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ABSTRACT

Questions about alternative forms of assessment were discussed by two elementary school and two high school teachers who are members of the National Education Association/International Business Machines (IBM) School Renewal Network. Their correspondence on that computer network was also analyzed. The following questions were considered: how have teachers' thinking and practice changed with regard to assessment, and how has the network influenced this thinking; and do teachers believe that the computer network helps them improve student assessment practices? The focus selected for the exploration is portfolio assessment. Descriptions of the schools that employ the four teachers include discussions of some pilot studies on portfolio assessment. A review of relevant literature concentrates on theory and practice in alternative forms of assessment. The literature and teacher experience suggest that schools do not view portfolios as a replacement for other forms of student assessment, and that teachers and administrators using portfolios are carrying out a dual assessment process. Nevertheless, portfolios are becoming important in student and teacher learning. The usefulness of the network was demonstrated. There is a 20-item list of references. (SLD)

Alternative Forms of Student Assessment

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None of Us is as Smart as All of Us
Learning from and Contributing to Practice through an Electronic Researcher-Practitioner Community

Symposium presented at the Annual Meeting
American Educational Research Association
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Editorial Note: General references are shown in the usual APA style in this paper. Many of the quotes from the teachers who participated in the development of this paper were taken from a meeting which was taped and for which extensive notes were taken. These references are shown: (Notes). Material drawn from the NEA/IBM School Renewal Network is shown in italic print and referenced in the text by paper title, the name of the conference and session in which they are entered and the date written, e.g., ("Name of Paper," CONFERERENCE/SESSION, date).

Alternative Forms of Assessment

How do teachers reshape their practices with regard to assessing student growth? How do they influence and react to the professional thinking of their colleagues? How do they acquire and use new ideas? These matters and others related to student assessment and school change are the subjects of this paper.

To investigate these questions, we met with two elementary and two high school teachers who are members of the NEA/IBM School Renewal Network. We also analyzed their correspondence on that computer network on the topic of alternative assessment. We considered these issues in our analysis:

- How have teachers' thinking and practice changed with regard to assessment practices which are more tied to the kinds of achievement their schools is seeking; how has participation in the network affected this thinking and practice and that of their colleagues?
- Do teachers believe that the computer network helps them improve student assessment practices? In this regard, how could the researcher and practitioner communities be brought together in ways that would enhance the efficacy of each?

In this paper, we begin by describing the initial correspondence on the computer network on portfolio assessment. Next we profile the teachers and their schools

and review their experiences with portfolios. Then we will turn to the research literature in order to connect these experiences with current theoretical notions. We conclude with a discussion of relationship among three factors--the importance of a free exchange of ideas and experiences around student work, the need for reflection and conversation as an aspect of professional development, and the role of technology for enhancing both the exchange and the reflection.

Discourse Among Teachers and Researchers

The focus selected for this exploration is portfolio assessment, the practice of selecting "...a record of learning that focuses on students' work and their reflections on that work." (Walters and Seidel, 1991) The conversation between teachers and researchers that we analyze in this paper takes two forms. First, we studied the electronic correspondence in the School Renewal Network. Following this, in a two-day meeting with the four teachers, we pursued in more detail the various issues that had emerged in the conversation on the computer network. In the sections that follow, we review both sources. The electronic system made a unique contribution to this conversation, and we will begin by focusing on it.

The electronic conversation. All computer-based conversation on the School Renewal Network is organized around eleven topics or "conferences" and these are each

divided into four or five "sessions." This terminology, supplied by the software PsiNet, is meant to conjure up the format of the professional meeting or conference, in which individuals participate in a number of selected sessions. The conferences consider matters central to school change, such as "Instructional Strategies," "Restructuring," "Curriculum," "At-Risk Students," "Positive School Climate," "Thinking," "Parent and Community Involvement." The focus of the Assessment Conference, as defined by the participants, is:

> *To encourage practitioners and researchers to investigate and use forms of assessment that respect the multiple goals of education and the multiple ways of knowing; to provide information and strategies for taking the assessment message to the public so that schools can work, with public approval, toward goals more meaningful than "raising scores." (ASSESSMENT Conference, Abstract)*

Individuals attending a conference contribute "papers." These relatively brief pieces take on a substantive topic but they do not have to be lengthy, conclusive, or formal. A paper can be a simple question or a lengthy report of a practice or of an idea in development. Papers are not edited or reviewed and any participant can author a paper.

Each paper is addressed to a particular session of the conference. Participants subscribe to as many sessions as they wish and they automatically receive all papers

addressed to that session. There are six "sessions;" in the Assessment Conference:

VALIDITY
- o assessment using multiple measures
- o new perspectives on validity

STANDARDIZED TESTING ISSUES
- o use/misuse/overuse of standardized tests
- o alternatives to standardized tests -- e.g., systematic observation; portfolio assessment; student products/performances; demonstrations; exhibitions; video and other media

PUBLIC FORUM
- o equity issues -- gender, ethnicity, social and economic status, learning differences;
- o relationship of alternative assessment to national imperatives in educational reform -- performance, critical thinking, flexibility, creativity, problem solving
- o techniques that inform parents, the public, school boards, legislatures about assessment -- its value and its limitations

BALANCE
- o relationships of assessment to curriculum
- o balancing assessment across domains of learning: cognitive affective, social, psycho-motor
- o balancing assessment across the intelligences: linguistic, logical/mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal

SOURCES
- o sources for designing alternative approaches to assessment, e.g., developmental and symbol system theories, evidence of multiple intelligences, individual differences
- o special projects on student assessment, e.g., Harvard Project Spectrum, ARTS PROPEL, Connecticut's performance assessment project, Key School's video assessment, Vermont's portfolio assessment system, assessment at Narragansett/White Rock

REPORTING
- o strategies for sharing results of quantitative and qualitative assessments with parents, community, state and national boards, and others interested in school accountability
- o report cards -- reporting student progress to parents

The four teachers whose evolving thinking about assessment and their practices are shared in this paper are active participants in all sessions in the Assessment Conference. In it, they, other teachers, and several researchers have shared ideas and strategies about assessment practices. These interchanges have centered on achieving harmony between assessment practices and the improvement of learning, teaching, and curriculum in their schools.

