in the Atwell quote on page 5. Other similar statements are the following:

> Teaching is essentially an ongoing inquiry into content and learners, and into ways that contexts can be structured to facilitate the development of learners' understandings. . . . Finely tuned analysis of the content, as well as rich knowledge about students and how they make sense of that content, can and should play a central role in teacher thinking and practice. (Ball, 1990, p. 9)

> My research on students' understanding of p"ke is entwined with my . . . teaching. . . . The teacher is researching the student and his understanding and then trying to help that student move on to more unknown territory. . . . the teacher would be more sensitive to listening, observing and then talking with her students rather than at them. . . . my understanding of myself as a learner weighs heavily on how I perceive the understanding of other learners. So, we in room 126 are all learners. (Young, in Duckworth, 1987, p. 140)

As we have examined references on teacher/action research, we have looked particularly for ways in which a student focus has been encouraged. Duckworth and Ball both describe clinical interviewing and close observation of students at work as a form of research within the act of teaching. Those who work on student portfolios as a form of assessment have another window into the thoughts and actions of students. The book by Stevenson (1986) describes techniques for surveying student opinion.

Some people have taken this whole approach one step further and made the students themselves researchers. Building on a Foxfire experience, Carol Coe (1990) has had her high school students conduct research and report it within a teacher research network. At the middle grades level, Soo Hoo (1991) worked with student co-researchers to study their learning processes. As the group of students became comfortable talking about their learning, and barriers to learning, they decided that they wanted to meet with their teachers. This meeting led to a recognition of their common ground as learners and as human beings, and the teachers and students began joint planning of some curriculum units.

While checking for leads within the action research literature, we have also looked for literature on authentic instruction. In fact, the Ball and Duckworth pieces are not about teacher research but are reports of teacher research (by exceptional teachers) that

describe the nature of learning and authentic instruction. Appendix D contains a bibliography of references directly related to authentic instruction.

Many of these references focus on the nature of learning. Current work in cognitive psychology, for example, focuses on issues of knowledge construction, context-bound learning and the problematic nature of transfer. These basic research studies have serious implications for the organization of curriculum and instruction. Bransford and his group (1989) have perhaps gone the farthest to design a curriculum that responds to this work in cognitive psychology. In their "anchored instruction" they use a videodisk environment to "create a rich source of information within a shared learning environment that generates interest and enables students to identify and define problems while they explore curriculum content from many different perspectives."

The broadest and most comprehensive theoretical treatment of authentic instruction remains that of Newmann and his colleagues at the University of Wisconsin (1990-91). Included in Appendix E is a short Newmann article that defines the concept of authentic instruction. Newmann and his group, based on their studies of at-risk high school students and successful alternative programs, identify the following characteristics of "authentic work" which will engage students in learning: extrinsic rewards, intrinsic interest, sense of ownership, and connection to the real world (value beyond instruction; clear, prompt feedback; collaboration; and flexible use of time).

Also included in Appendix E are several quotes that describe or evoke a sense of authentic instruction. These quotes will be used as discussion starters for teachers as they explore the ideas of authentic instruction. The concept remains elusive, not well captured by abstract definitions, but more than what is conveyed in a single example. We remain convinced that an ongoing professional development activity in which teachers explored this concept, conducted and shared their own classroom research will be an important and useful endeavor.

Appendix A

Advisory Meeting Materials

Far West
LABORATORY

Meeting on Teacher Research
Effective Instruction Program
June 20, 1991

AGENDA

9:00 - 9:30	Continental Breakfast
9:30 - 10:15	Introductions
10:15 - 12:00	Facilitating Teacher Research Groups: Providing Support Structures
12:00 - 12:45	Lunch
12:45 - 2:00	Teacher Research in Action: Examples
2:00 - 2:15	Break
2:15 - 3:00	Authentic Instruction: An Activity
3:00 - 3:45	Networking: Discussion of Possibilities
3:45 - 4:00	Reflection and Closure

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FarWest
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Meeting on Teacher Research
Effective Instruction Program
June 20, 1991

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Appendix B

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Far West Laboratory
June, 1991

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Appendix C

Bissex Chapter:
What is a Teacher-Researcher?

