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A CASE STUDY OF THE EFFECTS OF LEARNER-CENTERED

PORTFOLIO ASSESSMENT ON TEACHERS'
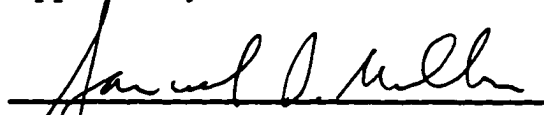
AND STUDENTS' VIEWS OF

LITERACY DEVELOPMENT

by

Constance Rippetoe Brown

A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
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Approved by

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BROWN, CONSTANCE RIPPETOE, Ph.D. A Case Study of the Effects of Learner-Centered Portfolio Assessment on Teachers' and Students' Views of Literacy Development. (1996) Directed by Dr. Samuel D. Miller. 219 pp.

This case study explores the effects of learner-centered portfolio assessment on teachers' and students' views of literacy development as an indicator of whether teaching, learning, and assessing work together to enhance beliefs and understandings. In this study, learner-centered portfolio assessment refers to placing the student in the role of assessor and the teacher in the role of guide or facilitator of learning consistent with transactions of a constructivist classroom.

Case study methodology based on the work of Stake (1978, 1985, 1994, 1995) and the philosophy of qualitative research (Denzin & Lincoln, 1994) was chosen to collect and interpret data. The case was an elementary school implementing portfolio assessment and investigating interpretation of student growth through artifacts collected over time and across all dimensions of learning. Participants included three teachers and nine students as key informants, numerous other teachers as secondary informants, and the researcher as a participant-observer. The strategies of interviewing, observing, and document analysis were used to gather data. With permission, audio tapes of interviews and other data collected were analyzed to note categories, patterns, themes, and outliers. Concept maps created by teachers and students were analyzed and interpreted by both the

researcher and participants in order to identify possible changes in beliefs and understandings of literacy development. The written report provided a description intended to capture the complexities of the case and encourage readers to make connections with personal experiences, research, and theory.

The findings represented conclusions that addressed the research questions and had meaning for the researcher. The study found that teachers' and students' views of literacy did become more complex and organized as they implemented learner-centered portfolio assessment. Their comments became more extensive, varied, and diagnostic. The shift to student self-assessment was key to establishing a climate of shared inquiry that supported change and fostered new insights into teaching and learning. Implications of the study suggested that collaborative dialogue and reflection offer powerful influences for desired change; learner-centered portfolio assessment could be closely connected with day-to-day instructional planning; and concept maps offer a useful tool for research as well as classroom practice.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of The Graduate School at the University of North Carolina at Greensboro.

Dissertation Advisor _____

Committee Members _____

_____

_____

<u>July 15, 1996</u>
Date of Acceptance by Committee

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This work draws from the influence of far too many people to name. Certainly, the members of the dissertation committee stand out as those most directly involved with guiding me in this pursuit. Dr. Samuel Miller, as director, steered me through the maze of uncertainties, gave me the latitude to wander and make mistakes, and knew when to draw me back on course before I lost my way. I am grateful for the support of Dr. John Van Hoose, who introduced me to supervision during that first course at UNCG; Dr. David Strahan, who showed me how to appreciate multiple perspectives; and to Dr. Rita O'Sullivan, who introduced me to the rigor of case study research - and more.

My family is my inspiration. I thank my husband, Ken, and children, Kenny and Alison, for their unwavering encouragement. Ken modeled for me the determination and perseverance needed to complete this endeavor; my parents instilled in me the confidence to try.

The staff at The Downtown School willingly offered patience and acceptance of my efforts to study our experience. Their commitment to excellence began well before this study and will continue long after. I am honored to be a part of this special group creating a haven for learning nestled in the center of downtown Winston-Salem.

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CHAPTER I

INTRODUCTION

Background

Caught in a web of unclear societal goals and changing educational

expectations, teachers are both constrained and stretched by the demands

placed upon them. Educational reform efforts generally target instructional

practices as the key to change and improvement. That supposition leads

directly to investigation of how teaching practices can be changed and how

testing and assessment influence those changes.

Reform, as promoted by *A Nation at Risk* (National Commission on

Excellence in Education, 1983), included the assumption that problems rested

with the quality of teachers which could be addressed by standardization of

teaching practices. There were several characteristics of that wave of reform:

it was mostly symbolic, it was almost totally initiated by top-down mandates,

it viewed educators as incompetent, and it ignored literature on the teaching-

learning process (Hitch, 1990). In contrast, the Carnegie Report, *A Nation*

Prepared: Teachers for the 21st Century (1985) called for school reforms

designed to transform the teaching profession into an attractive and

rewarding career. As such, teachers should be afforded the rights and

responsibilities of professionals: collegial relations, autonomy in decision making, peer review, and self-governance (Hitch).

Those contrasting views of reform mirror the pivotal issues central to testing and assessment. Should top-down mandates dictate purpose, method, and interpretation for indicators of learning? Or, should assessment decisions rest within the heart of the learning environment, drawing from and informing the participants as teaching and learning evolve collaboratively? How does assessment alter instructional practices, professional growth, and teachers' and students' views of learning?

The role of testing and assessment has changed through the years (Haney, 1984). During the late 1880s, the *Forum* magazine commissioned Joseph Mayor Rice, a New York physician, to prepare an appraisal of American public education. In conclusion, he declared schools to be inefficient and ineffective and, thus, paved the way for combining standardized testing with muck-raking journalism to promote educational reform. He pronounced that the system was filled with "political hacks hiring untrained teachers who blindly led their innocent charges in singsong drill, rote repetition and meaningless verbiage" (Haney, p. 600). Rice called for progressive education through which children would be taught in meaningful ways using a unified curriculum.

Rice's work was soon followed by other initiatives. The often noted landmark work of Alfred Binet took place at the turn of the century. Effects of

his work spread quickly. By WW1, 81% of 103 cities surveyed were using psychological tests to identify the feeble-minded. Handwriting and arithmetic tests surfaced as the first popular standardized achievement tests.

The time segment from WW1 to the 1950s brought a period of refinement of statistical procedures (factor analysis), use of standardized tests in large-scale school surveys, and use of objective tests for college admission. Large-scale testing initiatives were facilitated by automated optical scoring equipment invented in 1955. By 1961, *Tests in Print,* listed over 2,000 tests.

The testing explosion continued through the 1960s spurred on by the Elementary and Secondary Act (ESEA) intended to help students from low-income settings. Program evaluation, dependent on testing, was mandated. To guide the process, the *Standards for Educational Tests and Manuals* were developed in 1966. In the 1980s, standardized testing became pervasively commonplace. The themes for discussion centered on the perceived lack of knowledge among school people regarding interpretation of scores and the uselessness of run-of-the-mill testing with no consequences attached. The resulting notion was that when test results become a key element in important decisions that affect individual life changes, they are taken seriously by administrators, teachers, and principals who will then modify behavior and ultimately improve education.

Haney's (1984) historical review pointed out not only growth in technical sophistication of testing practice, but also dramatic changes in test

usage and interpretation. Rice used test results to "blame" the teachers; later tests were used to blame the students by sifting and sorting those of low and high intellectual functioning; next blame for low scores shifted to economic conditions and/or race; and, more recently, everything and everyone has been thrown into the mix with the entire system "held accountable."

Teachers, faced with public scrutiny, tend to limit instructional activities to those that will be tested so that scores will improve (Hiebert & Calfee, 1992; Koretz, 1988; Miller, Adkins, & Hooper, 1993; Perrone, 1991; Resnick, 1989). Some experts proclaim that negative effects of testing are so profound that administration of achievement tests should be halted altogether (Bintz & Harste, 1991; Kamii & Kamii, 1990). On the other hand, test makers contend that the tests were designed to sample intended learning, not to encompass all that is valued. They say that, through skill sampling, statistical interpretations regarding generalized learning can be made (S. A. Cohen & Hyman, 1991; Resnick, 1989; Worthen & Spandel, 1991).

Despite charges and counter-charges over whether tests limit instructional options or whether tests accurately sample intended learning and ultimately improve teaching practices, initiatives to improve testing practices are widespread (Bintz & Harste, 1991; Brooks & Brooks, 1993; Glaser, 1994a; Hambleton, 1994; Herman, Aschbacher, & Winters, 1992; Perrone, 1991; Popham, 1993; Ravitch, 1993; Resnick, 1989; Worthen, 1993; Worthen & Spandel, 1991). The momentum has been fueled by a changing view of

learning offered by cognitive psychologists and changing predictions of economic and social parameters offered by futurists (Bintz & Harste; Hambleton; Ravitch; Wiggins, 1993). Workers of the future will need to communicate and collaborate effectively, identify and solve complex problems, and utilize increasingly sophisticated technology. These outcomes, tied to a new view of learning, cry out for change.

Change evolves unevenly with great variations among individuals (DuFour, 1991; Fullan, 1994; Glickman, Gordon, & Ross-Gordon, 1995; Hall & Hord, 1987). The question of how to promote desired changes returns to concerns about instructional practices which are shaped by teachers' beliefs and understandings (Costa, 1990; Schon, 1983; Schulman, 1987). Teacher development, or the continuing acquisition of knowledge and understandings, is a broad field undergoing comprehensive study and revision (Fullan & Hargreaves, 1992). Conditions that foster teacher learning are affected by the principal's actions and attitudes (DuFour, 1991; Glickman et al., 1995; Goldring & Rallis, 1993; Hall & Hord, 1987). In a self-renewing school as described by Joyce, Wolf, and Calhoun (1993), all adults renew themselves in the service of improving the education of the young.

When teachers embrace a constructivist view of learning, they perceive learning as constructing an understanding of one's world through an active, mind-engaging process. Teachers then seek to create classrooms that involve students in complex learning tasks that foster collaborative and creative

thinking (Brooks & Brooks, 1993; Herman et al., 1992; Wixson, Peters, Weber, & Roeber, 1987). Learning is not thought of as linear, but instead, as an ongoing process during which students are continually receiving information, interpreting it, connecting it to what they know and have experienced, and reorganizing and revising their internal conceptions of the world.

What form of testing or assessment would promote this view of learning? Proponents of alternatives to conventional multiple-choice testing suggest that any new practices should (a) authentically capitalize on the actual work of the classroom, (b) enhance teacher and student involvement in evaluation, and (c) meet some of the accountability concerns (Chittendon, 1991; Hiebert, Valencia, & Afflerbach, 1994). Use of portfolios has emerged as a type of performance assessment that holds the potential to shift ownership of learning to teachers and students thereby producing the desired teaching practices and learning outcomes. Learner-centered portfolio assessment, as might be found in a constructivist classroom, creates a new kind of partnership between teachers and students (Stowell & Tierney, 1995). Yet, the underlying questions remain: What does the teacher need to know and be able to do in order to facilitate and assess learning? How does professional expertise evolve?

Problem Statement

Interest in learner-centered portfolio assessment emanates from a convergence of theoretical/investigative strands found in the literature and public attention to measuring school effectiveness. Although still speculative, learner-centered portfolio assessment may be best suited to helping learning, teaching, and assessing work together to inform each other in a "dynamic and recursive role" (Murphy & Smith, 1992, p.58). When assessment is bottom-up and inside-out, teachers serve as collaborators, not examiners, and students serve as participants in the analysis of that learning (Murphy & Smith, 1992; Paulson, Paulson, & Meyer, 1991; Stowell & Tierney, 1995; Wolf, LaMahieu, & Eresh, 1992). As teachers shift control to the learners, and through that process become learners of learning, their expertise increases.

In this study, teachers will retain ownership of the assessment process and share that role with the students in a collaborative endeavor. The purpose is to examine changes in conceptions of literacy learning that may occur as a part of that process. The study will investigate teachers' and students' roles in the assessment of literacy growth and their beliefs and understanding of literacy development over the course of a school year at a site implementing portfolio assessment schoolwide. Perceptions will be analyzed in terms of the following dimensions: concept of literacy, instructional decisions, selection and interpretation of portfolio artifacts, and

degree of implementation. If portfolio assessment is effective, it will enhance student and teacher understanding of literacy and foster improved teaching and learning thus actualizing desired reform. Teachers' and students' views of literacy will increase in complexity and shift toward an emphasis on the readers' and writers' engagement with text (Paris et al., 1992). In addition, it is important to determine what other outcomes or understandings emerge as learner-centered portfolio assessment is implemented.

Research Questions

Most studies of school effectiveness have relied on outside experts to decide on the measures and standards to be used to inform teachers and other stakeholders about their effectiveness. Some studies have shifted the locus of control toward the classroom by designing measures similar to desired classroom practices and engaging teachers in the development of measures and standards. The stance, however, remained that of the outside expert monitoring teacher practices. A few studies, particularly those using portfolio assessment, have drawn more directly from the classroom experience by placing the teacher in the role of expert or evaluator of learning.

Empirical research on portfolio assessment is minimal. Herman and Winters' (1994) review of research found 89 entries on portfolio assessment in the literature over the prior 10 years with only seven articles either reporting technical data or employing accepted research methods. Most of the articles

reviewed explained the rationale, presented ideas and models for how portfolios should be constituted and used, or shared details of how portfolios had been implemented in a certain site or setting.

This study will explore the effects of learner-centered portfolio assessment on teachers' and students' views of literacy development. Do learning, teaching, and assessing really work together to inform each other in a dynamic and recursive role? Do teachers increase their understanding of literacy development? Do students reflect meaningfully on their own literacy growth? More specifically, this study of a setting in which assessment is internally generated will attempt to answer the following research questions that will guide the study:

1. Do teachers' views of literacy change as they use learner-centered portfolios to assess learning? If so, how?

2. Do students' views of literacy change as they use learner-centered portfolios to assess their own learning? If so, how?

3. How do teachers relate learner-centered portfolio assessment to their instructional practices?

4. What interactive outcomes or other understandings emerge as a result of learner-centered portfolio assessment?

Definition of Terms

Assessment

Assessment carries with it comprehensive connotations. The word "assess" can be thought of as "to sit beside" "to assist the judge" (Chittendon, 1991). Thus, assessment refers to the process of collecting and organizing information or data in ways that make it possible for people - teachers, parents, and students - to "judge" or evaluate. Advocates of assessment draw a distinction between the singular act of testing and the complex processes of assessment (Zessoules & Gardner, 1991). They look beyond simple modifications of traditional instrumentation. Instead, they seek measures that reveal more than what students know and understand. Assessments should also capture how those new understandings metamorphose. Evidence of students' evolving strengths and weaknesses should be gathered. Assessment should reveal how students' capacities to solve sophisticated problems, make sensitive judgments, and complete complex projects broaden and deepen over time.

Alternative Assessment. A broad range of options are commonly referred to as alternatives to conventional, multiple-choice testing. Generally, one thinks in terms of tasks that require students to generate, rather than choose, a response. Exhibitions, investigations, demonstrations, written or oral responses, journals, and portfolios are examples of "alternatives" (Chittendon, 1991; Hiebert et al., 1994).

Authentic Assessment. Authenticity describes an aspect of assessment. The term draws from the belief that knowledge and skills cannot be detached from their contexts of practice and use without diminishing their value as indicators of learning (Herman et al., 1992; Resnick, 1989; Wiggins, 1993; Zessoules & Gardner, 1991). Therefore, an authentic assessment would enable one to watch a learner pose, tackle, and solve slightly ambiguous problems that directly address goals thought to be most important in order to present a broader, more genuine picture of student learning (Arter & Spandel, 1992; Hiebert et al., 1994; Wiggins, 1989, 1993).

Performance Assessment. Performance assessment refers to tasks that require students to accomplish complex and significant tasks, while bringing to bear prior knowledge, recent learning, and relevant skills to solve realistic or authentic problems. They document students' efforts in particular situations much like Boy or Girl Scout merit badges (Hiebert & Calfee, 1992; Herman et al., 1992; Wiggins, 1993).

Portfolio Assessment. Portfolios are a variant of performance assessments (Hiebert & Calfee, 1992; McLaughlin & Kennedy, 1993; Resnick, 1989). They provide an ongoing record of student accomplishments in a variety of settings. Process-folios include information about strategies as well as the products. Student reflections, as well as teacher evaluations, are usually a part of the portfolio (Hiebert et al., 1994). A single definition of portfolio assessment embraced by all has not yet emerged. Paulson et al.'s

(1991) definition, which is very similar to Arter and Spandel's (1992),

encompasses aspects generally addressed:

> A portfolio is a purposeful collection of student work that exhibits the
> student's efforts, progress, and achievements in one or more areas.
> The collection must include student participation in selecting contents,
> the criteria for selection, the criteria for judging merit, and evidence of
> student self-reflection. (p.60)

Four types of portfolios are generally identified: the showcase portfolio

(the student has primary responsibility for selecting his or her best or favorite

work); the evaluation portfolio (contents are specified and scored); the

documentation portfolio (evidence of student progress is systematically place

in the portfolio by the teacher and/or student to build a rich description

without specific attention to established scoring criteria); and the process

portfolio (ongoing work for a larger project is chronicled and commented on

by the teacher or student) (Valencia & Place, 1994).

Learner-centered portfolio assessment places the student at the center

of the assessment process drawing from a constructivist view of learning,

teaching, and knowing. Stowell and Tierney (1995) describe an expanded

view of portfolios that vary among students displaying "a repertoire of

abilities, range of literacies, improvement, interests and attitudes" (p. 83).

Teachers and students interact collaboratively as they explore the many

dimensions of learning.

Literacy

Definitions of literacy can range from very narrow to quite broad descriptions and from functional to powerful aspects or dimensions. Generally, literacy refers to reading and writing. Many definitions include attitudes, assumptions, and expectations about reading and writing along with the place and value of those activities in one's life (Guthrie & Greaney, 1991; McLane & McNamee, 1990; Willensky, 1990). Literacy is considered to be both an individual intellectual achievement and a form of cultural knowledge that enables people to participate in a range of groups and activities that in some way involve reading and writing (McLane & McNamee). The Oxford English Dictionary traces "literate" back to the 15th century when it was used to describe "one who can read and write." Being literate can be thought of as a state that moves the individual from a dependence on the immediate senses or direct contacts to the conveyance of meaning across time and distance (Heath, 1991).

In this study, literacy will primarily refer to reading and writing. Critical dimensions and attributes of literacy identified by Paris et al. (1992) will serve as the framework. Aspects include engagement with the text through reading and writing, knowledge about literacy, orientation to literacy, ownership of literacy, collaboration, and connectedness of the curriculum including listening and speaking.