Since December 1988 when the Assessment conferences was established, 256 papers have been submitted by its subscribers. During the course of one year -- from November 19, 1990 to November 23, 1991 -- participants in the Assessment Conference wrote twenty papers on portfolio assessment and in previous years there was a like number of efforts.

The papers on portfolios ranged from a consideration of specific subjects (math, language arts, geography), to definitions of various kinds of portfolios ("video", "process"), to how-to-do-it pieces ("Portfolios at the Secondary Level," "Checklists and Portfolios," "Process Portfolios in the Fourth Grade"). They also described shifts in the ways people were thinking about student assessment, teaching, learning (e.g., "Assessment as Instruction," "Assessment and the World of Industry").

A catalytic paper. In April 1990 Wally Ziko, a teacher in Gorham, Maine, wrote what turned out to be a seminal

paper that stimulated and focused much of the subsequent discussion. Excerpts from his paper provide some insight into what came to shape the view of assessment by these and other teachers and researchers:

> *Pressures from the present school reform movement, as well as wear and tear on the old structures basic to traditional schooling, are contributing to the necessity of portfolio making and portfolio keeping in schools...*
>
> *...a shift in focus from an almost exclusive concern with the "products" of thought to a more balanced picture that continues to includes these products, but also includes, for the first time, a concern with the "process of thinking" that produced this product. Our view of the student is beginning to change from seeing him or her as a sort of black box whose inner workings were essentially unknowable (and unable to be influenced in a very systematic way) to one where students can tell us a great deal about how they think by showing us well-chosen artifacts they have produced. Teachers can then, in turn, tell "why" a student thinks a certain way and not another. Our view of the student, though still indirect is much clearer and our decisions to intervene in the student's work in one way and not another, or not at all, are much more effective. (Paper prepared by Wally Ziko, ("Student Portfolios and Digital Media," ASSESSMENT/SOURCES, April 5, 1990.)*

Later in the paper Ziko turned to the student and to the ways that this form of assessment can positively affect learning:

...schooling from the students point of view, is segmented and linear. Like following beads on a string, the student sees himself moving (or being moved) from subject to subject, grade to grade, building to building. That there is little or incomplete communication between or among the grade levels or subject areas is partly the result of the record keeping methods we have traditionally used.

...The tide of paper, the only widely available assessment medium used in school, flows out of the store room, sloshes back and forth inside the classroom between teacher and student, and then spills unceremoniously into the dumpster. Were did all that evidence of learning end up? Apart from a very few bits and pieces that were taken home and displayed on the family refrigerator, the evidence ended in the incinerator.

A portfolio system will allow classroom teachers to make assignments that will result in artifacts that are intended to be kept for the student's entire academic career. The traditional letter and number assessments can be balanced out by the actual annotated work samples the student has produced. Work that was lost because it could not be stored on paper: sounds, sculptures, etc. will become much more valuable and usable. (Ziko, 1990)

And the paper concludes with a way to confront one of the most troublesome aspects of the structure of schooling, learning time lost because of the schedule:

Students and teachers move together across a landscape wrapped in a kind of fog, a fog of forgetfulness. Without the actual products produced in the classroom, and with only letter and number grades as markers of

progress, students never acquire a good sense of their personal academic history and growth...

...As it is, teachers begin each school year learning for themselves what their students' abilities are. And in many cases after grade six, the teacher is interested in only the very narrow group of abilities that relate to a specific subject. Teachers never look at the student's whole profile. Then, at the end of each school year, whatever meaning was attached to letter and number grades, aside from promotional approval, is lost. For all the time students spend in school, school gives the student a fractured and paltry group of assessments. A portfolio system will allow teachers to exchange a solid handshake between grades. (Ziko, 1990)

Discussion about this paper came to shape dialogue on the network and led directly and indirectly to important changes in the work of the many teachers involved in the Assessment conference. However, rather than tracking this entire conversation over the 18 months that followed, we focus instead on the experiences and thoughts of four teachers who were very much a part of the discussion and who were actively experimenting with alternative assessment in their classroom.

Four Teachers: Changed Thinking and Changed Practice

The contributions of these four teachers provide a rich representation of the conversation on alternative assessment that followed Ziko's initial paper. In this section, we introduce them and their schools as we summarize their conversation around portfolio assessment.