CHAPTER 1

What Is a Teacher-Researcher?

Glenda L. Bissex

To dispel some traditional associations with the word *research*, I'll begin by saying what a teacher-researcher *isn't*.

A teacher-researcher doesn't have to study hundreds of students, establish control groups, and perform complex statistical analyses.

A teacher-researcher may start out not with a hypothesis to test but with a "wondering" to pursue: "I wonder how much my students think about their writing outside of class. Vicky mentioned today that she mentally revises compositions on the bus coming to school. What about the others now that they're writing on their own topics?"

A teacher-researcher does not have to be antiseptically detached. He knows that knowledge comes through closeness as well as through distance, through intuition as well as through logic.

When a teacher-researcher writes about what she's discovered, she need not try to make her writing sound like a psychology textbook. Her audience is herself, other teachers, her students, their parents, her principal, maybe even the school board—none of whom is likely to be upset by plain English and a personal style.

A teacher-researcher is not a split personality with a poem in one hand and a microscope in the other.

So what *is* a teacher-researcher?

A teacher-researcher is an observer
a questioner
a learner
and a more complete teacher.

A teacher-researcher is an observer. "Research means looking—and looking again," says Ann Berthoff. "This new kind of REsearch would not mean going after new 'data,' but rather REconsidering what is at hand. REsearch would come to mean looking and looking again at what happens in the classroom. We do not need new information; we need to think about the information we have" (31).

Marie Clay notes that "an interesting change occurs in teachers who closely observe. They begin to question educational assumptions" (91). One assumption that has been questioned by observers of children in classrooms (and of children before they enter school) is that learning to read precedes learning to write. Young children have been seen learning to read *while* they write, for example

A teacher-researcher is a questioner. "Why is Terry unwilling to read?" "How are poor writers and readers different from good ones?" "Do they have different concepts of what writing and reading are all about?"

Problems can become questions to investigate, occasions for learning rather than lamenting. Everything that happens in a classroom can be seen as data to be understood rather than causes for blaming or congratulating ourselves or our students. Teachers are constantly making evaluative judgments, but that evaluative frame of mind narrows our vision. "I really enjoyed asking questions of my students," one teacher-researcher told me, "because it gave me more insight into those students."

New approaches to teaching are no longer just risks but opportunities for learning: "What would happen if I had a reading workshop in this class and we shared and conferenced books everyone chose to bring?"

A teacher-researcher is a learner. In my ideal school, principals ask teachers, "What did you *learn* today?" not "What did you *teach*?" Teacher-researchers have plenty to respond. (In this ideal school, principals are researchers too.)

It's no accident that the notion of teacher-researchers grew out of writing projects that actively engaged teachers in *doing* what they taught. And whatever our subject matter, isn't it *learning* that we teach? Just as classrooms become writing workshops, they also become learning workshops, where both teachers and students see themselves as learners, where teachers are learning from children (as Lucy Calkins did in *Lessons from a Child*), where teachers ask questions of themselves as well as of students, where teachers are models of learners.

Finally, a teacher-researcher is not, as I have said, a split personality but a *more complete teacher*. Teachers have asked whether it's possible to teach and do research at the same time. The very question reflects the separation we feel between knowing and doing, and the division within our educational systems between those who "know" (such as college teachers, who have classrooms yet are not considered "classroom teachers") and those who "do" (the teachers who are not trusted, and often do not trust themselves, to know what and how they should teach). "I can't tell you how much difference this has made to me," one teacher-researcher who had received some criticism of her teaching methods said to me. "I knew I was doing the right thing because I'd done the research." If teacher research had been on the horizon ten years ago, I might still be in a classroom myself rather than having been driven to choose between knowing and doing.

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Appendix D

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Far West Laboratory
June, 1991

Appendix E

Exerpts of/about
Authentic Instruction

The Having of Wonderful Ideas

Kevin, Stephanie, and the Mathematician

With a friend, I reviewed some classic Piagetian interviews with a few children. One involved the ordering of lengths. I had cut 10 cellophane drinking straws into different lengths and asked the children to put them in order, from smallest to biggest. The first two 7-year-olds did it with no difficulty and little interest. Then came Kevin. Before I said a word about the straws, he picked them up and said to me, "I know what I'm going to do," and proceeded, on his own, to order them by length. He didn't mean, "I know what you're going to ask me to do." He meant, "I have a wonderful idea about what to do with these straws. You'll be surprised by my wonderful idea."