Dimensions of Change

Substantive change takes time and varies from individual to individual. The Concerns-Based Adoption Model originally proposed in 1973 by Hall, Wallace, and Dossett (as cited by Hall & Hord, 1987) offers a framework for looking at the change process. In CBAM, change facilitators are responsible for using informal and systematic ways to probe individuals and groups to understand them (Hall & Hord). The model identifies three dimensions to be used for diagnosis: (1) stages of concern (how teachers or others perceive an innovation and how they feel about it ranging from "self" to "task" to "impact" concerns), (2) levels of use (what the teacher is doing or not doing in relation to the innovation ranging from non-use to renewal), and (3) innovative configurations (the innovation itself identifying the operational form or components of the innovation).

Level of use data is recommended for charting whether a change process has been totally accomplished or not. Hall and Hord (1987) suggest that summative evaluations of effectiveness are best conducted when uses are at the routine level of use because at that time, persons "know where they are going, and use the innovation in a stable pattern" (p. 101). At earlier and later levels, persons are adapting and changing their use of the innovation making it difficult to determine effectiveness.

In this study, teachers' comments will be analyzed as indicators of level of use. Teachers who focus on the short-term, day-to-day requirements of

portfolios and primarily engage in attempts to master the tasks will be designated at the mechanical level of use. A shift to use of portfolios with minimal effort or stress and knowledge of both short- and long-term requirements will be identified as routine use. When the teacher varies the use of portfolios to increase impact on students and considers both short- and long-term consequences for students, the level of use will be specified as refinement. Coordination with colleagues to provide collective impact on students will signal a move to the integration level of use; exploration of new goals based on quality of outcomes moves to renewal.

Hall and Hord (1987) emphasize the importance of defining the key features and actual practices optimal for a particular innovation. Stowell and Tierney's (1995) framework for teacher and student involvement in portfolio assessment will be used to define the characteristics of the innovation configuration. In this study, notations concerning purposes, content, process, and attitudes evidenced by teachers and students will be recorded and referenced.

Significance and Limitations of the Study

This study is an exploratory study on the relationship between the use of learner centered portfolio assessment and the teaching/learning process as related to literacy. Research on the effect on teachers' and students' views of literacy during implementation of portfolio assessment is limited. This study

will attempt to analyze whether learning, teaching, and assessing can work together to inform each other in a dynamic and recursive role when teachers and students actually create and interpret portfolios to assess student growth. The focus on the process of change in relation to perceptions of literacy growth will shed light on issues of professional development and accountability in general.

Since this study focuses on use of portfolio assessment at the elementary school level, findings can be examined to see if the relationship is common to other levels. Likewise, since the study focuses on literacy, findings can be examined to see if similar effects might exist in other curriculum areas. Furthermore, the focus on learner-centered portfolio assessment as a tool for both teacher and student learning will contribute to the literature by suggesting whether such assessments promote reformed instructional practices that generate the desired student outcomes.

Learner-centered portfolio assessment creates a new kind of partnership between teachers and students that draws from a constructivist view of learning. This study will utilize case study methodology consistent with that constructivist philosophy. That methodology offers strengths and limitations. Stake (1995) identified three major differences between a qualitative and a quantitative emphasis:

> (1) the distinction between explanation and understanding as the purpose of inquiry; (2) the distinction between a personal and

impersonal role for the researcher; and (3) the distinction between knowledge discovered and knowledge constructed. (p. 37)

Case study methodology offers an opportunity to "take a particular case and know it well, not primarily as to how it is different from others but what it is, what it does" (Stake, 1995, p. 8). As the study progresses, initial research questions may be modified or even replaced. Issues might "emerge, grow, and die" (Stake, p. 21). Stake suggests that often the best research questions evolve during the study. The responsive nature of case study methodology is well-suited to the nature of the research questions of this study; it is not particularly well-suited to the traditional research report. "One of the worst problems is the need too much to fit the case study. . . into a framework drawn with little regard to this particular case. . . " (Stake, p. 135).

Another strength/limitation consideration is that of the dual researcher/principal role. The "insider" stance will offer the researcher access to ongoing, natural interactions that might not otherwise be accessible. Since qualitative case study is highly personal research, the dual role can be a strength. "The way the case and researcher interact is presumed unique and not necessarily reproducible for other cases and researchers" (Stake, 1995, p. 135). On the other hand, as principal, the interest exhibited in learner-centered portfolio assessment, will to some degree influence the implementation process and the findings. As an instrumental type case study, the focus on the established research questions will serve to minimize

the limitations of the dual role of researcher and principal. Care will be taken

to separate the roles as much as possible and to make note of evidence of that

influence.

CHAPTER II

REVIEW OF THE LITERATURE

A review of related literature is helpful for determining possible lines of study regarding changing beliefs and understanding of literacy development during the implementation of learner-centered portfolio assessment (Herman & Winters, 1994; Stowell & Tierney, 1995). This literature review focuses on four converging topics: the relationship of assessment and educational reform; portfolio assessment and the teachers' and students' roles; theories and models of literacy and related pedagogical implications; and, dimensions of professional development and change particularly during implementation of new practices or procedures.

Assessment and Reform

How does learning take place? The answer to that question offers a framework for creating appropriate measures to assess and evaluate learning. For example, learning might be described as constructing an understanding of one's world through an active mind-engaging process (Brooks & Brooks, 1993; Herman et al., 1992; Wixson et al., 1987). One would the use tasks or performances that match that view of learning to measure learning. The

results could be used to inform the learner, the teacher, and/or an outside audience concerned with accountability.

The belief that accountability can be truly and accurately fixed on the basis of test results is widespread (Pearson & Valencia, 1987). Many, however, report that testing practices actually have limited teaching and learning (Brooks & Brooks, 1993; Genishi, 1992; Glaser, 1994a; Hambleton, 1994; Haney, 1991; Hiebert & Calfee, 1992; Johnston, 1983; Linn, 1994; Perrone, 1991; Popham, 1993, 1994; Ravitch, 1993; Resnick, 1989; Ruddell, 1985; Worthen, 1993). Some charge that test items focus on basic skills that do not match the curriculum. Others, contend that teachers, faced with public scrutiny, limit instructional activities to those that will be tested so that scores will improve. Test makers contend that the tests were designed to sample intended learning, not to encompass all that is valued (Resnick, 1989; Worthen & Spandel, 1991). They say that through skill sampling, statistical interpretations regarding generalized learning can be made (S. A. Cohen & Hyman, 1991; Worthen & Spandel, 1991). They add that few teachers, administrators, or legislators actually understand how to interpret tests accurately (Ruddell; Worthen & Spandel).

Despite the charges and counter-charges, experts in the field are seeking to improve testing practices (Bintz & Harste, 1991; Brooks & Brooks, 1993; Glaser, 1994a; Hambleton, 1994; Herman et al., 1992; Perrone, 1991; Popham, 1993; Ravitch, 1993; Resnick, 1989; Worthen, 1993; Worthen & Spandel, 1991).

Tension exits between the locus of control remaining with teachers and students and the quest for a common criteria for judging student performance using absolute standards (Calfee & Hiebert, 1991; Wiggins, 1989). That tension has grown out of differences in views of learning.

Brooks and Brooks (1993) draw from the contributions of Kant, Kuhn, Piaget, and Bruner to make a case for constructivist designed classrooms. In such a setting, teachers encourage students to find their own problems in order to foster students' abilities to organize and understand their individual worlds. The teachers seek to pose big questions, to give students time to think, and to lead students to resources that might answer their questions. The cycle for learning includes open-ended opportunities for students to interact with purposefully selected materials (discovery), teacher designed lessons aimed at focusing students' question (concept introduction), and finally extended experiences (concept application). Prescribed scope, sequence, and timelines as are currently commonplace, inhibit the creation of constructivist classrooms and interfere with teachers' resolve to help students understand complex concepts (Perrone, 1991).

The constructivist view of learning, draws from a endogenic view of knowledge (Bintz & Harste, 1991; Brooks & Brooks, 1993). Fitzgerald (1993) identifies the characteristics of differing views of knowledge. Those who hold an endogenic view tend to believe that knowledge embraces facts, feelings, emotions, and even opinions, thereby allowing for various legitimate

versions of the truth. Knowledge is constructed in a person's mind and so may be viewed as subjective. People create or make knowledge rather than discover it; the knower and the known are inevitably involved with one another. One must use oneself or one's culture to understand others. The teacher serves as a facilitator of learning created within each student.

Those who hold an exogenic view of knowledge tend to believe that knowledge consists of "facts"; that knowledge is truth (Fitzgerald, 1993). Thus, there is true knowledge with objectively correct and incorrect answers. Knowledge is located in the world, mirrored in the mind, and discovered objectively. It exists in and of itself; it is not altered by the method used to get it. From this view, the teacher serves as a disseminator of knowledge with students serving as receptive agents.

When describing testing or assessment practices, it is helpful to visualize a continuum with the exogenic view at one end and the endogenic view at the other. Traditional testing practices draw from the exogenic extreme, while proposed changes move across the continuum toward the endogenic stance to varying degrees (Tierney, 1992). Fitzgerald (1993) suggests that the debate should lead teachers to ask not, "Which is best?", but (1) "Which methods are associated with which kinds of learning?" and (2) "If I use a particular instructional method, what knowledge will be created or gained?" (p. 288).

Instruments based on the standardized test paradigm constitute the primary source for the externally mandated assessments that serve local, state, and federal policy agencies (Calfee & Hiebert, 1991). Those sources generate the test scores that appear in local newspapers to inform the public as to how well schools are doing their job. External tests are administered periodically and generally have a delay between date of testing and receipt of results. Since internally generated assessments include use of evidence available to teachers through daily exchanges with students, they tend to be responsive to teaching/learning transactions. A closer look at purpose, method, interpretation and decision making, and effects on teachers' roles will more fully explain external and internal assessments.

Externally Mandated Assessments

When evaluation crosses settings (to compare programs and select students) a high degree of standardization is considered to be appropriate (Herman et al., 1992; Hiebert & Calfee, 1992; Worthen, 1993). Since the exogenic stance described by Fitzgerald (1993) prevails, teaching practices would emphasize memorization and application of identified information. The traditional model of teaching and learning are most closely associated with this type of testing.

Hiebert and Calfee (1992) note that standardization does not necessarily prohibit inclusion of alternative, or authentic, measures. For instance, new versions of the National Assessment of Educational Progress (NAEP) include

reading performances in which students bring a book, discuss reasons for the choice, interpret personal responses to the text, and choose a portion of the text to read aloud. State level writing and reading tests are including longer passages, higher-level questions, and more open-ended responses. Some states, such as Vermont (Abruscato, 1993), are developing statewide accountability systems that do utilize day-to-day classroom activities.

In contrast, Hill (1992) charges that mere modifications of old testing designs cannot work because research has shown that performance events are greatly variable. The large number of events required to obtain acceptably generalizable results requires time demands and costs that are unmanageable. In addition, the nature of on-demand prompts reduce the opportunity to use the very processes students should employ to be consistent with emerging recommendations for best practices.

Purpose. Initially, use of standardized tests had two thrusts: (1) as an accountability device for administrators and (2) providing a check on teachers' abilities to judge student performance and existence of subjective bias (Calfee & Hiebert, 1991). More recently a goal of bringing about changes in instructional practice has surfaced, and concerns about bias have shifted to examination of the test items (Kane & Khattri, 1995). Externally mandated tests are also used for selection and classification decisions which compare students on the same basis or criteria (Wiggins, 1993). Many experts caution

against using one type of assessment for all purposes (Glaser, 1994b; Haney, 1991; Resnick, 1989; Ruddell, 1985; Worthen, 1993; Worthen & Spandel, 1991).

Methods. Reliability is a primary concern of externally mandated tests. It is surmised that if the tests meet appropriate technical criteria and are scientifically defensible, the data can be used to alter instruction. (Hill, 1992, Calfee & Hiebert, 1991). Administrators and policy makers are also concerned with efficiency (costs) and aggregability (reduction of data to a few numbers) (Calfee & Hiebert).

External tests generally fall into two general categories: norm-referenced and criterion-referenced (Calfee & Hiebert, 1991). Norm-referenced tests are comparative measures portraying the relative standing of individuals and groups. Criterion-referenced tests measure mastery of specific objectives compared to an prescribed performance level.

Traditionally, the format and content of criterion-referenced tests has been similar to norm-referenced tests; the purpose and use has differed. Glaser (1994a) contends that the original intent of criterion-referenced testing matches current movements toward authentic measurement and performance assessment. Both focus on how adequately an individual attains a desired level of competence, not on comparison with others. With these types of measures, reliability, depends on the consistency of mastery or non-mastery decisions over parallel forms (Hambleton, 1994).

Interpretation and Decision Making. Interpretation of standardized scores is "... largely a mechanistic activity. Once a test is scored, the data are transformed into other indices that serve for interpretation" (Calfee & Hiebert, 1991, p. 286). The main uses are for retention or placement in ability groups offering teachers little responsibility for decision making. Ratings are considered to be accurate, unbiased, and consistent across time and raters (Hiebert & Calfee, 1992). Supporters of external testing maintain that established criteria do help teachers define excellence, communicate to students what constitutes excellence, and communicate goals and results to parents and others.

Effects on Teachers' Roles. Data from external tests are used by teachers to guide decision points such as grouping and placement, diagnosing student problems and potential, and determining grades even though teachers express caution about overuse of the information (Calfee & Hiebert, 1991). Despite the variations in use described by teachers and researchers, many continue to see testing as the driving force behind teaching practices:

> In essence, standardized tests continue to determine the *ends* of instruction and the basal tests determine the *means* of instruction. Additional evidence of this control can be found in the fact that in 1987 the basal companies correlate their tests with the popular standardized measures, making for a tighter and more constraining relationship between ends and means. (Pearson & Valencia, 1987, p. 5)

Even though the public disclosure of test scores is thought to drive teaching practices, some studies actually show that teachers place less emphasis on formal test results than on their own data, thereby having little impact on instructional decisions (Ruddell, 1985; Shavelson & Baxter, 1992). Instead, teachers capitalize on assessment opportunities inherent in the classroom. One teacher expressed it clearly, "I don't really need a lot of new data about the children - rather I need better ways of using what I have" (Chittendon, 1991, p. 22).

Calfee and Hiebert (1991) note that externally mandated assessments may have a positive influence when a faculty lacks a clear vision of curriculum goals. In that vacuum, tests give direction and purpose. On the other hand, imposition of standardized testing can be detrimental to teacher morale and may actually lower student achievement if a faculty already possesses a sense of purpose.

Internally Generated Assessment

Standardized testing might be viewed as assessment for "verification" while classroom assessment might be viewed as "inquiry" (Bintz & Harste, 1991, p. 237). Internally generated assessments include the broad range of evidence available to the teacher through daily exchanges with students merging teaching, learning, and assessing into a continuos process (Calfee & Hiebert, 1991). When internally generated assessment draws from a constructivist view of learning, "assessment and instruction . . . form a

seamless web that promotes teacher/student collaboration, active learning, critical thinking skills, and multidisciplinary understanding" (Khattri, Kane, & Reeve, 1995, p.80).

Purpose. The guiding of instruction, incorporating both formative and summative elements, so that all students achieve at a high level serves as the ultimate aim of assessment activities in the internal model. "Continual reflection on students' performance is the pivotal property of internal assessment that sets it apart from external assessment" (Calfee & Hiebert, 1991, p. 292). Thus, the purpose of assessment extends beyond determining student performance. It also becomes an integral part of guiding the teacher's instructional decisions.

Methods. Diagnostic or instructional decisions are generated at the individual level (Johnston, 1983). Generally, when assessment is intended to guide individual learning, a more personalized format is thought to be more appropriate (Cambourne & Turbill, 1990; Hiebert et al., 1994; McLaughlin & Kennedy, 1993; Worthen, 1993; Worthen & Spandel, 1991). Teachers rely on informal observations and documentation of learning using methods that are intuitive and automatic (Genishi, 1992; Hiebert & Calfee, 1992).

Validity is a primary concern of internally generated assessment. Construct validity, or reliance on the concept and multiple sources of evidence, is a fundamental principle (Calfee & Hiebert, 1991). Validity of a construct is gained as theory and evidence converge. Hill (1992) adds

consequential validity. Assessment events should be justified in terms of the likely impact on instruction. He argues that the best questions may, in fact, be the best instruction. "Therefore, the consequential validity of each item becomes an overriding consideration, 'The medium is the message'" (p. 3).

> For the teacher, the key issues are (or should be) *validity* (Does assessment match what I have taught and the way I have taught it?), *suitability* (Do the methods fit my purposes?), and *availability* (Will the information be there when I need it?). Calfee & Hiebert, 1991, p. 282

Interpretation and Decision Making. Internally generated assessment places the teacher at the center of interpretation and translation of findings. Teachers, and sometimes students, take charge of assessment tasks more as a means of self-analysis than as a means for reinforcement or control (Holmes & Leitzel, 1993; Khattri et al., 1995). With validity and reliability existing as judgments, rather than correlations, the capability of classroom teachers to judge comes into question.

Stiggins (1988) uncovered serious shortcomings in the ways teachers are trained in assessment. Most college courses focus on issues related to standardized testing even though when asked what training they most need, teachers tell researchers that they want to know about classroom observation techniques, other forms of assessment (including exam preparation), and the integration of assessment into teaching. He noted, however, that teachers are not without competence. They do rely on their own experiences and engage

in assessment a great deal. Based on hundreds of hours of classroom observation, Stiggins estimated that teachers spend between a quarter and a third of their time measuring student achievement. "Fact is, teachers make instructional decisions based on their assessment of student performance at the rate of *once every two or three minutes*, on average" (p. 24). Still unanswered is whether that assessment is more like the "verification" of external testing or "inquiry" that that shapes ongoing learning (Bintz & Harste, 1991, p. 237).

Effects on Teachers' Roles. Calfee and Hiebert (1991) concluded that "teachers rely on their own judgment for some purposes but not others, and that the basis for assessment is generally intuitive and implicit" (p. 297). Though much research investigates teacher-student interactions, it is not really informing of questions concerning assessment. Teacher-student interactions were more often employed for assistance than for assessment. Finally, Calfee and Hiebert found that none of the studies showed evidence of teachers routinely acting in a research mode.

As instruction and assessment merge, particularly through the development of performance assessment tasks, benefits to instruction and teachers' thinking about instruction emerge (P. Cohen, 1995; Holmes & Leitzel, 1993; Khattri et al., 1995). As teachers learn to develop effective assessment tasks, they will become better consumers of assessment products (P. Cohen, 1995). In addition, as teachers engage in classroom assessment,

they will seek out one another to establish common frames of reference and coordinate ongoing assessment. Assessment might then naturally foster increased teacher collaboration. (Khattri et al., 1995). With these changes, learning, teaching, and assessing can work together in a dynamic and recursive role increasing teacher and student expertise.