Kimball Elementary. The impetus to change assessment practices at this urban, multi-racial, multi-cultural school in Seattle began in 1988 at a meeting of network participants. Here, a discussion took place about integrating curriculum and how that can confound the usual ways of tracking student progress. In discussing this, Laura Grosvenor said, "Part of me was using portfolios although I wouldn't have classified it that way. What the discussion did for me was to organize myself, figure out how to make it manageable." (Notes)

At Grosvenor's school, a discussion group was formed to explore ideas about curriculum, teaching, and assessment. A year later, network participants formed the Assessment Conference and Kimball faculty participated in exchanges about portfolios. The subjects discussed included:

- Should the process be the same for everybody -- what is unique to each teacher's style and what should remain constant so that interpretation can become more efficient;
- Should there be agreement about standards for the inclusion of materials in portfolios;
- How can portfolios be used to report to parents;
- How do we move from collecting to assessing;
- Should portfolios be used for all subjects. (Notes)

Kimball teachers found elementary teachers in other network schools and shared their ideas with them and

received comments from researchers as well. They worked their way through a variety of questions and, in the 1991-92 school year, embarked on two projects to change their assessment procedures. The first was to develop new report cards which reflected the direction they were taking in restructuring their school. These report cards were developed using ideas from across the network (e.g., a statement about the "total child," a "no-fail" plan").

The second was a pilot program with the fourth grade teaching team on portfolios. In this project, each student has a portfolio kept in a common place in which is placed material (written, spoken, three dimensional, etc.) related to all subjects. Teachers announce up front what they wish to accomplish in the work what they want placed in the portfolio. Students are allowed to enter anything they wish, including material from other classes. Teachers work with the students to emphasize that material placed in the portfolios is to show growth. Once a month, an audio tape of the student reading is placed in the portfolio.

Excerpts from three "electronic papers" developed by Grosvenor reveal some of the character of the portfolio project. In the first, she describes advice offered by a researcher and then comments:

> *Three models of portfolios: SHOWCASE (student selects what goes into the portfolio), DESCRIPTIVE (demonstrates what student can do without evaluating it...), EVALUATION (everything in the portfolio is*

subject to criteria)...a good portfolio needs to include parts of all three.
How you can evaluate the contents of the portfolio. Is the portfolio passed on, sent home, to what purpose? I suggest that the student revisit the portfolio and reflect on the year. The reflection would be passed on to the next teacher who would then have a picture of what the student themselves perceived as their strengths and weaknesses. (Given 30 odd reflections would be a wonderful way of planning course content. It would truly be student driven.) (Laura Grosvenor, "Types of Portfolios, etc." ASSESSMENT/PUBLIC FORUM, June 6, 1991).

And, in an exchange with another teacher also engaged in a project on alternative forms of student assessment:

I am fascinated by the similarities in our approaches! I too am preparing for conferences and trying to decide how much emphasis I want to place on portfolios and how to introduce them. I am struck by the flexibility of your scheduling. Have you always been able to be that flexible or is this something new? I'll have to share portfolios at the conference (conferences are only twenty minutes long) so will need to be selective. THIS IS UNLESS...

...YOU'VE GIVEN ME AN IDEA...what if I sent the portfolio home the day before the conference and gave parents a chance to reflect and discuss the work with their child? My kids are really good about getting things back. I also have tape recordings of the student reading as part of the portfolio. I can give each parent a tape to listen to prior to their child's conference. I'm not having parents of children select what is to remain in the portfolio as we had already set selection criteria, but I do plan on having parents

write a short response to the portfolio that will be kept for the year. What I'm also thinking now is even though we only have one conference per year, I can send home the portfolio for parent perusal and comments at the end of every quarter. Thank you!

My portfolios are organized loosely based on subject and chronology. In other words, I want math together in order of concept development. Writings I organize chronologically so we can see growth and what needs to be worked on. (Laura Grosvenor, "Portfolios at conference time et al...", ASSESSMENT/PUBLIC FORUM, October 20, 1991)

A month later, she would again communicate with this teacher:

I don't want to make this lengthy as its 11:23 p.m. and I just finished a 13 hour day at work what with the conferences and all. I just needed to say that what you told me ...about conferences was right on...So far I've had 25 conferences and I've never felt better!

I used to dread conferences, but I swear that using portfolios the way I have has made conferencing much more exciting, informative, and inspiring than I would have ever imagined.

...I just wanted someone out there to know that I know portfolios HAVE made a difference in my teaching and my learning, too!...I feel as if I'm doing my job so much better. They have really helped me to know my kids and communicate what I know much better to both parents and kids...("Barb, You were right!!, Yea,!!!" ASSESSMENT/ REPORTING, November 22, 1991)

Amanda Arnold Elementary. This school is located in Manhattan, Kansas where the main industries are Kansas State University and Fort Riley Military Base. The school is a seven years old, serves 630 K-6 students, primarily children college staff and the military.

Staff in this school began to look at issues of "authentic assessment" as a result of:

> *...several years of involvement with research -- much of it through the School Renewal Network -- that promoted process approaches to instruction. We've contributed to reforms in math, science, and whole language that all underlined the importance of authentic performance assessment in classrooms where critical thinking and reasoning were being promoted. Our quest was to make it work. We were hoping to align our everyday behaviors with our beliefs that alternative assessments can be used in an average classroom. ("Responses to Assessment Questions -- Lisa," Message to McClure, March 2, 1992.)*

Pursuing this interest became more feasible when they turned their interest into an action research project and received a small stipend ($750) to develop a project. The objective of the project was to, "...create alternate assessment strategies to collect data and focus on important student outcomes in three curricularly integrated classrooms." (Amanda Arnold) The overarching theme of this work: "...integrate assessment and teaching to better assist our students toward a productive and successful school

experience that creates memories to support and promote a future love for learning." (Amanda Arnold, p 2)

The action research project created a pilot study initiated in the 1991-92 school year in three classrooms, two first grade and one fourth. Seventy-five students, their parents, and three teachers are involved in this work. Through considerable interchange with researchers on the network and with teachers in other schools, eight protocols came to guide the work:

1. Use evidence collected through a variety of assessment processes;

2. Give students, parents, and the teacher specific responsibilities;

3. Establish at least two goals for each child -- one to further build on a strength, the second to be a challenge;

4. Identify <u>important</u> curricular outcomes -- those that are critical to student success ("Less is more!" "Integration of content into meaningful chunks is a must.");

5. Model peer coaching, action research, and risk-taking for the staff;

6. Use the power of students, parents, and teachers working together to challenge traditions and create improved practices;

7. Get a better match between these seventy-five students and teaching and assessment practices;

8. Utilize the School Renewal Network -- learn from it, contribute new, site-specific knowledge. (Bietau, Crill, & Maughmer, p 1)

In the two first grades, parents have been closely involved in setting goals for their children and this process is clearly spelled out in their Parent Handbook. (Crill and Maughmer, 1991)

In the fourth grade, the teacher, Lisa Bietau, announced on the first day of school, "...there will be no more grades or traditional letters." Instead, there would be a box called the M.A.P of Learning in which would be collected students' work which showed evidence of learning successes and struggles. (notes)

As described in a report on the network:

...By collecting evidence of student work through use of computer, videos, and other portfolio strategies we hope to expand the amount of evidence available to parents beyond what a letter grade can offer...Parents would complete a sheet regarding student attitudes and outcomes demonstrated at home. Each quarter, a narrative assessment could be completed along with an outcome checklist of areas being assessed during the reporting time. Conferences would be scheduled at the beginning and end of school year with written communications sent each quarter. Conferences would include individual goal setting for each child ... Portfolios would be collected and reviewed with parents during an end-of-the-year meeting...Portfolios would be kept as a permanent part of the students' learning record.

> *It is our belief that these changes will result in more efficient student instruction, assessment, and collaboration between home and school. ("Alternative Assessment at Amanda Arnold," ASSESSMENT/SUMMARY, 6/26/91)*

Later reports of work on this project -- over the summer and early fall of 1991 -- reveal considerable work on adapting and adopting outcomes to be shared with parents and ways to involve parents in accepting and expanding those outcome.

Later, as the project was being implemented, the first grade teacher discussed how it was all to work:

> *I visualize the parent and student going through the portfolio of work with the student explaining the what's and why's of each project. A tape recorder will be available for them to listen to the audio tape of their child reading. Then, the student and parent will need to select material they wish to stay in the portfolio with a note saying why.*
>
> *If I am available for consultation while they are in the classroom, we will meet for a few minutes then. Otherwise, I will have them sign up for a future appointment*
>
> *After the conferences, I will write a narrative report to each parent. This narrative, the check sheets, and the portfolio will be their report card for the nine week period. ("Manhattan Assessment Project -- Continued," ASSESSMENT/PUBLIC FORUM, 10/18/91)*

A few weeks later, things were getting a bit dicey but coming into place:

It is one day before parent conferences and I am losing my mind! I wonder if there is anyone else experimenting with alternative assessment who feels as lost as I do right now?

Let me fill you in on what I have done since my last paper.

She then discusses at some length a book that has been important to the school's work, Evaluating Literacy: A Perspective for Change (Robert Anthony, Terry Johnson, Norma Mickelson, and Alison Preece, Portsmouth, NH: Heinemann, 1991). In particular, an idea from the book about student involvement captures her interest:

I developed a letter to the parents, asking them to come anytime during the two days of conferences -- they must bring their child with them. The student will be in charge of the conference with me in the room only as a consultant. I also completed the check sheets we developed for each content area, work habits, and social skills with comments in every area. (Many hours to do this.)

She then recounts other plans and a long list of logistical problems and concludes:

Tomorrow we will rehearse the parent/student conference with our 4th/5th grade study buddies and they will help us fill in "what I do best" and "what I need to improve."

DOES THIS SOUND LIKE A CRY FOR HELP? Actually, I'm sold on the project, but totally exhausted...My main concern is the amount of time alternative assessment

> *takes. I realize the process is the important part and we will work out the bugs as we go, but I would like to hear some "calming" words from anyone who has been through it. Thanks for listening -- I'll let you know how the student-led conferences go on Thursday and Friday.* ("Manhattan Assessment Project -- Continued," ASSESSMENT/PUBLIC FORUM, 10/30/91)

Two more papers follow. In them, there is a very positive description of the interactions between first and fourth graders in preparation for the student-led parent conferences and an expression of comfort with the process by the teachers on the eve of the conferences. In the second, there is a report of an evaluation of the process conducted with the parents. Although these results taken after the first parent conference are positive, there is a thread running through the report indicating that parents want the traditional report cards in addition to the conferences. They seem to miss the ease of comparing progress using the old symbols (letter grades) and being able to compare their children with others. ("Manhattan Assessment Project," and "Manhattan Assessment Project Update," 11/2/91 and 2/9/92, ASSESSMENT/PUBLIC FORUM)

There are indications that this project is having an impact on the school community's thinking about assessment and current practice:

> The community is cautiously optimistic and very inquisitive about the format and practice of our project. Teachers stop me and ask how it is going and

> parents seem to be approaching it with a positive and open mind. Students are participating in an experiment where their teacher doesn't have all of the answers, but is in pursuit of practical ways to implement authentic assessments. The students themselves have a meaningful role in the search for new ways of assessing learning. (Notes)

Ravenna High School. This Ohio high school serves 950 students, grades 9-12, with one-half of the students on some form of public assistance. In the district's elementary school there is interest in alternative forms of student assessment and this is having an impact on the high school where they are only just beginning.