It wasn't easy for him. He needed a good deal of trial and error as he set about developing his system. But he was so pleased with himself when he accomplished his self-set task that when I decided to offer them to him to keep (10 whole drinking straws!), he glowed with joy, showed them to one or two select friends, and stored them away with other treasures in a shoe box.

The having of wonderful ideas is what I consider the essence of intellectual development. And I consider it the essence of pedagogy to give Kevin the occasion to have his wonderful ideas and to let him feel good about himself for having them.

from "*The Having of Wonderful Ideas*" *and Other Essays on Teaching and Learning* by Eleanor Duckworth, Teachers College Press, 1987

It was a conviction about learning that got me started teaching the way that I do. As a student of Piaget, I was convinced that people must construct their own knowledge and must assimilate new experiences in ways that make sense to them. I knew that, more often than not, simply telling students what we want them to know leaves them cold.

So what is the role of teaching, if knowledge must be constructed by each individual? In my view, there are two aspects to teaching. The first is to put students into contact with phenomena related to the area to be studied—the real thing, not books or lectures about it—and to help them notice what is interesting; to engage them so they will continue to think and wonder about it. The second is to have the students try to explain the sense they are making, and, instead of explaining things to students, to try to understand their sense. These two aspects are, of course, interdependent: When people are engaged in the matter, they try to explain it and in order to explain it they seek out more phenomena that will shed light on it.

Authentic Work and Student Engagement

by Fred M. Newmann

Our experiences as teachers, our conversations with high school teachers, and the research literature on American high schools suggests that the most salient problem each hour of the school day, for both teachers and students, is student engagement—how to get students to do academic work and to take it seriously enough to learn.

We define engagement as the student's psychological investment in and effort toward understanding, or mastering the knowledge, skills or crafts that academic work is intended to promote. Engagement goes beyond a completing assigned tasks. Students may complete academic work and perform well without being invested in real mastery.

How can schools enhance engagement, not only for the visibly disengaged students with histories of school failure, but also for the vast majority who manage to meet graduation standards, but often without much inspiration, excitement, commitment or joy? The answer lies in the human relationships that surround students' work and the nature of the work itself. Human relationships must be built to provide a sense of supportive school membership, and work must be structured to meet a number of criteria. Here we focus only on qualities of the work.

To study engagement in schoolwork, we first asked in a more general sense what kind of work is most likely to generate committed effort—from youth or adults? From diverse literature on human motivation, human development and worker productivity, and from our own research on learning activities that engage students, we developed the following criteria for work most likely to engage students. As explained below, work which entails extrinsic rewards, which meets intrinsic interests, which offers students a sense of ownership, and which is connected to the "real world" (i.e., the world beyond school) is more likely to engage students. To the extent that work meets these criteria, we consider it "authentic." The section on "Scenes at Jefferson High School" offers examples of student work that meets many of the criteria.

Extrinsic Rewards

Committed effort should increase if mastery is accompanied by high grades, admission to higher education, attractive jobs, increased income, social approval and status. What may appear to be powerful extrinsic rewards for some students, however, may have no effect on or may actually decrease the engagement of others. Only when students value the rewards, perceive that academic achievement will lead to them, and believe that their own hard work will result in academic achievement, would we expect student engagement to increase. Certain powerful extrinsic rewards such as jobs and income tend to be distributed for long-term, cumulative effort, rather than for engagement in short-term, daily tasks that lead to academic learning. This makes it very difficult for teachers to offer impressive extrinsic rewards. Nevertheless, instruction can be designed to yield social approval, official credentials (grades), public displays of impressive accomplishment, and special privileges.