Changing Paradigms

A shift toward a constructivist view of learning demands a shift in assumptions about learners. Educational programs are then based on the belief that all individuals (not just the elite) can become competent thinkers (Resnick, 1989; Wiggins, 1991). To be consistent, the aim of assessment should be to facilitate learning and enable students to show off what they can do (Brooks & Brooks, 1993; Wiggins, 1989; Zessoules & Gardner, 1991). If one follows the principles of constructivism, instructional goals are negotiated, not imposed, and evaluation of learning accommodates a wider variety of response options (Holmes & Leitzel, 1993).

Hill (1992) differentiates between assessments developed in support of educational refinement and those developed in support of educational reform. Educational refinement attempts to improve education through incremental improvements in the existing structure. Assessment then examines the details of educational outcomes, attends to reliability, and utilizes sampling and statistics. Educational reform seeks to change the

whole structure. Assessments designed for reform will need to "break the mold."

> Assessments developed in support of educational refinement are scalpels: assessment developed in support of educational reforms are sledgehammers. The former assessments are trying to uncover nuances of deficiencies in the existing system and provide teachers with the information to correct those deficiencies: The latter assessments are valuable to the extent that they are a factor in changing the entire system. . . (Hill, p. 2)

The role of testing and assessment has, indeed, changed through the years. Whether it should drive or draw from changes in teaching practices remains open to debate. How assessment influences teaching and learning certainly warrants further study.

Portfolio Assessment

Discussions about portfolios often emphasize instructional improvement (teaching practices) and student empowerment (reflections on learning) (Forrest, 1990; Graves, 1992; Lucas, 1992; Paulson et al., 1991; Wolf et al., 1992; Yancy, 1992). By its very nature, portfolio assessment holds the potential to be particularly responsive to the teaching/learning transactions of the constructivist classroom (Paulson et al., 1991; Wolf et al., 1992). Portfolios have the potential to help learning, teaching, and assessing work together to inform each other in a dynamic and recursive role (Murphy & Smith, 1992). Teachers then serve as collaborators, not examiners, and students serve as

participants in the analysis of that learning (Murphy & Smith; Paulson et al.).
The school staff has the opportunity to remain in control of the program and
its evaluation (Forrest).

Definitions of purpose, method, and interpretation can quite naturally
draw from an endogenic view of knowledge, although some would move
across the continuum by framing the portfolio from an exogenic view and
impose quantitative techniques on the process. Though a single definition of
portfolio assessment has not yet emerged, Paulson et al.'s (1992) version
encompasses aspects generally addressed:

> A portfolio is a purposeful collection of student work that exhibits the
> student's efforts, progress, and achievements in one or more areas.
> The collection must include student participation in selecting contents,
> the criteria for selection, the criteria for judging merit, and evidence of
> student self-reflection. (p. 60)

"Purposeful" is a key feature of that definition. Forrest (1990) contends
that assessment plans for general education should have three purposes: they
should (1) become part of instruction and have value as a learning experience
for students, (2) assist faculties in improving their teaching efforts, and (3)
measure the effectiveness of an institution (or system) as a facilitator of
learning. Portfolio assessment can be structured to meet those purposes.

Attitudes regarding assessment also apply to portfolios: (1) keeping
track (what has been done), (2) checking up (whether the child has learned
certain things), and (3) finding out (inquiry, figuring out what's going on)

(Chittendon, 1991). Those aspects should be addressed as one defines the purpose for portfolio assessment. Without a purpose, a portfolio is just a folder of student work (Arter & Spandel, 1992). In fact, some tell us that the portfolio defines itself through its purposes (Seger, 1992). Purposes might range from showing individual progress toward mastering a defined curriculum, capturing individual showcase or "best-work" products, developing a rich description of unique characteristics of an individual learner, or creating composite portfolios showing progress toward school goals.

Methods for collection of portfolio items range from total student selection to highly prescribed formulas that define prescriptive standards (Arter & Spandel, 1992; Paulson et al., 1991; Seger, 1992; Wolf, 1989; Yancy, 1992). The kinds of student work, amount collected, and timing of that collection will change as the purposes change (Forrest, 1990). For instance, if the purpose rests with evaluation, items included should represent best works. In contrast, if the purpose rests on process, the items would include a record of all activities (Arter & Spandel, 1992). Ultimately, the discussion of what to include, or not, will be based on criteria which should be fully defined and open to all. Thus, the challenge to define what is valued returns to the establishment of goals and expectations and the desired teaching/learning transactions.

Perhaps, the most controversial aspect of portfolio assessment lies with interpretation. Core issues center on who interprets, for what audience, and with what standards and what degree of consistency and comparability (Arter & Spandel, 1992; Graves, 1992). The closer the stance lies to the individual learner, the more variation is appreciated. The more distant the interpreter and the broader the audience, the higher the degree of standardization expected. Some would hold that constraints resulting from standardization threaten the essence of the portfolio concept (Case, 1994; Graves, 1992; Lucas, 1992; Seger, 1992). Arter and Spandel (1992) assert that the primary use of portfolios should be for instruction. They suggest that composite portfolios which contain the work of more than one student might be a way to aggregate information for demonstrating the impact of a school or program for students in general.

Concerns over validity and reliability and the feasibility of large-scale assessment surface repeatedly. Technical quality and equity loom large when results have high-stakes and are used to compare individuals across settings. Reliability concerns rest on rater agreement, score stability, and consistency. Herman and Winters (1994) found that when measured, the degree of reliability across portfolio projects varies greatly. They contend that portfolios may actually overestimate student performance. Their concern about overestimation is magnified when portfolios are used for large-scale assessment. A high degree of reliability appears easier to achieve when

portfolio contents are relatively uniform and experienced scorer's use well-honed scoring rubrics. But then, criticism often levied against traditional testing resurfaces. Johnston (1983) charged that an over-reliance on reliability sacrifices validity.

Another concern with interpretation of portfolios rests with individual student performance. Since classroom products tend to be more collaborative, the question of, "What can the *individual* do?" (Herman & Winters, 1994, p. 52) increases in importance. In the classroom setting, teachers can utilize a variety of indicators to temper that assessment. Unfortunately, those insights do not travel with the portfolio when scored by outside evaluators.

Even without the benefit of classroom indicators to temper results, a comparison of portfolio assessment with results of timed-tests of writing competence showed that portfolio assessment and timed-tests produce essentially the same ordering of students, but the lowest scoring students fair far-better with portfolio assessment (Simmons, 1990, 1992). The lowest scoring group had even worked longest (16 days) on portfolio papers. Simmons concluded that tests most adversely affect those who need more time to perform. The implication is that assessment responsive to variations in student learning do support improved performance without altering comparative ordering.

Howe and Eisenhart (1990) would challenge traditional definitions of technical merit. They propose that the discussion of standards rests with clarification of epistemological aspects. A move away from a positivist (exogenic) stance requires a move away from traditional quantitative research methodology:

> . . .the upshot is that standards must be anchored wholly within a non-positivist perspective, which is to say they must be anchored nowhere other than in logic in use, in the judgments, purposes, and values that make up research activities themselves. (p. 8)

They call the question: Must portfolios be converted to numerical ratings and analyzed quantitatively? Or, would qualitative research methodology more readily match portfolio assessment? The nature of qualitative methodology places a high degree of confidence in the researcher's ability to interpret data (Denzin & Lincoln, 1994). Thus, the question of teacher expertise in planning for and judging student learning surfaces once again.

Stowell and Tierney (1995) offer a framework for considering dimensions of portfolio assessment that parallels Calfee and Hiebert's (1991) categories of externally mandated tests and assessments and internally generated assessment. Stowell and Tierney use the terms top-down and bottom-up. In a top-down situation, districts or others impose a form of standardization upon portfolios. "They impose a set of guidelines that define,

in an a priori fashion, the purpose, nature, and use of the portfolios" (p. 84).

With the shift to a bottom-up situation, teachers and students become full-

partners in determining the purpose, contents, use, and evaluation of

portfolios. Portfolios then "emanate from the classroom" and tend to vary

from one classroom to the next (p. 81).

Stowell and Tierney (1995) add another dimension to the framework:

outside-in (teacher-directed) or inside-out (student-directed). The continuum

moves from portfolios as a tool for the teacher to portfolios as a tool for

student self-assessment. Inside-out portfolios, thought of as client- or learner-

centered, draw from and support teaching /learning transactions that draw

from a constructivist view of learning. Actual uses of portfolios clustered

according to Stowell and Tierney's framework serve to clarify the issues.

Top-Bottom Portfolio Assessment

Examples of top-bottom portfolio assessment situations include The

Kamehameha Elementary Education Program (KEEP), The Vermont

Assessment Program, The State University of New York at Stony Brook

Portfolio-Based Evaluation Program, The Bellevue Literacy Assessment

Project, Rhode Island's Literacy Portfolio Assessment Project, and Blackburn

Elementary School's Portfolio Assessment.

The Kamehameha Elementary Education Program (KEEP) began with

the establishment of standards to define student accomplishment and to

change teaching practices (Au, 1994). Kamehameha's administration decided

to move curriculum and instruction toward a whole language approach. The decisions stemmed from dissatisfaction with the levels of literacy achievement shown by many KEEP students. The new curriculum incorporated standards, or benchmarks, that spelled out expectations for achievement at each grade level. Portfolio assessment was implemented to create multiple measures for evaluating the literacy achievement of KEEP students (and the effectiveness of the program), to direct the attention of teachers to major dimensions of students' literacy development, and to move the program away from an overreliance on standardized tests. Benchmarks and documentation were prescribed. In the early stages, the most serious problem appeared to be one of understanding, not logistics. The majority of those charged with implementation did not understand that the whole literacy curriculum and the portfolio assessment system were supposed to work hand-in-hand. Instructional implications from the portfolio assessment measures required the use of considerable professional judgment which most teachers felt unprepared to exercise. Ratings for students tended to be comparative, rather than based on specified benchmarks. On the positive side, the KEEP system turned out to be a valuable tool for program evaluation.

Similarly, Vermont's program was initiated at the state level with the intent to use assessment as a means for changing teaching practices (Abruscato, 1993). Public discussion of student assessment led to the creation

and funding of the Vermont Portfolio Assessment Project. The emphasis was on improved assessment based on newly developed standards that were expected to improve learning in writing and mathematics through a state mandated initiative. The state was testing whether performance assessment could fuel improvements in classroom practice. The process included teacher scoring of student portfolios according to established criteria supplemented by external scoring of a sample by trained raters. In addition to the portfolio work, Vermont students in grades 4 and 8 took the state's uniform test in writing and mathematics (Koretz, Stecher, Klein, & McCaffrey, 1994). The evidence suggested that portfolios can be a potent tool for improving classroom instruction. Teachers reported putting more emphasis on problem-solving strategies and writing. Students and parents also reported benefits from learning about the new standards and judging criteria. Technical questions persisted, especially related to low reliability ratings. Even the evidence pertaining to validity was not persuasive. In many instances, the relationships shown by the portfolio and uniform test scores offered no evidence of validity. Uncertainties regarding positive effects as compared with the steep costs in time, money, and stress persisted.

The State University of New York at Stony Brook turned to portfolios as a replacement for the writing proficiency exam required of their students. They were concerned that the format of the proficiency exam countered what was considered to be "intellectually valid." (Elbow & Belanoff, 1991, p. 5) The

members of the department negotiated common standards for inclusion of items and scoring of the portfolios. The process resulted in greater collaboration among colleagues, greater consistency in grading practices, and a change in teacher/student collaboration which moved teachers toward a coaching role (Belanoff & Elbow, 1991). The change in assessment practices actually had the unintended consequence of initiating change in teaching practices.

The Bellevue Literacy Assessment Project also began with a desire to improve assessment practices (Valencia & Place, 1994). The district sought to align assessment practices with locally developed student learning outcomes (SLOs) and move the process closer to the decision-making of daily classroom activities. The intent was to develop assessment strategies that would be useful at both the classroom level and at the district level for accountability. After a year of study, the planners decided to implement portfolio assessment built around the SLOs. Selected teachers met regularly to participate in the development. The purposes established were (1) "to improve instruction," (2) "to improve student learning and ownership of learning," and (3) "to report to others outside of the classroom" (p. 138). The composite portfolios consisted of prescribed types of items as well as student selected items. After the first year, it was found that the portfolio project assisted students and teachers in establishing a common understanding of reading and writing processes, that students and teachers understood the purposes and were

committed to continuing them, that the contents of the portfolios varied greatly, and that trained teachers were able to reliably score a random sample of portfolios from all levels. The scoring process, however, did not hold as great appeal to the teachers as the more general review of work.

Rhode Island's Literacy Assessment Project began as an exploration rather than a mandate (Snider, Lima, & DeVito, 1994). The change process included assessment as well as classroom practices. The project began with a commitment to teacher ownership of assessment based in classrooms where teachers and students collaborated on purposes, forms, and interpretations of assessment. Three stages emerged during the first three years: exploring possibilities, building collaborative portfolios, and shaping a portfolio classroom environment. Initially, a small group of teachers, Department of Education specialists, and researchers met once a month. At the end of the first year, it was clearly evident that teachers had made most of the decisions about what would go into portfolios. The second year brought the realization that the real beginning point needed to be determination of student outcomes (broad expectations of what students should be able to do), competencies (more specific descriptions of student performance), and criteria (features used to evaluate student performance). The second realization rested with the significance of collaborative portfolios that represented both student and teacher input. During the third year, philosophical aspects of portfolios emerged. These included student reflection and a changing classroom

environment evidenced through more diverse portfolio artifacts. The model

that evolved was more a philosophy of instruction and assessment than a

formula. It took a great deal of time and effort, but participants concluded

that their approach held the potential to unlock the enthusiasm and zest for

learning that is so widely sought. "Good assessment looks like good

instruction, and vice versa" (Snider et al., p. 88).

Blackburn Elementary School implemented portfolio assessment as a

School Improvement Team project (Lamme & Hysmith, 1991). This project is

categorized as top-bottom because it did not directly emanate from the

individual classroom, although this example moves across the continuum

toward that of a bottom-up situation (Stowell & Tierney, 1995). The project

began with moving literacy instruction from a basic skills orientation to a

whole language/integrated curriculum orientation, a revision of report cards,

and the development of scales of literacy learning for writing, emergent

reading, and response to literature. All teachers were expected to develop

portfolio systems for assessment with the support of in-service education and

reading materials on the topic. Although the specific strategies were left up to

individual teachers, most gathered three types of information: (1) a collection

of artifacts such as reading logs and literature responses; (2) student reflections

and self-evaluations; and (3) observations, checklists, and scales. Analyses of

teacher responses to a questionnaire and interviews showed that teachers'

involvement in portfolio assessment was fairly evenly distributed among the

second to fifth stages on a five stage scale. Findings included that (1) the degree of implementation varied in direct proportion to the degree of involvement with whole language philosophy and practice, (2) teacher collaboration increased, and (3) teachers became more reflective about how and what they teach.

Reliance on preset criteria and the teacher as the interpreter place the KEEP, Vermont, and Stoney Brook projects on the outside-in end of Stowell and Tierney's (1995) continuum. As the Rhode Island initiative evolved, it included a greater degree of student engagement which moved toward the inside-out end of the continuum. Bellevue mirrored that process even though the planning team made many of the decisions. Some of the classrooms at Blackburn Elementary had a high degree of student involvement in developing and interpreting the portfolios which were nearer to an inside-out stance.

These examples of sites implementing portfolio assessment show evidence that this type of assessment can, indeed, change teaching practices. Although the desired changes were for the most part preset, evolving beliefs and understanding did shape the process in unexpected ways. Changes evolved unevenly among schools and teachers and results varied. Clearly, these examples of top-down portfolio assessment initiatives were primarily designed for keeping track and checking up on teachers and students. The emphasis was on instructional improvement, not student empowerment.

Bottom-Up Portfolio Assessment

Examples of bottom-up portfolio assessment projects include a teacher's initial experiences with portfolios in a first grade classroom setting, a special education teacher taking a college education class, an eighth grade teacher participating in the New York City Writing Project conducted by Lehmon College and the Educational Testing Service, and a college professor with master's level students.

Laurie Mansfield was already using a writing process approach in her first grade class when she decided to introduce portfolios (Voss, 1992). The existing classroom procedures included students maintaining two folders: one for work in process and one for work completed. Laurie decided to introduce the portfolio process to the whole class, but to phase it in by beginning with just five students because she was concerned with manageability. Her original requirement was simply that the students choose their best pieces with the students acting as the number one choosers (and Laurie the confirmer). Her early experiences caused her to recognize the importance of student decision-making. Her secondary goal of student self-evaluation quickly became her primary goal. As the emphasis shifted from assessment and record keeping to student awareness of learning and self-evaluation, Laurie no longer saw herself as the controlling agent. She became a more reflective listener and responder. Variations in selection and collection procedures evolved as Laurie and her class learned to incorporate

portfolios into their learning environment. Laurie concluded that she had gained insight into children and had learned so much more than she had expected. She looked forward to the next year when she would emphasize process by having children include all drafts of pieces chosen for the portfolios and, definitely, keep her own teaching journal. Her beliefs about her role as a teacher had changed.

Like Laurie, Darlene Frazier was a whole language enthusiast before she implemented portfolio assessment with her fourth grade special education students in a writing pullout program (Frazier & Paulson, 1992). Darlene's college class assignment was to create a portfolio about herself. Six of her students volunteered to share their writings to contribute to her portfolio created to demonstrate accomplishments of her students. Darlene planned to use her portfolio to assess her students as writers and herself as a teacher. Darlene let her students select the material to be included in her portfolio because she hoped her students would include pieces they felt good about, gain ownership of the portfolio process, and learn to evaluate their own work. Suddenly, she found they were working together. As the portfolio's owner, she was the primary stakeholder. As others with an interest in the portfolio, the students were the secondary stakeholders. Before long, students began pressuring Darlene to let them create their own portfolios. Then roles reversed and they became primary stakeholders and she became secondary. She found that the format for the portfolio didn't

matter as long as the students took an active role in selecting items for their portfolios and used the process for self-reflection and evaluation. Darlene concluded that individual portfolios can serve to help students understand themselves as writers and a composite portfolio (such a hers) can be used for program assessment. Darlene's understanding of the role of assessment changed through the use of portfolios.