At the secondary level, there is a different set of issues, according to Terry Kekic who teaches technology, TV production, and coaches baseball. Two particular issues are important to his faculty's consideration of different forms of assessment. The first is the usual problem of certifying to colleges that students perform at levels which predict collegiate success. Here, it is very difficult to get high school teachers involved in work on portfolios because of college requirements. To this point there has not been a good deal of movement with Ravenna's academic faculty. According to Kekic, however, the faculty will begin a ninth grade team focused on a core, integrated curriculum -- English, science, math, social studies, P.E., and business -- in which assessment issues will be considered in depth. (notes)

The second issue relates to the electives where, according to Kekic, performance and exhibition are more the standard than in the required courses:

> *I am not in anyway a teacher who feels that a D- should be enough for a passing grade. Here is where I am coming from on this. I teach Teleproductions, and I give out a lot of very high grades. If a student does what I ask when I ask for it and the work is up to a good quality standard, it is worth an "A." But, the key here is the fact that I reject many pieces of work that are not of sufficient quality.*
>
> *I do not assign a "C" or "D." I just make them do the work over until it is right. I feel strongly that this is the way to go. Set a standard and no work under that mark is accepted. In order to do this, a teacher will have to allow some students to go on ahead, at their own rate, and spend more time with others. Make the knowledge the constant and time the variable.* ("More on Assessment," ASSESSMENT/BALANCE, 5/21/91)

Metro High School. Metro is an alternative high school in Cedar Rapids, Iowa, serving approximately 600 students. About four hundred fifty are enrolled in either the morning or afternoon programs, and are working towards high school diplomas. The remainder are either working towards GEDs (approximately 150), or are temporarily inactive as a result of placement in rehabilitation or correctional facilities. The curriculum is designed to meet graduation requirements prescribed by the district. There is no band, chorus, or traditional extracurricular activities. Students complete

"contracts" with their advisors to fulfill physical education requirements. If necessary, students can remain enrolled through the school year in which they turn twenty-one. Males and females are enrolled in approximately equal numbers.

There are 35 teachers on the Metro faculty. Each serves as an advisor for 15-25 students. The advisor's role is to assist his/her advisees to be successful at Metro. The advisor also works closely with parents, probation officers, social workers, and others when appropriate. Each Metro teacher visits their advisees' homes at least once a trimester to meet with the students and parents to discuss progress.

Teachers meet with six classes a day with enrollments from 15-25. Don Daws teaches one math class, and team teaches two two-period interdisciplinary math/science classes. One period is assigned for coordinating the school's work on the School Renewal Network.

Lately, academic outcomes have become more important to the faculty, perhaps because of their success in keeping students enrolled. The school has never given letter grades to students and has always used anecdotal reports. Students receive 0-5 credits for each trimester class based on attendance, productivity, and accomplishment. Points are awarded based on teacher judgment. An accumulation of fifteen credits is equal to the usual Carnegie unit. As Daws says,

> I tell them what they need to do: be focused, allow other people to be focused, be here, be productive, and be a decent human being. Usually, they spend two days a week working individually on skills and the balance of the time on a cooperative learning project in which they make choices about what they will study. (Notes)

In fall 1991, the school embarked on a portfolio assessment project, the design of which grew from a faculty committee on curriculum and student outcomes. As reported in a network paper:

Portfolios will provide a vehicle to:

1. *assist students and staff to assess progress toward acquisition of essential outcomes,*
2. *determine personal strengths, weaknesses and preferences,*
3. *document the extent of students' willingness to take risks,*
4. *increase student self-esteem,*
5. *practice and emphasize reflection,*
6. *emphasize the importance of both product and process,*
7. *develop material for a senior seminar/exhibition which might serve as a portfolio for college and/or work,*
8. *assist with end-of-term evaluations,*
9. *develop both short and long-term goals,*

10. *provide staff with information to adjust course content and offerings to meet student needs.* ("Initial Thoughts: Secondary Portfolios," ASSESSMENT/REPORTING 11/15/91)

The report then discusses mechanics (location of file boxes, for example) and discusses acquisition of materials:

> *At least once per term the student and teacher select material for inclusion in the portfolio -- best time for this discussion and filling out the reflection sheet is immediately following the completion of the project.*
>
> *At least once per term the student and advisor meet to review the portfolio. This conference can be used to develop the student's schedule for next term and establish goals in specific areas. Further, it can provide a method to highlight areas of growth and/or strength and emphasize the multidisciplinary aspects of central ideas.*

Finally, the report speaks to the issue of what to include:

> *Material selected for inclusion in the portfolio relates to at least one of four essential outcomes:*
>
> - *Information Literacy (ability to gather, organize, evaluate, synthesize, communicate information)*
> - *Self-directed and future oriented (sets goals, aware of possibilities and consequences, re-evaluates goals)*
> - *Community contributor (collaborates, participates, empathizes, communicates*

- *Innovative/creative producer.* ("Initial Thoughts: Secondary Portfolios," ASSESSMENT/REPORTING, 11/15/91)

Metro faculty have now completed one round of assessments in which portfolios have been important. In a network message, Daws reports that he had students compete a response sheet in which students were asked about the source of their idea for the project, what steps they took to complete the work, what problems they encountered, and how they would handle the work differently next time. He comments, "We found it a beneficial way for students to look at their work critically and for us to provide immediate feedback." He goes on to think about what should happen next:

> *In short, we have begun to make progress toward portfolio assessment, but we have a long way to go. We need to continue to develop better methods for handling the logistics. We also need to continue to work on helping students recognize "quality," and realize the benefits of reflection.* (Message written to McClure, 3/14/92)

Analysis: Connecting Theory and Practice

We believe that these conversations provide a valuable insight into the practices and experiences of these teachers. We hear in the conversations individuals grappling with many challenging issues as they explore the innovations posed by portfolio assessment. We can also extract from them some sense of how that conversation,

especially talk facilitated by technology, is directly linked to professional activity.