Intrinsic Interest

Regardless of the availability of extrinsic rewards, students may invest or withdraw from learning, depending on how interesting they find the material. Interest refers to the fact that some topics and activities are more stimulating, fascinating, enjoyable to work on than others. Whether some school subjects are generally more interesting than others is an empirical question, but student interest will probably be enhanced when tasks permit expression of diverse forms of talent. Schooling concentrates primarily upon abstract verbal and mathematical competence, to the neglect of aesthetic, interpersonal, intrapersonal, kinesthetic, and spatial competencies (Gardner, 1983). Students may be interested in developing competence in several of these dimensions. Limiting schoolwork to a narrow range diminishes the opportunity to respond to students' intrinsic interests.

Sense of Ownership

Engagement with and internalization of knowledge depend to a large degree on the opportunities students have to "own" the work. Rather than toiling always under pre-determined routines to master skills and knowledge dictated arbitrarily from school authorities, students need some influence on the conception, execution and evaluation of the work itself. At a minimum this entails having students use their minds to solve non-routine problems. These often require constructing and producing knowledge in students' own language, rather than merely reproducing the language of others. Ownership is also cultivated through opportunities for students to ask questions and to study topics they consider important and by allowing students some influence over the pace and procedures of learning. There are, of course, important limits on the extent to which students can control the learning of academic subjects. Certain facts, definitions, concepts, algorithms, processes of verification must be assimilated according to predetermined standards of the fields of knowledge to be taught. But even for this kind of learning, students' sense of ownership can be enhanced if learning tasks offer some autonomy in the way students study and apply the material.

Connection to the "Real World"

Students often explain their disengagement by calling schoolwork irrelevant; that is, unrelated to issues, competencies or concerns of the "real" world. Why devote effort to the mastery of knowledge that seems necessary to success only in school, but in no other aspects of life? The authenticity of schoolwork depends largely upon its connections to work beyond instructional settings. We notice at least four qualities of adult work in the real world that are often missing in schoolwork: value beyond instruction; clear feedback; collaboration; and flexible use of time.

Value Beyond Instruction. One of the most critical criteria for authentic work is that it has value and meaning beyond the instructional context. To the extent that the messages students speak and write, the products they make, the performances they complete (music, dance, sports), make an impact on others and upon students themselves beyond certifying students' level of competence or compliance, these activities gain in authenticity. Writing to persuade a friend or to publicize one's views in a letter to the editor is more authentic than writing only to show a teacher that one is capable of organizing a coherent paragraph. Studying the habits of animals or fish when one is also responsible for their care is more authentic than learning about their behavior from texts. Remodeling a house, repairing a car, developing a computer program, or tutoring all involve application of knowledge in ways that can have value or use in the world beyond the instruction of the student who completes the work.

Clear, Prompt Feedback. In the real world, feedback on the quality of one's work is often more clear and immediate than in school. Some activities such as music, sports or mechanical repair provide almost instant and clear evidence of success or failure. One need not wait for a teacher's response to learn whether you got a hit in baseball, whether the sweater you knitted fits, or whether you remembered your lines in the play. In contrast, after completing abstract academic tasks, the feedback students receive is often much delayed and difficult to comprehend (What did I do wrong in this homework assignment, and why was it wrong?). To the extent that feedback is mystified and delayed, we would expect engagement to suffer.

Collaboration. Achievements outside of school often depend upon the opportunity to ask questions of, to receive feedback from, and to count on the help of others, including peers and authorities. In contrast, typical activities in school require the student to work alone, often even without access to books and other information-rich resources. Working together and access to published information are often prohibited, because they are seen as a form of cheating. It is important, of course, for students to learn to work on their own, rather than becoming overly dependent on others. But if opportunities to cooperate and to consult authoritative sources are consistently denied, this violates a critical process that adults, both expert and novice, consistently rely upon for success.

Student interest will probably be enhanced when tasks permit expression of diverse forms of talent.

Flexible use of time. Meaningful achievements outside of school often cannot be produced within rigidly specified time periods. Adults working to solve complicated problems, to compose effective discourse, or to design products rarely are forced to work within the rigid time constraints imposed on students such as the 50-minute class, or the 2-hour examination period. Standard, predetermined time schedules that flow from bureaucratic procedures for managing masses of students in diverse course offerings, rather than from the time requirements of disciplined inquiry, can reduce the authenticity of students' work. Achievements in non-instructional tasks such as journalistic writing, interior design, or medical care do, of course involve deadlines and time limits, but here the schedules tend to be determined more by the nature of the work than by the requirements of institutional management.