Kerry Weinbaum's implementation of portfolio assessment began as a top-down pursuit when she volunteered to participate in a project conducted by the New York City Writing Project at Lehman College and the Educational Testing service (Weinbaum, 1991). Although already utilizing a whole-language approach in her eighth grade language arts class, portfolio assessment was new to her. According to the prescribed format, students chose pieces for their portfolios following specific guidelines three times during the course of the school year. Students were required to write cover letters to the portfolio-reading committee and to their teachers regarding their growth and learning at each of the three junctures. In March, Kerry made dramatic changes that shifted to a bottom-up stance. She decided to relinquish control of her class. She told her students that they could write their own contracts for working on any projects that interested them. She would negotiate with them to ensure agreement. Fulfilled contracts would generate a passing grade; a higher caliber of work would warrant a higher grade. Students were even responsible for figuring out how much

homework they needed to do. The final portfolio letters included reflections on learning. It turned out that the contract system provided meaning for the portfolios. Kerry discovered that the actual pieces contained in a portfolio are not as important as why they were written, how, and under what circumstances. The reflective letter provided her and the students with "a window on thinking" (p. 214). She concluded that portfolios work when the value of what is being done comes from, and is seen by, the students themselves. Kerry's view of student ownership and empowerment changed as she used implemented her own version of portfolio assessment.

Letters to the teacher were also a central part of student reflection in the portfolios created by Jane Hansen's "Foundations of Reading" participants at the University of New Hampshire (Hansen, 1992). A reading/writing workshop was conducted for the first half of class. For the last part, the focus was that of making connections with workshop activities and the class members' teaching settings or to Jane's own experiences in classrooms. The course syllabus, written in letter form, required the reading of two professional books, six articles from Jane's collection, papers based on two interviews, and a portfolio that included the assignments and a portrait of themselves as a reader, writer, teacher, and learner as an evaluation of themselves as literate individuals. One of the two interview papers was to be about three students concerning their perceptions of themselves as readers; the other was to learn stories of a reader and a non-reader. Portfolios were

submitted three times during the course at staggered times accompanied by a "Dear Jane" letter in which students evaluated themselves. Jane responded with a letter to the student. Over several repetitions of the course, Jane concluded that learning doesn't travel in a straight, gradually ascending line; learners need as much choice as possible to find the best way to grow and show that growth to others; teachers should have control over several literacies and set up their classrooms accordingly; the challenge is to find worthwhile learning experiences; and keeping personal portfolios gives cues as to how portfolios, with self-evaluation at the core, can become a part of classrooms.

In each of these cases, portfolio assessment moved nearer to the inside-out end of Stowell and Tierney's (1995) continuum. The teacher shifted control to the learner and through that process became a learner of learning. The process then superseded the product and meaning was constructed by the shared learning. The purpose for assessment was that of inquiry or finding out - not keeping track or checking up. Student empowerment actually became an instrument for instructional improvement.

Effects of Portfolio Assessment

Across the various perspectives on the continuum identified by Stowell and Tierney (1995), commonalties exist. Personal reflection appears to be the aspect that brings greatest reward to students and teachers (Camp & Levine, 1991). Additionally, portfolio assessment provides an important

source for program development; it is a powerful form of faculty

development (Condon & Hamp-Lyons, 1991). Certainly, portfolio assessment

is a process, not a panacea. The underlying questions are global:

- How do we define learning?
- Where does learning take place?
- How do we recognize learning?
- How do we report instances of learning? (Hebert, 1992, p. 58)

If educational reform cries out for new kinds of learning, we must

seek out assessment practices that will be a factor in changing the entire

system (Hill, 1992). There are many way to report instances of learning.

Which will increase student learning and enhance teacher expertise? Which

will reshape teaching/learning transactions within a climate of inquiry? It

appears that learner-centered portfolio assessment may match those

conditions.

Literacy

Literacy development as a core endeavor in all schools is worthy of

investigation, particularly when considering reform that will enhance

student learning. Though variations in definitions of literacy exist, "the

ability to read and write, and to reason effectively about what one reads or

writes" (International Reading Association [IRA], 1992 , p.6) may capture the

essence. The mere ability to decipher written text is no longer sufficient

(Applebee, Langer, & Mullis, 1987; Heath, 1991; McLane & McNamee, 1990; Pearson, 1989; Willensky, 1990).

Teachers are caught in the midst of debate over pedagogical implications of theoretical positions. They are constantly challenged to establish conditions that support literacy learning, to match teaching practices with changing expectations, and to seek meaningful ways to assess and interpret student learning.

Theories of Reading and Writing

The IRA (1992) standards recommended that reading professionals examine their beliefs about the nature and purposes of literacy and implications for teaching. The Standards asserted that "these beliefs should be based on a comprehensive, interactive, social-constructivist model of the reading process rather than on an understanding of specific approaches or methods" (p. 12). Numerous experts have developed theories and/or models of reading and writing. The components of speaking, listening, and viewing are so closely interwoven with reading and writing that it is difficult, if not impossible, to address any dimension in absolute isolation (Harste et al., 1984).

An examination of the beliefs of a few notable experts in the field will provide a point of reference for ways in which individual teacher beliefs might evolve. Rosenblatt (1978) offers a comprehensive theory that unites reading and writing. Flower and Hayes (1981) explain the thinking processes

that support writing; Nystrand (1989) extends that perspective by addressing social aspects of writing. They do not, however, address early acquisition so essential to elementary school teachers and children. Rumelhart (1985) and Clay (1979b) offer insights into that critical stage. Hansen, Newkirk, and Graves (1985) embed both reading and writing into the context of language systems refuting qualitative differences in strategies of beginning and experienced language users. A comparison helps to make sense of the differing propositions and offers organizing patterns to enhance understanding of what teachers need to know in order to facilitate and assess literacy learning.

Transactional Theory of Reading and Writing. Rosenblatt's transactional theory of reading and writing draws from an endogenic view of knowledge: that which is constructed in a person's mind ("within") and is subjectively created (Fitzgerald, 1993; Rosenblatt, 1978, 1994). From Rosenblatt's viewpoint, the knower, the knowing, and the known are seen as aspects of one process in which each element conditions and is conditioned by the other in a mutually constituted situation (transaction). Rosenblatt posits that even though language is socially generated, she has observed that it is always individually internalized in transactions with the environment at particular times under particular circumstances. Speakers and listeners and writers and readers have their own linguistic-experiential reservoirs as the

basis for interpretation. Interpretations, or new meanings, are restructurings or extensions of the experiences of language brought to the task.

Rosenblatt's (1994) model describes reading as a transactional relationship between reader and text. The emphasis is on comprehension through the reader who adopts a stance on an efferent (informational) to aesthetic (emotional/interpretive) continuum, develops tentative frameworks for guiding interpretations, creates expectations that influence selection and synthesis of response, and confirms or revises frameworks and expectations. Selective attending is an ongoing process. The transactional model emphasizes the formulation and relation of ideas.

Writing is described as a process which begins with writers facing a blank page drawing solely from their own linguistic capital. As such, past experiences of language provide the material from which the text will be constructed. The writer looks at the page and adds to the text in the light of what has been written, sustaining a continuing to-and-fro, or transactional, process. Since writing is always an event in time, the writer is always transacting with a personal, social and cultural environment.

The writer's awareness of a transactional relationship between the writer's context and that of the potential readers will presumably guide the writer's choices. Writers draw from their personal linguistic reservoir, adopt stances (efferent to aesthetic) that guide selective attention, and build a developing selective purpose. As writing proceeds, writers become the first

readers. This "authorial reading" (Rosenblatt, 1994, p. 1075) is both

expression- and reception-oriented. From an expressive orientation, the

writer reads to check on how new words make sense with the preceding text.

The writer might ask, "Does the work 'feel right'? Is there a match between

what I intend and what's written?" When one writes for oneself alone (to

express or record an experience in a diary or journal or to analyze a situation

or the pros and cons of a decision), expression-oriented authorial reading may

be the only reading component. Usually, though, writing is viewed as part of

a potential transaction with other readers. Thus, at some point, the writer

steps back from the text and reads it through the eyes of potential readers

which Rosenblatt calls reception-oriented authorial reading. And so, the

writer revises and rewrites as the piece develops.

According to Rosenblatt (1994), meaning exists through the writer's

relationship with the text and, in reading, the reader's relationship with the

text. Since writers and readers deal with the text in different contexts

(different times and circumstances) they experience different transactions.

She notes that the closer the linguistic-experiential reservoir of the writer and

reader, the more likely the reader's interpretation will fulfill the writer's

intention. Rosenblatt introduces "warranted assertability," (p. 1078) or

agreement on shared criteria, as a means for deciding upon the acceptability of

alternative interpretations. While Rosenblatt's transactional theory of

reading and writing offers a foundation for understanding that could meet

the IRA (1992) recommendation of a "comprehensive, interactive, social-constructivist model" (p. 12), an examination of other models to supplement her perspective is beneficial.

Cognitive Process Theory of Writing. Flower and Hayes (1981) offer a model of writing that depicts writing as a composite of mental processes employed to solve problems. Writers' efforts are directed to achieving their goals and purposes. Problems arise when discrepancies exist between the desired goals and the text as generated.

Flower and Hayes (1981) posit four key points on which their theory rests:

1. The process of writing is best understood as a set of distinctive thinking processes which writers orchestrate or organize during the act of composing.
2. These processes have a hierarchical, highly embedded organization in which any given process can be embedded within any other.
3. The act of composing itself is a goal-directed thinking process, guided by the writer's own growing network of goals.
4. Writers create their own goals in two key ways: by generating both high-level goals and supporting sub-goals which embody the writer's developing sense of purpose, and then, at times, by changing major goals or even establishing entirely new ones based on what has been learned in the act of writing. (p. 66)

The thinking processes include (1) identification of the rhetorical problem (what the writer wants to say, to whom, and in what way); (2) the writing processes of planning, translating, and reviewing controlled by the writer's own monitoring system; (3) knowledge and procedures stored in

long-term memory; and (4) reactions to and constraints imposed by the text as it is generated.

Planning involves a number of sub-processes: generating ideas, organizing those ideas and making textual decisions, and setting procedural and substantive goals. Translating is the process of putting ideas into visible language. The writer must juggle all the special demands of written English including those that are syntactical and lexical down to those that are motorical tasks of forming letters. Flower and Hayes (1981) note that children and inexperienced writers have fewer and less automatic strategies for utilizing these processes. Thus, they can get bogged down with limited aspects of writing, rather than fluently orchestrating the total writing process. Reviewing includes the subprocesses of evaluating and revising. As writers compose, they monitor their current process and progress determining when to move from one process to the next.

This cognitive processing model utilizes an observer mode of looking at writing which lends itself to an exogenic view of knowledge (from without). The "rule following" behavior of writers is seen as universal, existing across writers in general. There are, however, hints at aspects of an endogenic view of knowledge in that the mind is seen as constructing knowledge.

A comparison of Rosenblatt's (1994) transactional model with Flower and Hayes' (1981) cognitive processing model offers illumination of both (see

Table 1). Flower and Hayes' model invites explicit instruction and offers a

clearer definition of enabling strategies. This blend of theories is powerful in

that it cherishes the whole yet enables instruction in the specifics.

Table 1

Theories of Writing: A Comparison of Rosenblatt with Flower and Hayes

Rosenblatt:	Flower and Hayes:
Linguistic and Experiential Reservoir •residue of past experiences •transacting with personal, social, and cultural environment	Writer's Long-Term Memory •knowledge of topic, audience, and writing plans
Selective Attention/Purpose •tentative focus for choice •need to write •potential readers •guided by writer's stance	The Rhetorical Problem •topic, audience, exigency Planning •generating ideas •organizing •goal setting
Authorial Reading •expression oriented -sense with preceding text -inner gauge of intention •reception oriented -anticipation of potential reader	Text Produced So Far Reviewing •evaluating •revising Translating Monitoring

Social-Interactive Model of Writing. An emphasis on context and the

relationship of writers' to their discourse communities emerges through

Nystrand's (1989) social-interactive model of writing. His model depicts

writers in a social discourse with readers as they mediate their respective interests through the text. Written communication is viewed as a mutual experience. The writer's focus is continuously on the text's potential meaning for the reader. The text itself inherently constrains readers in their interpretations guided by a sense of the writer's purpose. Thus, as the skilled writer writes, a sense of match with the reader's expectations and purposes guides choices related to introduction of new topics, the amount of elaboration or commentary, and the choice of genre. The beginning of any text must establish a mutual frame of reference between writer and reader, a "temporarily shared social reality" or "TSSR" (p.73). That frame of reference will be expanded or modified as the writing proceeds. If the writer fails to successfully elaborate at points in which reciprocity might be threatened, misconstraints, or mismatches between the writer's expression and the reader's comprehension, occur.

Rosenblatt's (1994) transactional model shares an emphasis on the writing-reading relationship with Nystrand's (1989) social-interactive model. Both include social, cultural, and institutional conventions as valuable considerations. They differ, however, in the degree and type of writer-reader relationship. Nystrand's version depicts a "tighter" connection - with meaning dependent on a match between writer's and reader's purpose. "In other words, *meaning in between reader and writer*" (p. 78). Rosenblatt depicts meaning as between writer and text and reader and text. There is an

awareness of the relationship, but matched transactions are not essential. The difference can be expressed graphically as shown in Figure 1.

Nystrand   **Rosenblatt**

W   = Writer
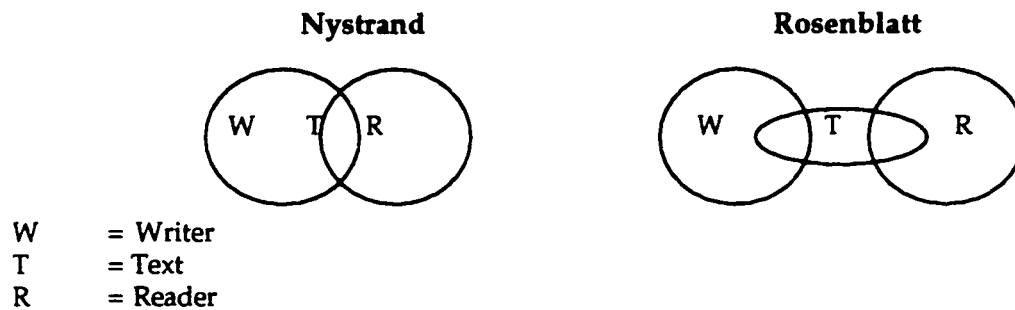T   = Text
R   = Reader

Figure 1. Theories of writing: a comparison of Nystrand and Rosenblatt

Nystrand (1989) and Rosenblatt (1994) both draw from an endogenic view of knowledge: that which is constructed in a person's mind ("within") and is subjectively created (Fitzgerald, 1993). They differ with Nystrand's stronger emphasis on the social dimension: knowledge is uniquely created through the interaction of minds. Therefore, writing is always involved with linking readers and writers and cannot be decontextualized (or stand alone out of the social framework).

Interactive Model of Reading. Rumelhart's (1985) interactive model of reading offers insights into the earliest entry to reading and writing. The interactive view of reading is that of a linear hierarchical process. The reader accesses visual input which is processed using grapho-phonic, syntactical, and semantical information to recognize words and sentences. Levels include processing through the letter, letter cluster, and lexical units as part of word recognition. Attentional resources can be allotted to the knowledge sources

based upon momentary evaluations in either a bottom-up (text to reader) or top-down (reader to text) fashion. The interactive model recognizes that word recognition and context/semantic factors are reciprocal agents. One supports the other and may be tapped simultaneously. Reading is not seen as traveling up or down a one-way street. Instead, it is seen as a two-way street. The model only addresses acquisition of meaning from an informational (or efferent) stance.

Rumelhart's (1985) interactive model emphasizes the mechanical aspects of interpreting print while the transactional model steps over those details and emphasizes the formulation of ideas. The differences between the interactive and transactional views of reading are most vividly defined when one examines the underlying view of knowledge. Clearly, the interactive model draws from an exogenic stance. Knowledge is seen as static and objective ("out there") and is discovered objectively. In reading, the text is to be unlocked by the reader and will be essentially the same to all readers. In contrast, the transactional model draws from an endogenic stance in which knowledge is constructed in a person's mind ("within") and is subjectively created.

Reading as Complex Behavior. Marie Clay's (1979b) theory of reading from which Reading Recovery procedures were developed complements and extends that of Rumelhart (1985). Clay identifies four types of cues, any two of which may be cross-checked to confirm a response. The four types of cue are

(1) sense/meaning (Does it make sense?), (2) visual cues (Does that look

right?), (3) letters/sounds expected (What would you expect to see?), and (4)

structure/grammar (Can we say it that way?). She defines reading as a

message-gaining, problem-solving activity which increases in power and

flexibility the more it is practiced. Her definition states:

> . . .within the directional constraints of the printer's code, language and
> visual perception responses are purposefully directed in some
> integrated way to the problem of extracting meaning from cues in a
> text, in sequence, to yield a meaningful communication, conveying the
> author's specific message. (p. 6)

She compares reading to the old game "Twenty Questions." The smarter

readers ask themselves the most effective questions for reducing uncertainty;

the poorer readers try lots of trivial questions and waste their opportunities to

reduce uncertainty.

Clay draws primarily from an exogenic view of knowledge. Meaning is

held within the text to be interpreted accurately by the reader. It is "out there"

to be discovered by the learner with differing degrees of intervention or direct

instruction by the teacher. Cueing systems exist and are discovered by the

learner through differing degrees of intervention or direct instruction.

Students examine and apply strategies through both print-to-sound and

sound-to-print processes. In other words, students are guided to use reading

to discover the code and to use writing to discover the code.

While aspects of the model appear contradictory to Rosenblatt's (1994), it may be a necessary phase for beginning reading and writing. Certainly, very young writers' authorial reading is restricted to an expression-orientation. Rarely do the youngest writers step back from the text and become reception-oriented. With experience and maturation, more distance and uncertainty can be accommodated.

Reading and Writing in a System of Language. Hansen et al. (1985) present literacy as a socio-psycholinguistic process that cannot be separated into component parts. "From a socio-psycholinguistic perspective, reading and writing do not involve less concern for context than do speaking and listening" (p. 64). Additionally, they contend that there is no compelling evidence that the strategies of young children are qualitatively different from the kinds of decisions made by more experienced language users. The model incorporates three systems of language (semantics [meaning], syntax [grammar], and graphophonics [letter-sound]) within the context of the situation tied together through pragmatics (the social rules of language in a particular context) (p. 202). Shifts to alternative expressions of language and varying roles occur spontaneously and naturally. Language serves to negotiate the knowing (learning language and learning about language), the knower, and the known (learn through language). Obviously, Hansen et al. move back to the endogenic view of knowledge with meaning constructed within a person's mind.