To begin this analysis we first review relevant research literature. There is a growing amount of scholarly comment and study about portfolios that deals with many issues ranging from definition and conceptualization of the process to matters related to practice. Following this review, we will revisit the examples from the teachers' experiences in that context.

Why portfolios? The student portfolio, as a structured collection of student work, is a useful assessment device because it maintains the central importance and the integrity of student work. Why is this focus on student work important; what, in fact, is its theoretical justification?

Over the past 40 years, the field of psychology has undergone a significant theoretical shift from the behaviorist framework to theories of learning that focus more directly on concept development. This shift in theory has been followed only slowly by similar shifts in pedagogy and assessment. Too often, schools today remain filled with drill-and-practice sessions when theory calls for a different kind of activity to promote concept development. Similarly, traditional assessment examines specific skills in an orderly sequence, in isolation, and devoid of context.

The constructivist approach, in contrast, describes learning of complex, vaguely-defined problems, in rich

contexts through collaborative problem solving. Learning involves hands-on experiences, conversation, engaged work on projects, and so on. In this view, assessment cannot focus on isolated skills but must capture the ambiguous, complicated structure of problem solving itself. The most straightforward way to accomplish this is through the direct documentation of student problem solving; this documentation can be structured as a collection of student work displayed in a portfolio.

The behaviorist framework stipulates that goals and outcomes of learning must be defined before instruction begins. These outcomes serve as the basis for tests designed to measure progress toward those outcomes. In fact, many directors of testing in schools, when interviewed by researchers, approach their work from just these assumptions of learning (Shepard, 1991).

Not only do tests of skills fail to measure the more complicated concepts that students are learning but they also distort the educational system in some fundamental ways. First, tests dictate the curriculum and limit the pedagogy (Frederiksen and Collins, 1989). Second, they give the illusion of objectivity and fairness. They tend to take assessment out of the flow of activity of the classroom and position it in an artificial environment and for a specified period of time. Finally, they make the assessment issue one of reduction -- reducing learning and performance to numbers. (Wiggins, 1989)

Authentic assessments such as portfolios do not limit the curriculum in this way; in fact, portfolios tend to open up teachers' approach to content and pedagogy (Walters and Gardner, 1991). Portfolios rely heavily on teacher judgment and they are closely aligned with the context in which the work is created. This implies that developing portfolio assessment must be closely linked to continuing professional development of teachers as well (Seidel, 1990). Portfolio assessment is continual, not something that happens at the end of this chapter or at the middle of the term (Wolf, 1989). Finally, portfolio assessment can rarely be reduced to a set of numbers, but must be approached qualitatively (Walters, 1991) or through a multidimensional evaluation (Vermont Department of Education, 1991 a, b).

Because traditional assessment practices give the illusion of objectivity and fairness, they cause a distortion of what should be the normal flow of classroom teaching and learning. The alternative, portfolios, can have a generative effect on teacher and student behavior. By altering the assessment--the measurement of "what counts"--the teachers find that they can make similar adjustments to curriculum, scheduling, and overall classroom practice.

In the observations cited above the teachers demonstrate that they understand and value this distinction. They have built their curriculum around constructivist assumptions--they use class discussion, hands-on materials,

long-term projects. These curricular assumptions have led them, it would seem, to the pursuit of alternative forms of assessment because tests just don't do it. Testing misses much of what they believe their students are learning. For the behaviorists, on the other hand, tests do not miss the important aspects of learning.

Logistical issues in creating portfolios. While traditional tests are efficient and reliable, they raise questions of fairness and relevance. The alternatives like portfolios, seem more naturally fair and relevant, but they are much messier in terms of logistics. For example, how should materials be selected, how should these materials be saved, and what should be collected in a permanent record? Consideration of such issues underscores important differences between tests and the alternatives we are exploring.

Portfolios are simply a structured collection of student work. In creating a portfolio, teachers often ask about who selects the work -- the teacher or the student. Experiences in Project Zero and those of others, suggest that the selection is best when there is a collaboration between teacher and student. This provides the control that teachers feel is important and gives the students a sense of ownership. (Wolf, 1989; Valencia, 1990)

In their state-wide experiment with portfolio assessment, the Vermont Department of Education also recognized that the involvement of students and teachers was

critical. These portfolios are a team effort, with both students and teachers deciding on the student's "best work." (Vermont Department of Education, 1991a)

Research at Project Zero focuses on the uses and benefits of portfolio assessment for its own sake. Rather than seeing this as an alternative to traditional testing, this work describes portfolio assessment as a teaching-learning technique. The fact that portfolios are more time-consuming than tests must be weighed against the benefits in terms of learning, creativity, or productivity that is engendered by this approach. Time taken away from the curriculum to "do portfolios" can be just as beneficial as time taken to do projects, have discussions, reflect on one's leaning, and so on.

Just as the literature suggests that students and teachers should collaborate on the selection of materials for the portfolios, our four teachers made different kinds of attempts at these collaborations. Teachers at Amanda Arnold Elementary keep two portfolios for each child. One is directed and structured by the teacher to provide evidence of growth, as a important resource in reporting to parents. The second is developed totally by the student and is a celebration of his or her learning. At Metro High School selection is collaborative, calling for meetings between student and teacher to evaluate the portfolio and to determine areas yet to be explored.