Criteria for work such as these can be expected to enhance student engagement, but they alone are not sufficient for prescribing school curriculum. Two further points are critical. First, school has a special obligation to design work for students that leads to authentic *academic* achievement which may differ considerably from other kinds of achievements. The key quality that distinguishes academic achievement from other types, such as accomplishments due largely to physical endurance, courage, or sensitivity in personal affairs, is *disciplined inquiry*. As we have explained elsewhere (Newmann, in press), disciplined inquiry reflects use of a prior knowledge base, in-depth study and integration of knowledge. The challenge for educators, then, is to use criteria for authentic work in designing the activities that will help students develop disciplined inquiry in school subjects.

Second, by referring so much to "work," and emphasizing qualities that help to generate serious effort and concentration on academic tasks, we must not overlook the importance of play. Play is important for student engagement not simply because youth may have less endurance for hard work or shorter attention spans than adults. Imaginative activities and other types of intellectual play are critical for building curiosity and interest in learning, and for helping students to develop a natural persistence to concentrate, undistracted by fear of failure. Learning can be hard work, but to sustain engagement the tasks should also provide opportunities for imaginative activity, competitive play, and light-hearted interaction.

To summarize, we have proposed that academic work is most likely to enhance student engagement if plans for student assignments, projects and classroom discourse provide extrinsic rewards, cultivate intrinsic interests, permit a sense of student ownership, reflect aspects of work beyond school, and involve some fun. Next we consider two major issues in implementing such criteria.

[1]These ideas incorporate some of the work by Csikszentmihalyi and Larson (1984) and Lesnick (1987).

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Forty birds: Curriculum in the restructured school

Albert Shanker

Albert Shanker

If we are serious about our current discussions of school change, we need to think about curricula that promote good teaching and real learning instead of continuing with practices that encourage our students to associate mastery of a subject with the recognition of little bits of information. As I look around for curriculum models that illustrate such a shift in perspective, an experience I had as a youngster in the Boy Scouts comes to mind.

Boy Scouts of America, after all, is an educational institution. It has a curriculum, and it promotes kids who follow the curriculum from Tenderfoot to Second Class, and on up to Eagle Scout. But its curriculum and testing practices are very different from those found in schools. Take my experience with the bird-study merit badge, the experience of a city kid who wasn't very interested in birds.

If I had learned about birds in school, my teacher probably would have had flashcards and pictures of birds all over the room. She would have assigned us chapters in a textbook to read, and eventually, she would have given us a test for which we would have had to match up bird names with bird pictures and fill in the blanks in some kind of chart. I know I

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forty birds

continued from page 1

would have forgotten the birds within three weeks of taking the test—and that would have been no loss because I would probably have learned to hate birds.

But in the Boy Scouts, you actually have to see forty different kinds of birds, *see* them. And you don't do it by looking out your window or taking a walk through the park. You've got to get up at five o'clock in the morning so you can be in a swamp as the sun is about to come up. Or you have to go at sunset to a hill or a mountain. And, of course, since you probably don't want to go all by yourself, you invite a couple of your best friends.

When you look through your binoculars at a bird in flight, it doesn't look like a stuffed bird in a museum. What is it? To find out, you look through the field guide with your buddies. You say, "There it is; that's the one." And one of your friends says, "No! That says Texas; we're in New York." So you keep looking until you find a bird that fits all the things you saw. And you do that for 40 birds.

The final test is simple: You take a walk with one or two people who really know birds, and you spot every bird. That's the kind of knowledge that doesn't leave you because you've actively participated in gaining it. It's become part of you. I don't know anyone who got a bird-study merit badge who hasn't maintained an interest in birds for years to come.