Comparisons. Clearly, one comprehensive model has not been
identified. A strong relationship between writing and reading is consistently
emphasized in each model, but differences exist. Clustering differing theories
and examining them through an organizational lens might be useful.

One framework offered is that of top-down, bottom-up, and interactive
models of reading (Anderson & Pearson, 1984; Juel, 1991; Samuels & Kamil,
1984). Top-down models place an emphasis on the reader, with meaning
mediated through general world knowledge and contextual information
from the passage. The reader forms hypotheses of what will be read and
confirms or modifies them by minimally sampling the visual information of
the text. Reading is then a predictive process. Reading and writing as a
system of language (Hansen et al., 1985) could be associated with this
grouping.

Bottom-up models rely heavily on graphic features and phonemic
understanding to explain reading. The basic sequence is from features, to
letters, to spelling patterns, to visual and phonological word representations,
to word and word group meanings. Though they vary in degree, the theories
examined in this review of the literature generally fall into a third group, the
interactive models. To some extent, readers are assumed to be drawing from
both top-down and bottom-up information before settling on an
interpretation of the text.

Another organizational lens is that of research perspective (McCarthey & Raphael, 1992). Three major strands include cognitive information processing, naturalist, and social-constructivist. The theories examined in this review of the literature represent all three perspectives. Some theories even draw from more than one perspective.

When applied to literacy, the cognitive information processing perspective suggests that reading and writing are stable across contexts and can be described in terms of their underlying knowledge structures. Clearly, the cognitive process theory of writing (Flower & Hayes, 1981) and interactive model of reading (Rumelhart, 1985) match this perspective. Clay's (1979b) emphasis on processes and cueing systems also fits with this strand. But, the developmental nature of the theory also ties it to the second strand, the naturalist perspective.

The naturalist perspective focuses on individuals' innate cognitive structures which have been characterized in terms of language ability (McCarthey & Raphael, 1992). This perspective suggests that the development of reading and writing rests with the acquisition of oral language. Language learning is seen as moving from whole to part with written and oral language sharing the same basic characteristics. The child gradually differentiates and integrates the life-world through his/her own activity. Reading and writing as a system of language presented by Hansen et al. (1985) falls into this category as does the widely referenced "whole language" approach promoted

by Goodman (1986). The social nature of language acquisition also offers some resemblance to the next strand.

The third strand, the social-constructivist perspective, focuses on knowledge as a social artifact that is constructed by the interactions of individuals within society (McCarthey & Raphael). The social nature of knowledge differs from a reality structured by the individual (naturalist) and an objective reality (information processing). Social constructivism views reading and writing as connected through their uses within the culture. The social-interactive model of writing (Nystrand, 1989) is a natural fit with this perspective. Also, the transactional theory of reading and writing (Rosenblatt, 1978, 1994) might be included even though the individual is a prominent entity.

Faced with the complexity of literacy development, teachers may well choose to leave theory to the experts. They let others "who know" prescribe how to teach and assess literacy learning. Reliance on materials and methods packaged for classroom use and standardized measures for evaluation of learning progress then becomes routine.

Teaching and Learning

Rather than singling out a particular theory, philosophy, or set of instructional materials, the teachers' role should be to effectively establish instructional environments and practices responsive to the learning needs of their students (Duffy, 1992; IRA 1992; McCarthy & Raphael, 1992; Tierney,

1992). Such instructional decision-making requires an understanding of commonalties that exist across models.

Naturalist and social-constructivist strands rest on the premise that children and adults should be immersed in a print-rich environment that incorporates reflective discussion. For example, Rosenblatt's (1978, 1994) transactional theory of reading and writing speaks to the creation of environments and activities in which students freely and regularly write and read. Teaching would be a constructive facilitation of discussions about reading and writing. Writers would share pieces completed, or in process, with peers in partnerships or as part of group discussion. Rosenblatt would emphasize the building of the students' linguistic and experiential reservoir and development of insights concerning transactions with texts. The interchanges would serve to illuminate the writer's use of selective purpose and attention and foster growth in both expression-oriented and reception-oriented authorial reading. An emphasis on use and meaning, or getting things done, would be central to reading and writing in a system of language theory (Hansen et al., 1985).

Routman (1991) cited Holdaway's 1986 description of the ways children acquire oral language as a model that could be used for all language learning. It would apply to both the naturalist and social-constructivist strands. The conditions Holdaway found to be common all over the world in learning

spoken language are incorporated in the following summary offered by

Routman:

1. Observations of "demonstration" - . . . The child observes
    competent adults who are admired as genuine users of
    literacy. . . . the learner is a spectator with no pressure to
    perform.
2. Participation - . . . The child is invited to participate and
    collaborate because of a need and interest in mastering a
    particular skill. . . the "expert" welcomes the "novice" while
    explaining, instructing, and demonstrating what to do.
3. Role playing or practice - The learner practices the skill
    without direction or observation by the demonstrator. . . the
    critical trial and error period when the learner. . . to engages in
    the literacy act and attempts to self-regulate, self-control, and
    self-direct his own learning.
4. Performance -. . . The learner. . . voluntarily becomes the
    demonstrator and the model or teacher becomes the audience. . .
    (pp. 9-10)

Immersion in a literate environment is not sufficient for all young

learners (Beck & Juel, 1992; Chall, 1983). Many children require more adult

intervention to build a bridge between oral language and print. Clay (1979a,

1979b) would suggest explicit instruction in the mechanics of writing and

reading including phonemic patterns, graphic cues, and contextual

implications. The interactive model of reading would utilize direct

instruction in phonemic patterns and strategies for word recognition and

comprehension primarily at the sentence/paragraph level. Pre-reading

activities might include vocabulary study as well as building of background

knowledge. Directed reading would be incorporated into the teaching

practices. Although both models require instruction that directs the reader's attention to the text, the emphasis would differ. Information processing strands would also include instruction in comprehension strategies, particularly that of prediction (McCarthy & Raphael, 1992). Instruction would include the explicit talk of "thinking aloud" or "modeling" (IRA, 1992, p. 21).

Though Flower and Hayes (1981) don't offer a thorough explanation of how one might acquire various aspects of writing, it is possible to make reasonable inferences as to instructional practices that would be consistent with the model. One would anticipate that instruction would include many opportunities to generate writing for a variety of purposes. The teacher would model strategies and "think aloud" components of information processing. Individual conferences would include "think aloud" protocols generated by the writer. The classroom writer's workshop would be supplemented with mini-lessons that would directly teach various aspects of the composing process. Knowledge pulled out of the context of the other elements of writing (decomposition) and strategies and skills taught in and of themselves would be seen as necessary.

Teaching practices consistent with current models of literacy conflict with traditional assessment practice, policies, and decision-making procedures (Pearson & Valencia, 1987). That conflict results in an erosion of teachers' perceptions of their prerogatives as professional educators. The call for mutually supportive instruction, assessment, and decision-making

processes places responsibility with the teacher and, thereby, calls for capable, self-renewing teachers.

Dimensions of Literacy

Paris et al. (1992) sought to provide a framework to be used as benchmarks in portfolio assessment. They identified dimensions and attributes of literacy as a part of their work with the Kamehameha Elementary Education Program (KEEP). In addition, performance indicators for each dimension and attribute of literacy were established. Their framework offered a view of literacy that they described as "interactive, social, constructive, metacognitive, motivated, and integrated with functional language uses" (p. 92). The critical dimensions and attributes of literacy incorporate the various theories and models presented in this review of the literature and are consistent with the IRA (1992) standards (see Appendix A).

Specific descriptors for low and high performances were provided to the teachers. Thus, teachers were given what they needed to know in order to facilitate and assess learning more effectively. The goal was to establish standards for student accomplishment in order to change teaching practices (Au, 1994). The consultants, or outside experts, took the lead in selecting portfolio assessment for implementation because it could be more closely tied to instruction than the more traditional standardized tests that had been used. It was found that the most serious problem was that of understanding.

This example suggests that providing teachers with the "what" and "how" of teaching and assessment isn't enough. Somehow, the beliefs and understanding that reshape teaching/learning transactions must evolve within the teacher. An underlying question remains: How does professional expertise evolve?

Professional Development and Change

Paradoxically, the demands for more thoughtful and intellectually ambitious instruction that surfaced in the 1980s rose up at the time confidence in professionals in general was in decline (Schon, 1983). The very leaders in politics and business who argued "that students must become independent thinkers and enterprising problem solvers" (Cohen & Spillane, 1992, p. 3) were a part of that loss in confidence. Confidence in technological fixes and technical expertise had eroded.

Shannon (1993) identified corresponding trends occurring in the schools of America:

> Following the blueprint of scientific management, educational scientists, teacher educators, and school officials sought to rationalize schooling through centralized planning, analyses of teaching tasks to their elemental parts, detailed directions for teachers on how to follow those plans according to that analysis, and intricate accountability systems for instructional outcome. (p. 10)

School officials had sought to rationalize schooling by controlling teachers'

and students' practices across instructional settings. The high degree of control was sought in order to achieve predictable instructional outcomes.

Similar decisions about reading instruction had taken place in the early part of the century. Instead of educating teachers so that they could make informed decisions to meet new demands, higher authorities had chosen to supply the goals, texts, instructional directives, practices, and tests in order to ensure that standard, scientific instruction would occur in all classrooms. The popularization of standardized tests and public reporting of results compounded the situation. Effects on teachers included feelings of anxiety, shame, loss of esteem, and alienation (M. L. Smith, 1991).

Indeed, teachers have become both the subject and objects of change (Sikes, 1992). D. K. Cohen and Spillane (1992) charge that ". . . recent reforms demand a depth and sophistication in teachers' grasp of academic subjects that is far beyond most public school teachers" (p. 30). They add that teachers will have to adopt more constructivist views of knowledge and change their roles to that of coaches or facilitators who are able to manage very complex ideas under "rapid fire" conditions (p. 31). The focus quite naturally turns to teacher learning both in and out of the school setting and factors that affect that learning.

Teachers as Learners

Teacher understanding of what is to be learned and how it is to be taught are key elements for consideration. Shulman (1987) identified three

bases of teachers' knowledge as curriculum knowledge, content knowledge, and pedagogical content-area knowledge. Teachers link who the learner is and how he or she learns to the subject matter to be learned. It has been found that teachers who possess extensive and coherent knowledge structures respond more effectively during instruction (Roehler et al., 1990). The continuing acquisition of knowledge and understandings, or teacher development, is in itself a subject for study and needs to be "conceptualized much more thoroughly" (Fullan & Hargreaves, 1992, p. 6). That broad field includes consideration of teachers learning through teaching, through action research, through collaboration, and as part of a learning community.

Schon's (1983) work on professional knowledge and reflection-in-action includes insights into the opportunity for teachers to learn through teaching. Schon began with the assumption that there are spontaneous, intuitive aspects of everyday life that do not draw from explicit explanations. That "knowing-in-action" is a "tacit" knowing. Likewise, practitioners know more that they can say, a kind of "knowing-in-practice" (p. *viii*). Learning by doing suggests that people can think about doing something while doing it. When a surprise arises, people may respond by reflecting-in-action to figure it out and adjust. Similarly, a professional practitioner develops a repertoire of expectations, images, and techniques. Practitioners reflect on their knowing-in-practice when not actually engaged, but they also reflect on practice while

they are in the midst of it. Then, they are reflecting-in-practice and, in the process, become researchers.

> An artful teacher sees a child's difficulty in learning to read not as a defect in the child but as a defect "of his own instruction." So he must find a way of explaining what is bothering the pupil. He must do a piece of experimental research, then and there, in the classroom. And because the child's difficulties may be unique, the teacher cannot assume that his repertoire of explanations will suffice, even though they are "at the tongue's end." He must be ready to invent new methods and must "endeavor to develop in himself the ability of discovering them." (Schon, p. 66)

The role of reflection is evident in assumptions about how adults in general, and teachers specifically, learn and grow (Jalongo, 1991). The assumptions include (1) moving toward self-direction, (2) tapping into experiences and reflecting upon them, (3) desiring to fulfill social roles, (4) seeking immediacy of application, and (5) preferring problem-centered information. Those assumptions portray the teacher as a continuous learner and connect learning through reflection-in-action with learning through action research. Kincheloe (1991) cited Freire and Shor in arguing that teachers must research their own students in order to understand what they know, their goals, and the texture of their worlds (p. 22). Through action research, the practitioner learns to think more precisely and conceptually.

To some extent, action inquiry, which relies on ongoing assessment, is conducted in the every day life of schools. It allows for the simultaneous development of understanding and action (Llorens, 1994; Reason, 1994).

Teachers are encouraged to think of themselves as researchers and of school as a place for inquiry (Holland, Clift, Veal, Johnson, & McCarthy, 1992). To be successful, the procedures must promote and respond to a teachers "voice" (Llorens, p. 8). The goals include seeking (1) to improve the knowledge base for educational theory; (2) to enhance personal fulfillment; (3) to increase the empowerment and professionalism of teaching; (4) to refine teaching practice specific to a certain teacher; and (5) to achieve social, economic, and political justice.

Action research can be solo, or it can be part of a collaborative process through which the teacher learns (Stoll, 1992). Collaboration might include clusters of teachers by grade level or interdisciplinary teams; teachers and administrators within a site; clusters of both across sites; or teachers and university researchers (Glickman et al., 1995; Holland et al., 1992). The benefit may extend beyond the actual engagement to the broader notion of moving teachers from a sense of isolation to a sense of control and responsibility for changes they themselves initiate (Brandt, 1989). When considering dimensions and stages of teacher development, the highest levels move beyond classroom responsibilities to professional expertise that contributes both to the growth of colleagues' expertise and to a broad array of educational decisions within and beyond the school site (Leithwood, 1992).

Clearly, support of professional development extends beyond mere access to other professionals (Lange & Burroughs-Lange, 1994). It includes the

way the act of seeking support is characterized within the school setting. A supportive school culture would be one in which the staff is encouraged to consciously reflect on their own practices, to share ideas about their instruction, and to try out new techniques or new roles in their own classroom. The difference rests with whether the focus is that of control or that of inquiry (Jalongo, 1991). The attitude of inquiry embraces the notion that "every school day presents an opportunity to learn, not only on the part of the student, but also on the part of the teacher" (Galindo, 1989, p.55). Teacher development should involve teachers in creating opportunities to learn, not simply remediating deficiencies (Bell & Gilbert, 1994; Lange & Burroughs-Lange, 1994) for themselves as well as for their students.

Joyce et al. (1993) describe *The Self-Renewing School* as a model for teacher learning as part of such a learning community. The premise of the model is that all adults renew themselves in the service of improving the education of the young. The centrality of student learning drives the purpose of all activities. The collegiality that develops among educators as they engage in that process becomes a means to the end.

> If the organization recreates itself into a healthy learning community where working together, studying together, and growing together has been planned into the system as a way of life, working in schools becomes synonymous with lifelong learning. (p. 23)

Even though "school" is stated in the title, the emphasis is not bottom-up versus top-down perspective. Rather than "whether", the process is founded on "together." In this climate, educators as learners and children as learners can be intertwined with assessment, learning, and teaching working together in a dynamic and recursive role increasing both teacher and student expertise.

Studies on learning through such complex interactions are limited. A meta-analysis of nearly 200 research studies noted that most studies of staff development, or teacher learning, have dealt with relatively simple teaching skills and behaviors (Showers, Joyce, & Bennett, 1987). The cognitive aspects of teaching have been, for the most part, overlooked. It appears that it is simpler to train people to learn a behavioral skill, than to educate people in more intellectually demanding processes like deciding whether and when to use that skill.

Teachers and Change

Even with a move toward the ideal of renewal through inquiry and away from a compensatory or deficit view of teacher development, there are times when imposed or top-down initiatives will continue to be desirable (Fullan, 1994; Sikes, 1992). Rather than "either/or" one should think "both/and" (Fullan, p. 191). Regardless of the source, change takes time and varies from individual to individual (DuFour, 1991; Fullan; Glickman et al., 1995).

Hall and Hord (1987) look at change through The Concerns-Based Adoption Model (CBAM) drawn directly from a framework originally proposed in 1973 by Hall, Wallace, and Dossett. The central message is that change can take place in humane and understanding ways. CBAM identifies three dimensions to be used for diagnosis of change: (1) stages of concern (how teachers or others perceive an innovation and how they feel about it ranging from "self" to "task" to "impact" concerns), (2) levels of use (what the teacher is doing or not doing in relation to the innovation ranging from non-use to renewal), and (3) innovative configurations (address the innovation itself identifying the operational form or components of the innovation). The assumption is that individuals adapt to change in different ways and at different rates (Glickman et al., 1995).

The recognition that dramatic variations exist among people offers a caution to researchers studying changes in teaching practices. Educational change as a learning experience will evolve unevenly (Glickman et al., 1995). Variations among individuals will occur and provisions must be made for understanding the effect on changing beliefs and understanding during the process of implementation.

Principals and Change

Just as teachers create the conditions for student learning, principals are responsible for creating conditions for their staffs' continuous learning and improvement. The emphasis is on understanding teacher interests, attitudes,

and skills so that support activities (staff development, coaching, provision of materials) can be directly related to what teachers perceive they need (not the needs perceived by others) (Goldring & Rallis, 1993; Hall & Hord, 1987; McCall, 1994). The principal is on-site, is knowledgeable about and in touch with the setting and context, is the center of communication lines, controls resources, and has the power base to make a difference. "For better or for worse, principals are in the pivotal position in school improvement" (DuFour, 1991, p.9).

School improvement involves the enabling of individuals to improve their effectiveness. Programs and procedures do not bring about change - people do (DuFour, 1991). With that focus, the principal's role becomes that of enabling teachers to learn through teaching, through action research, through collaboration, and as part of a learning community.

The principal is involved in supervision when supporting improved classroom and school instruction (DuFour, 1991; Glickman et al., 1995). Clinical supervision offers help to teachers in becoming more proficient as they refine their teaching skills and strategies. The goal is not to rate or evaluate, but to help teachers develop an analytical approach to teaching that will enable them to monitor and self-assess their effectiveness.

Principals can influence teacher learning through action research in much the same way as they provide direct assistance to teachers (Glickman et al., 1995). Whether conducted individually, as a small group, or as an entire

school, assistance is given as needed to facilitate problem identification, planning for data collection, organizing and presenting data, and, finally, analyzing and interpreting the data in light of the stated goals and objectives. Through the action research cycle, the principal facilitates reflections about teaching, fosters experimentation, gives teachers opportunities to assume new roles, and helps to close the gap between research and practice (DuFour, 1991).