Portfolio assessment requires considerable time, particularly as the practice is being developed in a school. The literature suggests that schools do not view portfolios, at least at the outset, as a replacement for other forms of student assessment. This means that teachers and administrators are carrying on a dual assessment process. Reports of successful implementation of portfolio practice suggest, however, that a good many other learner outcomes can be achieved through the orderly collection of student work, however.

These teachers struggled with the logistical problems but felt that solution to them would come through experience. Indeed, schools learned from one another on the network, particularly in regard to setting up and handling portfolios.

It would also seem that the portfolio process itself is having an impact on the thinking of these teachers. One saw that process as "doing portfolios on portfolios" or "doing action research on action research." (Notes) They are now sharing information about their experiences with each other and, it is assumed, learning about improved logistics.

Setting standards -- hitting a moving target. At both the national and state level, bureaucrats have latched onto the notion that they can drive education forward by establishing very high standards for student work and then holding everyone--students, teachers, schools, districts, states--accountable to those standards. Two examples

illustrate this phenomenon: President Bush's educational reform plan, America 2000, calls for "a national system of high-stakes achievement testing." (Miller, 1991). A number of states are also exploring these issues in a similar vein. For example, the state of Oregon is currently debating an education reform bill that stipulates:

> (This bill) sets educational performance standards for all students that are benchmarked to the highest in the world. (It) implements ongoing performance to measure mastery and progress and holds schools accountable for students' satisfactory progress. (Oregon Department of Education, 1991).

In some of the proposed plans, these world class standards would be phased in. Educators would first establish a reasonably high level of performance and when that level was achieved consistently by students, and as the educational system improves, those standards would be raised until they were equivalent to genuine "world class levels." In this way, developing standards is often said to set a moving target.

Research on portfolio assessment indicates that this process of establishing the standards first and then developing the assessment instruments that evaluate students along those standards, is misdirected. The tendency is for the educational system to barely achieve the standards, however they may be set. Rather than moving the system

forward, these *a priori* standards establish a ceiling that the system cannot break through.

In a very different approach, the school begins by systematically collecting student work through portfolios; the standards are developed later and those standards draw from the collected work. Setting standards in the absence of the examples is an extremely difficult undertaking and one that reveals many hidden assumptions about the purposes of education. Furthermore, standards must be established locally, by teachers and administrators working together through a careful review of student work (Walters and Gardner, 1991; Wiggins, 1991).

In this approach, standards are not a target at all but rather a measure of sophisticated judgment on the part of teachers. We are using portfolio assessment--the systematic collection and description of student work--as an occasion for developing this judgment skill (Seidel, 1990).

It was suggested that the current rush to establish standards is not conducive to the revitalization of American schools. Instead, many thoughtful educators, including some in the evaluation community, propose that we look more deeply at student work and from it derive standards for assessment. In a sense, this is what these teachers are doing--collecting the student work first and developing the evaluation language from that work. Although there is some discussion of grades on the network, the teachers have not

been preoccupied by the issues of "standards," at least not in the conversations we studied.

Drawing students in -- using reflection. Finally, the portfolio approach allows students to take a very special role in the assessment process. Instead of making them the subjects of the examination, they are very much the designers of the assessment. Not only does this new role for students force us to rethink what we mean by "assessment," it also points to important connections between teaching, learning, and assessment in school and the pursuit of those activities after students leave.

Considering "intelligence" as a variety of independent skills including metacognition, researchers have come to recognize that thinking about ones' own thinking is an important element of learning. Portfolios capture metacognitive functions through student reflections, in which they are asked to evaluate in a systematic way their learning on a particular project or across a set of tasks. Not only does this create the opportunity for students to recognize, analyze, and discuss their thinking and learning but it provides them with an opportunity to share those insights with others. (Wolf, 1989; Zessoules, R. & Gardner, H., 1990)

Research on portfolio assessment at Project Zero and elsewhere indicates that students of any age, even kindergarten children, are fully capable of this metacognitive activity. One kindergartner was overheard

advising a fellow student, "You are not going to put <u>that</u> in your portfolio, are you?" Classes that use portfolio assessment often create their own evaluation schemes through class discussions. As reflection activities increase, students begin to view their work in an anticipatory fashion.

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It would appear that this most important attribute of portfolio assessment is the most difficult to put into practice. As one teacher reported:

> *Its one thing to say students will reflect on their work, but for the first part of the year I'd get statements like "I got a good grade" or "I did my best." I think this is an area in which the teacher needs to spend some instructional time. We would easily begin with work on synonyms, but the point I'm trying to make is that we don't spend time teaching or even expecting students to reflect on their work. It needs to be taught as a skill just as any other series of skills is taught.* ("The Paper That Will Write Itself" Grosvenor Message to Tennyson, 3/6/92)

Such reflection activities are quickly mobilized by the teacher in a number of ways. In Amanda Arnold, students

hold their own "parent conferences" with the teacher serving as a consultant. At Metro, students take on increasing responsibility for their own educational plans.

Increasing the Network's Potential to Affect Practice

The lively discussions on the Network around issues of alternative assessment is instructive for several reasons. First, we can see in the conversations how teachers can influence and learn from one another. Equally interesting is the fact that these conversations have an important "professionalizing" quality to them. Because the teachers are talking about student work not test scores, their conversations rest on their own judgment. To the extent that judgment is informed and practiced, the teachers sense in the conversation a growing professionalism.

At the same time, they also sense the risk in this endeavor; after all, there is no guarantee in starting portfolios that the technique will work and the teachers' judgments will indeed be informed and practiced.