In real learning, the students are workers. And this learning needs to be measured by what students know and can do—by how well they can write or speak or calculate—not by how adept they are at picking out answers in a multiple-choice test. Understanding these facts about learning and assessment are the first steps to achieving the kind of curricula we need in restructured schools. ■

Albert, president of AFT is a guest lecturer in education at Harvard.

from COGITARE: Thinking Teachers, Thinking Classrooms
Newsletter of the ASCD Network on Teaching Thinking
Fall, 1990, V(1)

MAKE A DIFFERENCE

Suzanne Middle School (Walnut Valley Unified School District), 525 Suzanne Road, Walnut, CA 91789 (714-945-9942)
Laurel Kanthak, Principal
Years in operation: 3. Social Studies, 8.
Alan Haskvitz and Social Studies faculty

The goals were modest enough: create a social studies program that gets students involved in real world issues, increases state test scores, enhances community relations, and develops interdisciplinary curriculum while not adding to teacher workloads. If the program could turn straw to gold, so much the better.

Understandably, the goals were quite a challenge, but the program that was developed to meet them was so successful that it gained recognition as the nation's best by the National Council for the Social Sciences (NCSS) and also earned numerous state and local honors. State social studies achievement test scores dramatically improved from the 22nd to the 94th percentile.

All of this occurred over the past three years, while Suzanne Middle School increased from 850 to nearly 1,400 students and changed demographically to a minority institution. No additional money was required for the program, but administration had to make the tough decision to allow creative work to be carried out, much of it in public, with confidence. It took courage.

What makes this program tick? The answer is student involvement in real life situations. Each class selects a project that applies the use of skills learned in social studies to improve life in their community and state.

The projects selected are substantive and wide ranging. For example, after studying about serious and growing drought conditions, one class discovered that the state of California did not require the use of xeriscape landscaping, which uses far less water than conventional approaches. After conducting experiments and reading research reports, they wrote legislation, learned how to lobby, and got a bill passed which now saves state residents millions of dollars and conserves countless gallons of water.

Another project emerged from a visit to voting polls to see how they were run. Confused by the language of voting rules, students applied a readability formula to the regulations and found them to be written on a college level. After consulting the voter registrar, they decided to rewrite them in a simplified fashion. As a result all ballots cast in Los Angeles County (population 10 million) use the language that the students recommended.

An unsuccessful fire drill led one class to study firefighting, school architecture, and safety policy. From data gathered from experts in the gas company, fire department, and industry, students shared their findings with firefighters through an article published in *The American Fire Journal*.

Another group gathered signatures for a state proposition which would make bond money available for more parks and wildlife areas. Through letter campaigns and lobbying, they were instrumental in getting a bill passed. Still other students who attend city council meetings found that our city did not have a candidate's night forum scheduled before its elections. They planned, advertised, and successfully held a well attended forum.

We also includes projects that involve understanding the needs of others. To this end the students sell plants annually to raise money for seeing eye dogs and study how the blind function in society.

Noting a need for proper identification for young people, one group of students studied the history of finger-printing, received training from the county sheriff's department, and now fingerprint all new district students.

Various other students write period newspapers, design cities of the future which are evaluated by the city planner, and use *Newsweek* data bases to construct graphs and predict trends.

Finally, students work as official archivist-historians for the city. They collect data from written records and conduct taped interviews with long time residents, acting as translators for the many minorities in the area.

While the program hasn't quite managed to turn straw into gold, it does indeed make a difference. Students contribute significantly to their community. They develop pride, confidence, and commitment. High test scores are just a nice side effect.

A teacher was presenting a typical unit on the geography of Africa at the very time of the invasion of North Africa in World War II. She adhered carefully to the typical formal outline for such units and attempted to use such pseudo-problems as "What Are the Surface Features of North Africa?" and "What Is the Climate of Africa?" She was arousing practically no interest. Meanwhile the pupils, following the invasion in the newspapers, kept breaking in with questions of their own: How can we be bogged down in the mud? It's all desert in North Africa and never rains. The paper says there was snow in the Atlas Mountains in Africa. How can that be? It's all Sahara Desert. I never knew there were swamps in North Africa. Why are the Arabs trying to make so much money out of our soldiers? Why couldn't the English catch up with Rommel when he retreated? The teacher finally "caught on" and seized upon the pupil questions. Hardly any of these questions coincided with the questions she had prepared or which the textbook covered. The pupils, following their own questions under teacher guidance, utilized far more subject matter than the teacher had planned or the textbook contained. Their enthusiasm also enhanced the outcomes.