When principals actively seek ways to overcome the teacher isolation that poses such a formidable barrier to collaboration, teacher learning is increased (DuFour, 1991). The value of peer contacts and professional interaction cannot be overlooked (Goldring & Rallis, 1993). Principals should seeks ways to ". . . create resources and networks so that teachers have time and opportunities to connect and build collegial relationships, and have the support necessary to enact their decisions" (p. 51).

By employing specific practices to motivate, engage, and encourage teachers, principals help to create dynamic schools. These schools are learning communities that take charge of change: they seize opportunities to improve themselves (Goldring & Rallis, 1993). Teachers adopt practices that increase their own and their students' knowledge and status.

Summary

In summary, the literature reviewed on each of the four topics makes several salient points. It is widely assumed that testing and assessment directly influence teaching practices. The role of testing and assessment has changed through the course of history. The emphasis on externally mandated standardized testing has come under scrutiny with many calling for changes. More recently, internally generated assessments have been identified as compatible with constructivist views of learning. That change places teachers, and sometimes even the students, at the center of interpretation and translations of findings. Assessments tasks are then used for self-analysis and inquiry rather than for reinforcement or control.

Portfolio assessment emphasizes instructional improvement (teaching practices) and student empowerment (reflections on learning). Studies of portfolio assessment implemented at various sites show that methods for collection of portfolio items range from total student selection to highly regimented formats. Core issues center on who interprets, for what audience, and with what standards and degree of consistency and comparability. Inside-out, or learner-centered portfolio assessment incorporates reflection as a tool for student self-assessment. The resulting change in student/teacher transactions may actually become an instrument for instructional improvement.

When assessment is internally generated and the teacher serves as the interpreter, confidence in the teacher's professional knowledge becomes essential. Since literacy development is considered a core endeavor in all schools, instruction and assessment is widely studied and debated. An examination of several theories and models of reading and writing illustrates the complexities facing teachers as they seek to assess and facilitate literacy learning. Paris et al. (1992) identified dimensions and attributes of literacy that incorporate critical aspects of the various theories and models reviewed.

Ongoing professional development is essential for teachers who are faced with increasing demands for reform, complex learning processes, an uncertain role in testing and assessment, and a call for greater autonomy. Teachers learn through reflection on teaching, through action research, through collaboration, and as part of a learning community. Change takes time and varies from individual to individual. The Concerns-Based Adoption Model (CBAM) offers of framework for diagnosing and supporting innovation. Principals support improved classroom and school instruction through a supervisory role. Establishment of dynamic schools as learning communities supports professional growth and enhances teacher expertise.

Much has been written about the influence of testing and assessment on teaching practices and student learning. Little has been learned about the effect on teacher and student beliefs and understandings. What actually takes place as learner-centered portfolios are created and interpreted when teachers

and students have ownership of the process? One might expect that as implementation progresses, conceptions of literacy development will increase in complexity and shift toward an emphasis on the readers' and writers' engagement with text. Portfolio artifacts will show evidence of that view of literacy. Reflections on learning and the process of learning will become an integral part of teaching/learning transactions.

CHAPTER III

METHODOLOGY

Overview

This study was a single-site exploratory case study of the beliefs and understanding of literacy learning held by teachers and students as they implemented learner-centered portfolio assessment. Case study methodology was the choice since it most closely matched the nature of the research questions which were primarily "how" and "why" concerning teaching and learning in a real-life setting (Denzin & Lincoln, 1994; Stake, 1995; Yin, 1994). The case was a school implementing portfolio assessment school-wide, including preschool through fifth grade students with the entire staff involved in investigating ways to assess student growth through the use of artifacts collected over time and across all dimensions of learning.

The strategies of interviewing, observing, and document analysis that are generally associated with case study were used to gather data (Denzin & Lincoln, 1994; Stake, 1978, 1985, 1994, 1995; Yin, 1994). Selected teachers and students were interviewed at successive intervals with a semi-structured format. With permission, audio tapes of the interviews were analyzed to examine actual language and to note categories, patterns, themes, and outliers. Classroom observations were scheduled between observations and

were focused on aspects jointly identified by teachers and researcher. The researcher kept a log of activities, impressions, and questions as they emerged. Documents collected in portfolios were examined and records of staff activities related to portfolio assessment were maintained. In addition, concept maps created by teachers and students were analyzed and interpreted by both the researcher and participants as a means to identifying possible changes in beliefs and understandings through the course of the study (Beyerbach, 1986, 1988; Markham & Mintzes, 1994; Mergendoller & Sacks, 1994; Morine-Dershimer et al., 1992; Roehler et al., 1990; Strahan, 1989).

Case Study

Case study is both the process of learning about the case, or "bounded system," and the product of that learning (Stake, 1994). Different researchers have different purposes for studying cases. Stake identifies three types: intrinsic case study, instrumental case study, and collective case study. With intrinsic case study, the case itself is of interest, not because it represents other cases or because it illustrates a particular trait or problem. When a study, such as this one, is conducted to provide insight into an issue or a refinement of theory, it is considered instrumental in nature. The case is examined in depth because this helps to pursue the external interest. The choice of the case is made because it is expected to advance understanding of that interest. Collective (multisite or multiple-case) case study includes a number of cases jointly to inquire into a phenomenon, population, or general condition.

Cases selected may or may not be known in advance to manifest the common

characteristic but are chosen because it is believed that understanding them

will lead to better understanding or theorizing.

From a different perspective, Yin (1994) defines case study through its

scope and technical characteristics:

1. *A case study is an empirical inquiry that*
   - investigates a contemporary phenomenon within its real-life context, especially when
   - the boundaries between phenomenon and context are not clearly evident.
2. *The case study inquiry*
   - copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result
   - relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result
   - benefits from the prior development of theoretical propositions to guide data collection and analysis. (p. 13)

Yin (1994) suggests that the selection of the most advantageous research

strategy rests with three conditions: (a) the type of research question, (b) the

extent of the investigator's control over actual behavioral events, and (c) the

degree of focus on contemporary, as opposed to historical, events. Case study

is selected when the research questions are "how" and "why", the

investigator lacks control over behavioral events, and the focus is

contemporary.

Selection of the case, or unit of analysis, is central to case study (Stake, 1978, 1985, 1994, 1995; Yin, 1994). A case might be an individual, an entity, an event, a program, a responsibility, a collection, or any other bounded system of interest. In this study, the school was the bounded system.

Case studies have been about varying topics such as decisions about programs, about the implementation process, and about organizational change. Considerations of many dimensions of the context of a case and issues of interest bring definition to the study. The case is singular, but has subsections that may even become embedded cases studies. The researcher chooses issues to organize the study - to accentuate one task or another. The issues used to organize the study may or may not be the ones finally reported (Stake, 1994).

The researcher decides how much and how long the complexities of the case should be studied (Stake, 1994). With intrinsic studies, the researcher attends primarily to emic issues - meanings held within the case that emerge. In contrast, with instrumental case study, the researcher is drawn primarily to etic, or previously held, issues while staying alert to emic issues that might arise (Stake, 1978, 1985). Tension between the issues and the case is ongoing. Initial issues may be modified, or even replaced as the study progresses (Stake, 1995).

Clearly, the role of the researcher is critical to the quality of the study. Skills that foster success include the ability to ask good questions and interpret

the answers; the ability to be a good listener and not be trapped by one's own ideologies or preconceptions; and the ability to be adaptable and flexible so that newly encountered situations can be seen as opportunities. The researcher must have a firm grasp of the issues being studied, stay unbiased by preconceived notions, and remain sensitive to contradictory evidence (Yin, 1994).

Data Collection. Choices must be made throughout the study. The primary concern will be the opportunity to learn. Typically, evidence may come from six sources: documents, archival records, interviews, direct observation, participant-observation, and physical artifacts (Yin, 1994). Benefits from all sources of evidence are maximized by following three principles: (a) using multiple sources of evidence, (b) creating a case study database, and (c) maintaining a chain of evidence. Multiple sources of evidence allow for triangulation resulting from converging lines of inquiry. Records and tabulations assist with classification and pattern recognition as well as "crisscrossed" reflection (Stake, 1994, p. 242). With a clear chain of evidence, the external observer can trace steps from conclusion back to initial research questions and from questions to conclusions (Yin, 1994).

Data analysis and reporting. Data collection results in the amassing of a great quantity of field notes (Miles & Huberman, 1984). Data reduction begins to occur with the very creation of a conceptual framework and the research

questions. It continues with selection of data collection approaches, site,

subjects, and on and on.

More formally data reduction takes place as part of data analysis and

display (Miles & Huberman, 1984). Analyzing data and telling the story move

to the forefront as the study nears conclusion. Techniques used for reducing

the data into a report should result in a report that would be similar to what

another researcher might write. The process includes holding the

phenomenon up to serious inspection:

1. Locate within the personal experience, or self-story, key phrases and
   statements that speak directly to the phenomenon in question.
2. Interpret the meanings of these phrases as an informed reader.
3. Obtain the participants' interpretation of these findings, if possible.
4. Inspect these meanings for what they reveal about the essential,
   recurring features of the phenomenon being studied.
5. Offer a tentative statement or definition of the phenomenon in
   terms of the essential recurring features identified in Step 4.
   (Janesick, 1994, p. 215)

Again, the researcher's own style of rigorous thinking, along with the

sufficient presentation of evidence are critical to the quality of the case study

(Yin, 1994). Four dominant analytic techniques may be used: pattern-

matching (comparison of an empirically based pattern with a predicted one),

explanation-building (explanation by stipulating a set of causal links -

comparing findings against an initial proposition and revising through a

series of iterations), time-series analysis (match between a trend of data points

and specified trend), and program logic (combination of pattern-matching and

time-series analysis). Regardless of specific techniques utilized, the analysis should incorporate all the evidence, should include all major rival interpretations, should address the most significant aspect of the case study, and should utilize the researchers' prior expert knowledge.

Once again, it is the researcher who decides what is the case's own story, or at least, what will be told. "More will be pursued than was volunteered. Less will be reported than was learned" (Stake, 1994, p. 240). The report should include an elaborate account of how the researcher carried out the study including the researcher's own role. As drafts are created, the researcher must resist the opportunity to advance personal views. When telling the story, vignettes are used to illustrate key issues or moments and are powerful explanatory devices. Negotiating drafts of the report with key actors during the writing is not just a courtesy, it is essential to accuracy and completeness (Stake, 1985). The final draft should maintain a balance between description and interpretation. ". . . Thick description makes thick interpretation possible. Endless description is not useful. . ." (Janesick, 1994, p. 216).

Researcher Participation. The researcher's role is tightly woven into the fabric of case study. While not necessarily so, the researcher often establishes a physical presence during the course of the study. Once that happens, the researcher becomes a participant to some degree (Atkinson & Hammersley, 1994; Feagin, Orum, & Sjoberg, 1991; Yin, 1994). Terms drawn

from ethnography can apply to case study: complete observer, observer as participant, participant as observer, and complete participant. Variations rest with dimensions such as how many participants know of the researcher, how much, and what, is known about the research, what sort of activities the researcher engages in, and whether the researcher adopts the orientation of insider or outsider (Atkinson & Hammersley).

Yin (1994) notes that participant-observation, as took place in this case study, offers opportunities as well as problems. A distinctive opportunity is related to the ability to gain access and trust. Manipulation of minor events, such as calling meetings, becomes possible. A major problem rests with potential biases. Unlike an external observer, the researcher may have to assume positions or advocacy roles contrary to the interests of good scientific practices. The researcher may even "go natural" and become a supporter of the group or organization being studied. Finally, the participant role may actually require too much attention relative to the observer role, thereby limiting rigorous data collection.

Concept Maps

Concept maps have been shown to be useful for tracking conceptual change, differentiating between expert and novice teachers, fostering self-assessment or reflection, and assessing student progress toward instructional goals (Beyerbach, 1986, 1988; Beyerbach & Smith, 1990; Markham & Mintzes, 1994; Mergendoller & Sacks, 1994; Morine-Dershimer et al., 1992; Roehler et

al., 1990; Strahan, 1989). Artiles et al. (1994) documented a connection

between student teachers' cognitive and behavioral domains. Concept maps,

or semantic ordered trees, are graphic representations of how a person thinks

about a particular area, an aspect of particular interest in this study. Beyerbach

(1988) cited Schon in noting that maps can be seen as "tacit frames" (p. 340).

Conceptual development involves increasing differentiation among concepts

and increasing hierarchical organization and integration.

Typically, participants are asked to list terms (and/or select from a

prepared list), organize them into superordinate and subordinate groups, and

display them on paper (sometimes with a computer program). The

researcher may use coding systems to quantitatively analyze the content and

structure of the maps. Some researchers have included qualitative analysis of

the maps and have interviewed participants or reviewed journals or

explanations authored by participants (Beyerbach, 1986, 1988; Beyerbach &

Smith, 1990; Roehler et al., 1990; Strahan, 1989). Qualitative results have been

found to be complementary to those reached through quantitative

techniques. As noted by Beyerbach (1986), qualitative analysis offers "the

richest source of information about content and organization of students'

thinking" (p. 11). Limitations of concept map interpretation include coding of

irrelevant and repeated items resulting in inflated scores; choices for analysis

(for instance counting most frequent vs. least frequent items); inferences by

researchers regarding organization, abstractness, and inclusiveness; and large

central topics eliciting only a small percentage of participants' technical vocabulary.

Methods

This case study explored the effects of learner-centered portfolio assessment on teachers' and students' views of literacy. As an instrumental case study, various issues were considered. Do learning, teaching, and assessing really work together to inform each other in a dynamic and recursive role? Do teachers increase their understanding of literacy development? Do students reflect meaningfully on their own literacy growth? More specifically, the following research questions that guided this study of a setting in which assessment was internally generated:

1. Do teachers' views of literacy change as they use learner-centered portfolios to assess learning? If so, how?

2. Do students' views of literacy change as they use learner-centered portfolios to assess their own learning? If so, how?

3. How do teachers relate learner-centered portfolio assessment to their instructional practices?

4. What interactive outcomes or other understandings emerge as a result of learner-centered portfolio assessment?

A crosswalk of the research questions/issues and data sources as shown in Table 2 offers an overview of the investigation and confirms opportunity for triangulation (O'Sullivan, 1991).

Table 2

Crosswalk of Research Questions and Data Sources

	DATA SOURCES			
RESEARCH QUESTIONS/ISSUES	Interviews	Classroom Observations	Concept Maps	Portfolio Documents
Teachers				
Do teachers' views of literacy change as they use portfolios to assess learning? If so, how?	X		X	X
How do teachers relate portfolio assessment to their instructional practices?	X	X		
Students				
Do students' views of literacy change as they use portfolios to assess their own learning? If so how?	X		X	X
Teachers and Students				
What interactive outcomes or other understandings emerge as a result of learner-centered portfolio assessment?	X	X	X	X

Context

The Downtown School in Winston-Salem was selected for the study because it offered opportunity to explore the research questions and to learn about the related issues (Stake, 1994; Yin, 1994). The unit of study, then, was a school implementing portfolio assessment including teachers and students at the preschool through fifth grade levels. The entire staff was involved in

investigating ways to assess growth in student learning through the collection of artifacts over time and across all dimensions of learning.

Since the school's establishment in 1991-1992, teachers had been collecting work samples for "portfolios." Those collections consisted of items selected by the teachers with little or no use for assessment of learning or instructional planning. At that point, portfolio use fell between Stowell and Tierney's (1995) "top-down / outside-in" and "not used" classifications (p. 86). During the 1994-1995 school year, the staff launched a schoolwide initiative to define and implement portfolio assessment. Definitions of purpose and method were developed (see Appendix B). By year end, students were also involved in selecting items and in generating their own reasons for making the selections. Even though students were more involved, the overall use was still more "top-down / outside-in. At that time, the teachers were struggling with questions of interpretation and determination of "quality."

The staff spent time during summer staff development days reviewing numerous student portfolios. Groups were clustered according to preschool, K-1, 2-3, and 4-5 grade levels to examine portfolios. Time was spent discussing strategies for identifying grade level standards. The staff concluded that as the interpreters, teachers use their knowledge of child development benchmarks and the standards already established in the *NC Standard Course of Study* (see Appendix B). Refining the process for interpreting student portfolios was identified as a priority for the 1994-1995 school year.

Conceptually, this represented a move toward "bottom-up" and "inside-out"

classifications (Stowell & Tierney, 1995, p. 86).

As principal, the researcher had access, entry, and time to spend in the

setting which met criterion generally recommended for site selection

(Janesick, 1994; Stake, 1994). The role was that of participant as observer.

Since the principal's role was of a supervisory nature, not directly involved in

teaching and assessment in the classroom settings, enough distance existed to

maintain the researcher role. The role of principal included contact with all

staff regarding implementation of portfolio assessment. The principal's

supervision included staff development activities and interactions as they

normally occurred in the context of school routines. An outside expert

periodically offered advice regarding strategies to enhance implementation of

the learner-centered portfolio assessment. As the researcher, data collection

was organized in accordance with the research questions. The staff was

informed of the study during the second semester with the assurance that no

activities would be planned solely for the research project and all participants

would remain anonymous. Key informants were given the option of

participating or not. All those selected chose to participate.

Participants

Three teachers and three students in each of their classes were selected

as key informants for data collection in this study. A purposive selection of

one teacher from each grade level cluster (K-1, 2-3, and 4-5) was made based

on experience and longevity at the school, confirmation of use of portfolios, and participation in the summer staff development on portfolio assessment (see Appendix C). The combination of longevity at the school and overall teaching experience was desirable for several reasons. One reason was that those teachers were not likely to feel intimidated by the principal's dual role that was comprised of researcher and principal. Another reason was that those teachers had opportunity to solidify their understandings on literacy instruction over the course of their careers. If changes occurred, it was more likely attributable to the use of portfolio assessment than some new pedagogical insight gained from recent experiences.

The K-1 teacher selected as a key informant had taught for 12 years. The teacher selected from the second and third grade cluster had 28 years experience and was currently teaching second grade. Those two teachers had worked at the school since its creation giving them the opportunity to be fully immersed in the school's philosophy. Since fourth and fifth grades were added as the school expanded, the third teacher selected joined the staff in the third year of the school but had worked in the extended day program during year two. She had taught for 10 years and was currently teaching fifth grade. All three teachers had collected student work in "portfolios" for three or four years. This, however, was their first year to engage students in using portfolios to assess patterns of their learning. In addition, teachers whose concept maps of literacy showed a dramatic change, or a noticeable lack of

change, over the course of the study were interviewed informally and portfolios of selected students in their classes were analyzed. Group interviews were conducted informally during grade level meetings near the end of the year by the researcher and other members of the staff.