Such sentiments appear in these selected observations:

- "Discussions about how judgment should be influenced by evidence have been very important to me -- helped me to be more systematic, data-driven, and share that attitude with my colleagues.

- "There are times when I am hesitant about using researcher's articles because of the perception that they don't know what is going on in my classroom, and I end up screening what I share with teachers because of that.

- "But on the network its different. We see the researchers differently. Some see them as the keeper of the vision; I see them as the Keepers Of The Questions. They keep me going. Its a spiral instead of a continuum.

- "What really makes the difference is the shared perceptions and experiences which the researchers see differently than the teachers do. That perspective helps me grow.

- "We are not alone.

- "It is so helpful to have data about student assessment practices from somebody like Joe Walters or Howard Gardner. It makes my job of convincing central office people or parents much easier.

- "To have so much information in succinct form -- to have the gems -- makes it possible to work on something like student evaluation matters and really make a difference." (Notes)

The relationship between researchers and teachers is particularly instructive when we consider the inherent risk of portfolio assessment. Our participants felt the Network represented a model of what those relationships should be if evidence is to be a more powerful guide to practice and reform. But, they also felt that there was still too large a chasm between the two groups and that both practitioners and researchers need to get into each others domains more regularly. Time, sensitivity to the roles and jobs of others, and, most particularly, the opportunity to meet

together face-to-face ("high tech/high touch") were seen as powerful ways to narrow the chasm. In another study on the effects of this network, it was concluded:

> These daily interchanges among practitioners and researchers are helping teachers to become more inquiring about their work, to see their problems as opportunities for inquiry, and to view knowledge about school improvement as an important tool for solving those problems. Teachers are also discovering their voices to talk about their schools and themselves in extraordinary, often metaphorical ways. (McClure)

As teachers continue to explore portfolios, and as they expand these conversations around student work, they will find that they are opening up their teaching to public scrutiny in a serious and novel way. Assessment through portfolios is often like teaching with the door open. And that openness stimulates conversation and the need for mutual support.

Just as we believe that reflection for students is important to improved learning, we know that reflection for practitioners--teachers and researchers alike--is equally important. The Network provides a forum for that reflection and our analysis of the conversation to date indicates that this forum is being put to good use. In the words of Laura Grosvenor at Kimball Elementary:

> *"...the key to reflective students is reflective teachers."*

Postscript

After reading a draft of this paper, one of the teachers and two of her colleagues working on the assessment project at Amanda Arnold Elementary commented on and extended some of the ideas discussed here. We think their thoughts add an extra dimension to the discussion.

I. Standardization

My brief experience with portfolio assessment has not allowed me any time to resolve standardization issues beyond my classroom. However, my students' participation in setting standards and criteria for our room has proven successful. (A constructivist approach to introducing children to criteria and self reflection.)

Much of the criteria we use to judge our performance have been generated through class discussion. We hope this summer to have enough evidence of student performance to reach consensus on describing achievement levels or standards appropriate for our grade level. (Wish us luck!)

The three of us continue to have discussions concerning the need for grade level standards to communicate to parents. Parents continue to ask, "Where is my child in relationship to ....?" Lisa feels it should be explained by showing individual growth of the student on a continuum and not in relationship to a grade-level standard. Joyce feels parents have a right to know how their child rates in relationship to the rest of the class. Barbara would like to see a standard set for curriculum outcomes (i.e., show the parents a typical piece of 1st grade writing...What does the text look

like for a typical 1st grader? What is meant by "hands-on math manipulatives?")

II. Rational For Portfolios

A teacher who utilizes traditional assessment in their classroom will have students that generate a much different kind of portfolio and response than a teacher who builds their curriculum around constructivist assumptions. I feel that anyone who looks at my students portfolios can make some assumptions about my teaching style and beliefs. I often feel very exposed as a teacher while others are viewing the portfolios of my students. I feel that this is evidence that holds me accountable to an audience. The voice of the learner comes through in the quality of the performance and the reflection. But the design of the problem or project reflects teacher style.

III. Logistics

To me this is not a barrier. I consider this a problem the children and I have reduced by using their problem solving abilities and available technology.

IV. Drawing Students In -- Using Reflection

Reflection becomes integrated into every aspect of the classroom. My students reflected on a "Guest Teacher's" (substitute) visit by responding that her standard for behavior was much higher than mine. The modeling of peers and teacher will lead to a level of comfort in reflection for most kids.

Drawing Parents In . . .

We spend a lot of time informing our parents of our project and inviting them to view portfolios with their children. The time we spent with the parents and children together discussing progress toward outcomes

and personal goals was the most memorable time I've spent in teaching. The power of triangulated effort (parents, students, and teacher) was both effective and reassuring.

Often before I felt that a student's ability to accomplish challenging goals was dependent on my teaching ability to accomplish challenging goals was dependent on my teaching ability alone. We also keep each other in check. (If a parent has not monitored a goal as they agreed, then they have to come to the conference empty handed.) This accountability is good for everyone involved.

The triangular collaboration of the three teachers in the project has also been very beneficial for support, ideas, and for being critical friends. Our discussions have made us question our beliefs to the core.)

I enjoyed reading the draft of the AERA paper. It helped me sort out my thoughts and reflect on our project and my experiences thus far. Once again the School Renewal Network has provided critical support for our project. I am thankful to have access to this incredible resource.

Lisa Bietau (with editorial asides from Barbara Maughmer and Joyce Crill!) ("Paper that Writes Itself," message to McClure, 4/6/92)

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