Three students were identified by each of the three teachers selected as key informants for the study. The teachers were asked to select students who served as their "benchmarks" for instructional planning. The students represented the upper, mid, and lower levels of accomplishment in each class. All students in those three teacher's classes created concept maps of reading and writing.

The University of North Carolina at Greensboro guidelines for Human Subjects Research were followed. Approval for the study was obtained from Winston-Salem/Forsyth County Schools. The staff was informed of the study.

Data Collection

The strategies of interviewing, observing, and document analysis that are generally associated with case study were used to gather data (Denzin & Lincoln, 1994; Stake, 1978, 1985, 1994, 1995; Yin, 1994). Selected teachers and students were interviewed at successive intervals with a semistructured format that was provided or reviewed prior to the actual interview (see Appendix D). Teachers responded to group interview questions at grade level meetings near the end of the study. Classroom observations were scheduled

between observations using an open-ended narrative (Glickman et al., 1995). The researcher focused on aspects identified by teachers during the interviews (see Appendix E). Following the second observation, questions were submitted to the fifth grade class and students responded in writing. Documents collected in portfolios were examined and records of staff activities related to portfolio assessment were maintained. Near the end of the study, the researcher decided on two additional sources for data collection. A "group interview" protocol was developed for use by the principal, assistant principal, and curriculum coordinator at their regular grade level meetings in order to confirm or reject notions on issues that had begun to emerge. The fifth graders appeared to be a rich source for insights. The researcher left three questions for written response by all the students in the class of the key informant teacher at the conclusion of the second observation. The teacher also spontaneously summarized and submitted the class discussion on topics that had captured her interest. The researcher kept a journal of activities, impressions, and questions as they emerged.

In addition, concept maps created by teachers and students were collected periodically through the course of the study. Teachers were asked to list terms related to literacy, organize them into categories, and display them on paper using a prepared protocol (see Appendix F). Teachers used a similar protocol to direct the student created maps. Student maps used the terms reading and writing (see Appendix F).

Instruments

Semistructured interview protocols were developed by the researcher with advice from an outside expert (Miles & Huberman, 1984). The proposed protocols were piloted with a teacher currently on leave of absence (see Appendix D). Adjustments were then be made prior to use. With permission, interviews were audiotaped.

The first round of teacher interviews focused on (1) exploring levels of use and degree of engagement with students, (2) connections with instructional decisions, (3) review of the three students' portfolios in each class selected by the teachers to serve as key informants, (4) suggestions for protocol for student interviews, and (5) a focus for the researcher's upcoming observation. The second round of interviews focused on (1) reflection on changes in use and significance of portfolios, (2) recommendations to others who might consider portfolio assessment, (3) reflection on the teacher's own and students' concept maps, and (4) a focus for the researcher's upcoming observation.

The first round of student interviews focused on (1) an exploration of students' notions of learning to read and write, (2) a review of the student's own portfolio, (3) notions of portfolio use and purpose, and (4) topics suggested by the teachers. The second round of interviews included (1) a probe of learning to read and write, (2) a query of change in use of portfolios (3) a review of the student's current and past portfolios regarding reading and

writing, (4) recommendations for use of portfolios, (5) reflection on the student's own concept maps, and (6) topics suggested by the teachers.

The observations focused on issues determined by each teacher during the interviews and guided by the original research questions and possible emerging issues (see Appendix E). Observations were scheduled in each class following each of the two scheduled interviews. Notations were made regarding teacher/student and student/student interactions related to literacy instruction. Other evidence noted in classroom displays or materials were recorded. Any evidence of collection of materials for portfolios and reflection or interpretation of growth were recorded.

A "pilot" of concept maps was conducted during the summer staff development days prior to the teachers' review of the existing portfolios. In late October/early November, students in the classes of three teachers who were selected as key informants created maps under the direction of their teachers who were reminded of the summer staff activity and asked to use the topic of reading and writing. Experience gained with those maps was used in developing a protocol for concept maps created during the study. For instance, it became evident that written directions were needed to obtain enough consistency among the maps for analysis. Protocols for directions and a model of a concept map created on another topic were developed (see Appendix F).

Procedures

The second semester was selected for this case study because the passage of time within the school year afforded the opportunity for teachers and students to discover emerging patterns of learning. Early in February (after the intensity surrounding administration of state and local writing tests), all teachers were asked to create concepts maps on literacy. Students in the classes of the three selected teachers were asked to create concept maps of reading and writing at approximately the same time. Interviews of the teachers selected as key informants and students identified by those teachers took place in February. The first round of classroom observations took place in March.

All teachers were asked to create concept maps again in May (before the intensity surrounding the administration of state end-of-grade tests sets in). The second round of interviews of key informants, informal individual interviews, and group grade level interviews took place in May. The final observations also were scheduled in May. One class of fifth graders responded in writing to questions submitted to the class. Portfolios were analyzed in May as they were being finalized as a part of the usual school closing procedures.

Data Analysis and Report

As suggested by Miles and Huberman (1984), write-ups of interviews and observations were completed as soon after the occurrence as possible.

Interviews were audiotaped and transcribed with the permission of the participants so that important points wouldn't be missed. Interview transcripts were read and coded using key words drawn from Paris et. al (1992), Stowell and Tierney (1995), and Hall & Hord, (1987) (see Appendix G). One reading was conducted to identify examples from each of the three theoretical frameworks. After the three successive readings, key word codes were tallied to identify areas of emphasis. Additional readings offered opportunity to consider other aspects that might emerge. Content summary sheets were then completed (see Appendix H). The summaries served as a basis for ongoing analysis. A great deal of time and attention was given to the interviews. Stake (1995) suggested that interviews serve as the "main road to multiple realities" (p. 64) so important to the understanding of a case.

Similar procedures were followed with write-ups of the observations and spreadsheets of portfolio contents using the appropriate key word frameworks. Periodically, a teacher on leave of absence was asked to read a write-up and contact summary sheet to alert the researcher to evidence of bias or selectivity that might be surfacing.

A spreadsheet was created for analysis of concept maps shortly after they were collected in February. Initially, the number of terms and connectors were tabulated. After the concept maps were collected in May, that criteria was deemed inadequate for analysis. The researcher and teacher on leave of absence, who had recently researched uses of concept maps, discussed

attributes of the maps. Jointly, they used a sample of the concept maps to identify criteria that seemed to have meaning for this study. A rubric of evidence of change that focused on map structure and content was developed. The rubric was used to record comments on sense of organization, depth, and types of categories (see Figures 2 and 3). A spreadsheet was then created using counts of major headings, secondary headings, and number of terms.

February concept map by teacher with fewest terms:
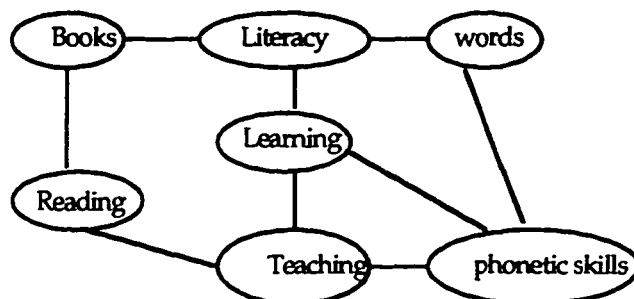
- lacks detail; phonics connects teaching/learning; word list had more terms
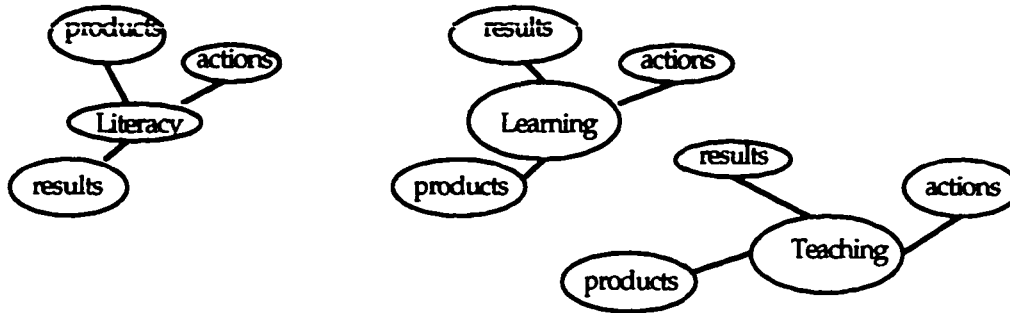 3 major headings - 4 secondary headings - 0 other terms

May concept map by the same teacher:
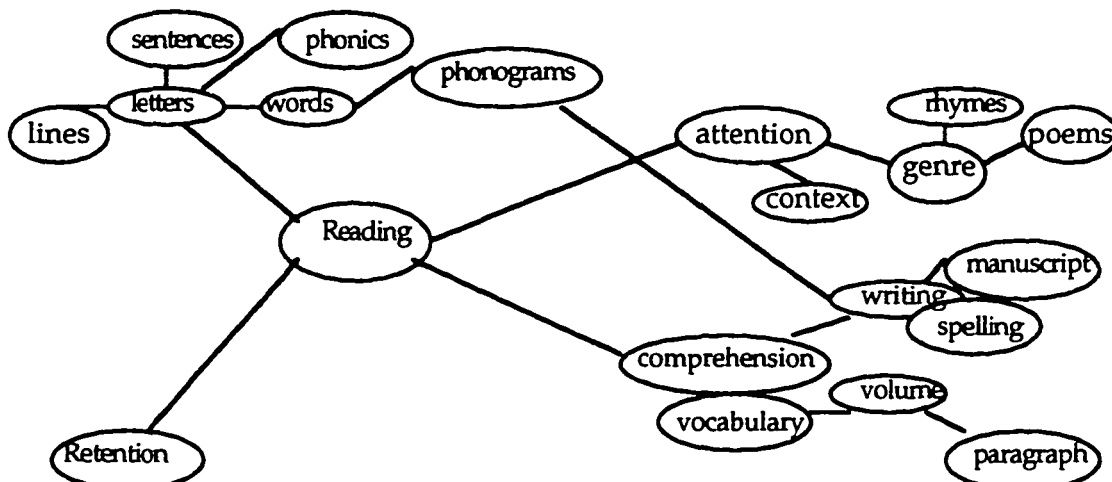
- greater depth and organization; still emphasizes letter/sounds and conventions
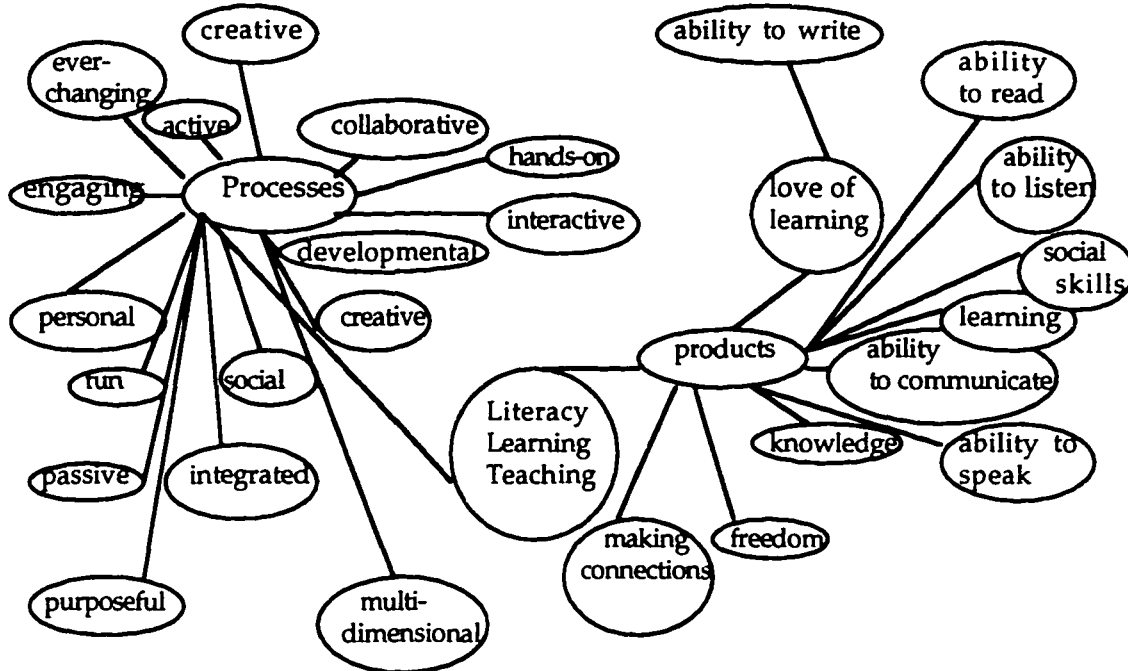 2 major headings - 3 secondary headings - 15 other terms

Figure 2. Comparison of one teacher's February - May concept maps.

February concept map by another teacher with few terms:

- disconnected; lacks detail; word list had many more terms
  3 major headings - 0 secondary headings - 9 other terms

May concept map by the same teacher showing unusual growth:

- three level depth; tentative hierarchies; more organization; capacities; attitudes; connectedness
  1 major heading - 2 secondary headings - 27 other terms

Figure 3. Comparisons of a second teacher's February - May concept maps.

All the February maps were analyzed according to the new criteria. The process was repeated with the May concept maps. Increase evidenced in three of more of the aspects was considered unusual growth; decrease in two or more was considered decline.

The researchers' journal served as a reflective tool for more holistic thinking in search of deeper meaning: "memoing" as described by Miles and Huberman (1984). Contact summaries were reviewed repeatedly for indices of both etic and emic issues. Data analysis utilized preestablished codes and some elements of quantitative techniques to organize the categorical data (Miles & Huberman). Statements and vignettes that illuminated the issues were highlighted for future reference.

Consistent with Yin's (1994) comment that the reporting phase is one of the most difficult to carry out in doing case studies, the written report proved to be a challenge. The traditions of research called for inclusion of quantitative data; the nature of the study did not. "Constructivism helps a case study researcher justify lots of narrative description in the final report" (Stake, 1995, p. 102). A rich description supported by vignettes to enlighten and enhance understanding was sought. Attention was paid to presenting evidence of methodological triangulation. Descriptions related to each of the research questions of this instrumental case study was undertaken. The report was written from a researcher as observer stance to offer opportunity for vicarious experiences that might facilitate the readers' naturalistic

generalizations. Naturalistic generalizations are "conclusions arrived at through personal engagement in life's affairs or by vicarious experiences so well constructed that the person feels as if it happens to themselves" (p. 85). The principal's participant role was described by the "researcher" in the written report. Key informants were invited to review drafts to corroborate or challenge facts and evidence before the written report was finalized.

Summary

Throughout this study, the emphasis was understanding, not explanation. Research questions guided data gathering while expected, unanticipated, and/or contradictory relationships were sought.

> At no point in naturalistic case research are qualitative and quantitative techniques less alike than during analysis. The qualitative researcher concentrates on the instance, trying to pull it apart and put it back together again more meaningfully - analysis and synthesis in direct interpretation" (Stake, 1995, p. 75).

As data were analyzed, patterns were sought as a means for understanding the case. The report was written with attention to future readers - to providing a rich, thick description that would capture the complexities of the case and encourage the reader to make connections with personal experiences, research, and theory. According to Stake, "The reader is a franchised member of the transaction. Readers should be counted on to do their share of the work" (p. 122).

CHAPTER IV

THE CASE STUDY

Mrs. Lewis stood at the front of the class. The students, seated at their desks, were looking directly at her. At first glance, it could have been any day, in any class, at any school. But it wasn't. It was Mrs. Lewis's fifth grade class at The Downtown School and the students were about to look through portfolios of their work collected every year that they attended the school - for the first time!

Mrs. Lewis was asking for suggestions about how they would decide what to send on to middle school and how she might plan for portfolio use the next year with a new class. Not having seen their own portfolios, the students told Mrs. Lewis to be sure next year's students had access to their portfolios.

Without fanfare, Mrs. Lewis thanked them for their suggestions. Students got up and moved to different areas of the room with a sense of purpose. Some hovered together in small clusters, others found their own space. Stacks of papers were pulled out of bulging kraft envelopes.

"Oh, look. I can't believe I did that!" "Look at my drawings. Look at this lady from Spain. I used to draw spirals to do those dresses. I remember. I

drew them over and over." "Look at this journal page. The words are so easy. Look what we used to do." "This theme test was so hard then - but now. It's nothing like what we do now." "These are hilarious." "Oh, my teddy bear's name was Hershey and I spelled it wrong." "The letters are so big here. Now it's small."

Some students were talking to each other, some were talking to themselves. All were preoccupied with memories - reminiscing and assessing. Mrs. Lewis moved among the children, quietly entering their spaces. The spoken words included her; the memories did not. They were owned by the children.

Jessica and Jacob had been in the same classes since first grade. They found a place together without negotiation as though it had been assigned. They showed each other papers and shared their memories. "I can't wait to show my dad. I got 100% and he thought they were wrong - and now I can prove it." The paper was a math worksheet from third grade. Jacob began reading a story to Jessica.

Gary sat on the floor by himself and methodically separated sheets into stacks by subject areas. At times he stopped to comment on a paper. "Gosh, I missed subtracting 73-65 in second grade. Look at when I started doing fractions."

The students were reenacting moments frozen in time through the papers in their portfolios. Mrs. Lewis was a distant audience - a contented critic.

Were Mrs. Lewis and her students learning anything about their learning? This study was conducted to explore that very question - and others. What happened when teachers and students engaged in learner-centered portfolio assessment? Did teachers' and students' views of literacy change as they used learner-centered portfolios to assess learning? Did teachers relate learner-centered portfolio assessment to their instructional practices? What interactive outcomes or other understandings emerged as a result of learner-centered portfolio assessment?

The School

The Downtown School, was created in 1991 through an RJR Nabisco Foundation's *Next Century Schools* grant awarded to Winston-Salem/Forsyth County Schools. Charged to "break the mold," the program design incorporated five essential elements:

- Establishing a school site readily accessible to working families
- Utilizing human resources in innovative ways
    - Parents agreeing to participate in the school an average of an hour per week
    - Class size of 15 students
    - Program enhancements and support services provided by families, business partners, and community resources
- Extending learning into the "real world" of the community

- Emphasizing decision-making by adults and children
- Delivering instruction through experiential, integrated learning

One of the smallest of the 58 schools in the district, The Downtown School has 324 students preschool through fifth grade. As a public school of choice, families are eligible to apply to the school if the parent or guardian lives or works in the Central Urban Area of Winston-Salem. Students' names are drawn by lot from applications submitted by the parents. Demographic analyses show that the school is comprised of a highly diverse population of families from all walks of life and from all parts of the county. A racial balance representative of the community is maintained: 40% African-American and 60% all other races. Approximately 80% of the students are from one- or two-working parent families employed in the downtown area. Although the free/reduced lunch rate of approximately 6% is quite low, many of these families are struggling with "working poor" wages and a shortage of quality family time. Despite those struggles, families are an integral part of everyday life at The Downtown School.

A walk through the center aisle of the main building fills the senses with the din of active learning. About 20,000 square feet of carpeted space houses 180 second through fifth grade students divided only by moveable, fabric covered partitions. Glass windows that overlook from an upper level visually connect the class areas with the office areas. A stage with wide inviting stairs offers midway access to and fro. This renovated basement was

once a farmers' market where trucks pulled in and vendors sold produce, poultry, and a variety of other products. Many a memory was created then, and now.

"Upstairs" houses several businesses and Winston-Salem's *Visitor's Information Center*. An outdoor market adds to the mixture two days a week. From the parking lot, one sees a brick building proudly wearing its 1920s architecture. A covered walkway connects it to another newer building on the other side of the parking area.

The Downtown School Annex was built and opened in 1993, the third year of operation. The school had begun small, as planned, with grades and sections added each year until reaching full-size in the third year. The original site was selected knowing that it would ultimately not be big enough. Fortunately, a move to a new site was avoided with construction of the annex.

Entrance though the annex's double glass doors places one in a spacious carpeted atrium with towering ceilings that draw the eye to a milk glass skylight in the center of the room. Glassed administrative offices are tucked into angles of the atrium. Ahead, the playful, busy learning activities of 3- and 4-year-olds can be seen through ceiling to floor glassed windows. One might wonder what happened to the kindergarten and first graders. They are found behind two sets of wooden double doors. Two clusters of

three classes busily learn in sun-filled areas separated only by cabinets and bookcases. Housekeeping and art areas are shared.

Sharing is not just a physical attribute of the school. Person-to-person engagement is the norm. Children and adults have many choices, except for the choice to do less than their best. Visibility ensures accountability. Yet, formal assessment and evaluation continue to offer a special challenge to this innovative program.

Program Evaluation and Assessment

Traditional measures, such as attendance rate and state mandated testing were monitored very closely from the outset. Having the highest attendance rate in the school system in its first year, the school gave everyone tangible evidence for the hope that this innovative program would work. That first place attendance rate continued each year. The first year's standardized achievement scores were less than remarkable and were quickly labeled "baseline." The second year's scores weren't much better, in fact there were some slight dips. By then, strikingly high soft data from attitude surveys and informal observations offered another ray of hope. The pressure to show strong performance was felt by all. By year three, the staff had cause to celebrate. Standardized test scores jumped up. The scores continued to soar each subsequent year. Parents and teachers looked to them with pride.

Even with evidence of success, the belief that traditional measures don't capture all that the school community values remains. Attendance

rates and state test scores don't tell the whole story. Attitude surveys broaden the picture, but gaps in assessment of student learning persist.

The program emphasis on experiential, integrated learning called for assessments that captured those varied dimensions and maintained a continuous progress perspective. Despite that need, getting the school started and developing day-to-day routines and instructional practices had taken priority over seeking or creating additional assessment instruments. Since the program design had eliminated traditional grades, quarterly reporting of student progress had demanded a great deal of attention. Parent/teacher conferences with a written summary of student progress and goals for the next quarter replaced report cards. Initially, the NC *Standard Course of Study* defined grade level expectations; extensions were drawn from student interests. Beginning with year four, the teachers wrote a bank of goals clustered by emphasis in areas of multiple intelligences. A conference report template was created so that quarterly conference summaries could be more efficiently generated by computer.

During the second year of the school, the staff investigated Outcome-Based Education and its potential to offer an assessment design that would be consistent with the school philosophy. From that endeavor, five performance roles to be accomplished by all students were identified. The notion was that every student would accomplish the performance roles at an

increasingly complex level each year by providing varying levels of support as needed. Rubrics were written to clarify expectations.

Portfolios had been included in the evaluation design from the outset. While program innovations had taken shape, portfolios remained an enigma. Teachers expressed uncertainty about "how to do it" and "how to use it," but they knew that portfolios had been written into the program evaluation design - they didn't know that the outside evaluators never even asked about the portfolios.

Very little supervision or support of portfolio assessment was offered during the first three years. Teachers collected work throughout the year using whatever criteria they decided upon. That work was put in large envelopes at the end of each year (with a bit of grumbling) and passed along for storage in the next teacher's closet. Whether or not that teacher ever looked at the contents was up to the individual.

The teachers regularly expressed uncertainty about what they should collect, why they were even doing portfolios, what they meant, or who even cared. With Principal Cathy Bennett's urging, the staff created definitions of purpose and method consistent with the schools' instructional program:

> PURPOSE: To capture a profile of the individual student's strengths and own pattern of growth
>
> METHOD: Students and teachers select among collected works each quarter adding items to the portfolio that relate to performance roles and various aspects of the curriculum (collect, select, reflect)

By the end of that year, teachers and students selected items for "saving portfolios" using reflection sheets attached to each item and using a *Portfolio Summary Sheet* as an organizer (see Appendix I). The summary sheet utilized aspects of Howard Gardner's Multiple Intelligences as a point of reference for teacher and student reflection. Even though the routines were followed, teachers did not see value in the portfolios.

Teachers wondered how to use portfolios to assess student learning. They wondered silently, openly, and then jointly during staff development days in the summer prior to the 1995-96 school year. The staff sat together looking at student portfolios and reading student comment sheets. They scratched their heads and etched out a framework for guiding interpretation:

> Teachers use their knowledge of child development and curriculum (*NC Standard Course of Study*, The Downtown School performance roles, and student interests) to assess student progress and growth in self-assessment through conferencing, questioning, observing, and examining written materials and artifacts.

That framework identified the teacher as the filter for assessing student learning with the student as an active participant.

Staff Development

Regular staff meetings throughout the fifth year were dedicated to examining written materials and artifacts in portfolios for assessment. Principal Bennett made decisions about the format of those meetings with input from the assistant principal and curriculum coordinator and with

informal input from teachers through routine conversations. Even though the portfolios were to capture all dimensions of learning, the staff development emphasized literacy, a key component of learning, a major part of an elementary school program, and the area teachers were requesting the most help.

Four times during the year, teachers were asked to bring two student portfolios to the meeting. Pairs or small groups would look at and discuss items in the portfolios. They were asked to describe what they saw and what it showed about student learning. Following that partner or small group sharing, each teacher wrote responses to two prompts: (1) list aspects of ___ that indicated growth for the students that you reviewed and (2) describe "at standard" ___ for students in the grade you teach at this time of the year. Sessions in October and in April focused on writing; sessions in January and in May, focused on reading. The written responses were combined by grade level and a copy of was given to every teacher. The first two packets also included attributes selected from various published materials.

A few of the regular staff meetings included topics related to literacy, but not directly to portfolio assessment. A November meeting was dedicated to discussion of the article "Alternative Research Perspectives" (McCarthey & Raphael, 1992). The discussion was primarily focused on an understanding of the authors' main points regarding three prominent theories of learning and literacy development: cognitive/information processing, Piagetian

/naturalist, and social-constructivist. The discussion briefly touched on instructional implications. The staff agreed that most of the teachers draw from each of the three perspectives at different times for varying reasons. Most teachers expressed a stronger preference for one perspective or another, but none argued that any perspective was "right" or "wrong."

In January, the teachers were told that the principal would be conducting a study of the use of portfolio assessment. They were assured that if data were being collected directly for the study, they would know about it. The staff was made aware that informal contacts that were a part of routine operations might be included, but that no names would be used.

In February, teachers were asked to create concepts maps on literacy during one of the regular staff meetings. They were told that though the maps would be used in the study, the maps would also be saved and used the next year as a way of learning about concept maps and possible classroom use. Even though no formal discussion took place, the task may have generated some informal conversation.

Over the years, the teachers had complained that it was difficult to capture the variety of learning activities that were such a major part of the instructional program in a portfolio. They thought that the portfolios were limited to the collection of paper-pencil work products. The use of technology was investigated as a way to expand the dimensions of portfolios. The use of video tapes for collecting a history of student's learning began

during the fourth year of the school. To add yet another dimension, teachers and students were trained in the use of multimedia computers located on moveable carts in each building during January and February of the fifth year. The stations included scanners and Quicktake cameras. Each child was provided with a disk formatted with a portfolio frame created by a teacher using Hyperstudio. The frame replicated the *Portfolio Summary Sheet* already in use. That technology offered opportunity to include variety in the portfolio through inclusion of photographs, artwork, or other items.

Informal comments during the computer training and at grade level meetings indicated that selection, collection, and reflection of portfolio items was taking place, but without much conversation about interpretation. To encourage more dialogue between teachers and students and teachers and teachers, questions to be used during portfolio conferences were provided. Questions included (1) How is your portfolio going? How do you know? (2) What are you finding out about your learning? How do you know? and (3) What suggestions do you have to improve your portfolio? How do you know? Biweekly grade level meetings were occasionally dedicated to sharing of a student conference by designated teachers using the following format:

1. Student's comments about his/her portfolio (When you talked together in a portfolio conference. . .).
2. This is how I see this student's learning/motivation.
3. How can I use this information to plan instruction for this child?

The year closed with continued use of the *Portfolio Summary Sheet* and plans for increased use of the computer to capture a broader range of samples of learning and to reduce the portfolio "bulk." Clearly, a great deal of time and energy had been put toward the development of portfolio assessment.

Dimensions of Use

At the end of the fifth school year, the level of portfolio use varied greatly from teacher to teacher - concerns ranged from "self" to "task" to "impact". Most of the teachers haphazardly collected student work and executed the end-of-the-year ritual by adding items to envelopes with the uniform slips and summary sheets attached. One or two were engaged in systematic performance of the tasks with much frustration and little reward. Yet, six or seven had embraced not only the process of collection, selection, and reflection for creating portfolios, they and their students were actively engaged in finding meaning through that process. Comments made during grade level meetings near the end of the school year captured the wide range of concerns about and use of portfolios. Concerns expressed by teachers ranged from "self" to "task" to "impact." A few teachers admitted to non-use; many talked about day-to-day tasks indicating mechanical use; others indicated that use had become routine; and just a few teachers discussed variations to increase impact on students:

I don't have time to do portfolio conferences. I did it once at the end of the second quarter. *Fourth Grade Teacher*

Portfolios also can be used to evaluate the teacher. If someone is looking at my portfolios, they get an impression of me as a teacher. *Fourth Grade Teacher*

It's something that I can see I have to make time for or it won't get done. It's too easy to set it aside on the cabinet for when I get around to it, but don't. *Second Grade Teacher*

Next year I may try a folder for each area to make sure something gets in for each area. I'm not always sure I'm getting everything in there. This year I didn't. *Third Grade Teacher*

I don't know if we need guidelines. You get all this stuff. The difficult thing is to try to figure out how to put it into a portfolio and to get variety. I think I'm hitting on three of the intelligences. *Third Grade Teacher*

I think a few years ago teachers were making selections. Before, I was just grabbing it, I really did - after school, on weekends, the children never even saw what I put in. Now my children will come up to me. "I like this. Can I put it in my portfolio?" That's encouraging, too. They offer it. *K-1 Teacher*

Those brief comments paralleled those made by the three teachers who had been selected as key informants for this study. Interviews and classroom observations were conducted to gain deeper insight into possible changes in their use and understanding of portfolio assessment through the course of the second semester. One teacher from each grade level cluster (K-1, 2-3, and 4-5) was selected based on experience and longevity at the school, confirmation of portfolio usage, and participation in the summer staff development on portfolio assessment.

Jennifer Lewis, a fifth grade teacher with 10 years experience,
summarized how her attitude about portfolios had changed.

> When I came to this school and we talked about portfolios, I went
> "Yuck - I don't do this thing." As I become more comfortable a little bit
> at a time, that has changed, and I wonder how much. Now, next year I
> have all these plans in my mind about what I'm going to do. The kids
> write and I talk with them. How should we do these portfolios?
> Should we have a set time? I'm going to have a station. I'm not going
> to cram this in all at one time. I am most proud of the fact that I think I
> have learned something about portfolios. I'll be honest with you, I had
> a very negative feeling toward these things. I really feel better about
> them.

Vanessa Bryan, a 12-year veteran and K-1 teacher at The Downtown
School since it opened, echoed Lewis's comments. She took pride in talking
with children this year and having them really think about what a portfolio
means. She had them think about the types of things, or the types of work,
that should be put in the portfolios. Bryan plans to start telling children
about portfolios much earlier next year because, honestly, she didn't start with
this soon enough this year. She plans to have the children help her think
about when to share portfolios. She plans to do more sharing at parent
conferences, too. Midyear, Bryan's use of portfolios was fairly stable
procedurally, but by year-end she was actively seeking ways to increase the
impact on her students by basing her decisions on considerations of both
short- and long-term consequences.

Darlene Bowen, another teacher who had helped to open the school, found herself continuing to refine day-to-day use of portfolios. Her 28 years of teaching experience provided her a strong understanding of second grade curriculum and children at that age, but portfolios had been new to her. She described her midyear procedures: "I have an active work file box where all the papers for the week are sent home and then returned except for major tests. I just keep those. And then the children select through those papers twice a quarter and reflect on them and decide what they'd like to include and why. It has led to a file of previous year's portfolios which have not been put out for them to even see as well as a portfolio for the current nine weeks and then that was cleaned out and I had to put the previous quarter's portfolio somewhere - so there's a lot of stuff involved in portfolio collection. I do not get as much reflecting on a daily basis as I need to with them. I have not gotten into a routine."

Much of Mrs. Bowen's efforts were focused on the mechanics of creating the portfolios and her role in that process. She expressed concerns about ways to capture aspects of learning that aren't suited to paper and pencil tasks, particularly in terms of multiple intelligences. Principal Bennett had suggested *I remember when* . . . slips for describing experiences. Those slips could be added to the portfolio collection. Mrs. Bowen decided to try that idea. Then she proposed that Bennett's upcoming observation focus on her use of probing questions during portfolio selection/reflection time. She

wanted to know if everyone was getting adequate support in whatever way they needed in making their selections.

At 9:06 Principal Bennett entered the class area for the scheduled observation. The 15 students were seated with "three kinds of things" on their desks: portfolios, work stacks, and reflection strips. Mrs. Bowen reviewed the process. "Every Thursday we take work home and bring it back. We have many things collected. Right now we're not looking at things, we're listening." Bowen methodically listed each classification found on the year-end *Portfolio Summary Sheet* on the board while students were called on to described examples of work that would match each category. Bowen then reviewed the sections on the new *I remember when. . .* entry slips. One boy enthusiastically remembered when he learned to make pottery at the Sawtooth Center; a girl remember when she dressed up as a book character. Bowen clarified further. "I remember when I learned cursive would not be a good choice. Why?" A student quickly responded, "We have papers to show cursive." "Tell why something is special. Why it is important," Mrs. Bowen reiterated.

After responding to several student questions, children were told that they could select any working space or stay at their desks. They were given a signal to begin at 9:24. All but one moved to alternate work spaces - the carpeted floor, upholstered chairs, tables, etc. Bowen observed children as they made their choices and facilitated the settling in. She then immediately

began individual conferences. "What kind of thing are you looking for?" "What are you looking for?" "Why did you choose that?" "This is a thought process that goes on in your brain and not by talking together." "You're taking a long time to get set up. What kinds of things are you looking for?" "Have you written a slip? Why? What was long? What type of book? What did you have to do? How did you feel?" "Give me a word worth more that a dime. That's unclear." Bowen circulated from child to child questioning and probing for the entire period. Clearly, she felt the need to actively guide the students' selections and probe for deeper thinking on reasons for those selections. Mrs. Bowen initiated the dialogue, not the students.

Near the end of the year, Mrs. Bowen commented that she still found the selection/reflection process a challenge. If asked to give advice to someone starting to use portfolios, she would recommend that they not feel that anybody has all the answers - that we're all still experimenting. She would suggest that they talk with others about what seems to work. "Just talk about it, and the more you talk about it with the children, the more they'll grow in their understanding of what it is all about. Hopefully, they'll be able to see the growth in their own work." Linda, one of her students concurred. She noted that as the year progressed, she had more things to choose from and more different ideas and more reasons why she put items in the portfolio.

All three teachers' involvement with portfolio assessment changed dramatically through the course of the second semester. Midyear found Vanessa Bryan primarily involved with teacher-directed use; by year-end that had shifted to a mostly student-centered portfolio use. Bryan's earlier comments were filled with "I" statements: "I want to have a variety of things for them to choose from later on." "I'm having to really pull it out of those children." "These things I have chosen . . . I'm pulling more of the skills for each child." "I try to put in examples of some of the different types of things we're doing. I don't know whether to put something I've marked - corrected." The intended audience was external - someone other than the child. "I've told them their portfolios would follow them - they would go to the next grade with them and the next teacher would look at it and that would give them a picture of the type of work that they do - the type of work habits that they have - the areas that they're interested in - and those areas they may need some extra help. I tell them, I'll be looking at it, Mrs. Bennett might look at it, or Mrs. Baxter - lots of people will be looking at this. Anytime you're doing work, you always try to do your best because you never know - it could be something you choose or something I choose to put in your portfolio -so when you're doing it, always keep that in mind - somebody will be looking at it - not necessarily me, but somebody." Even though the audience was external, the tone was that of inquiry.

By year-end, that tone of inquiry had become that of shared-inquiry. Mrs. Bryan's comments were now filled with "we" statements: "At some point we will look back through, we can't keep everything - we can't have everything in our portfolio, but what we will do is save some of the things that you like and want to put in your portfolio." "We're talking more. They know when we talk about portfolios that we're talking about something that is really good - quality."

A change in use was evident for Darlene Bowen and Jennifer Lewis as well. Midyear, both were combining portfolio and traditional assessment; by year-end Mrs. Bowen had moved to a combination of teacher-directed and student-centered use while Mrs. Lewis had leap-frogged all the way to student-centered portfolio use.

A shift in perspective also had occurred. At midyear, both were concentrating on "keeping track of" and "checking up on" student learning, an attitude closely aligned with more traditional assessment. Mrs. Lewis summarized that perspective, "The main thing that I've been doing is just collecting work. I have not had my children look through their portfolios, we have not conferenced . . . I was trying to show some type of growth."

By the end of the year, both teachers were trying to see portfolios through their students' eyes. They were seeking to understand. Mrs. Bowen wanted the researcher to ask her students what kinds of pieces were harder for them to decide on when putting things in their portfolio. Mrs. Lewis

expanded on that line of thought, "The child himself is trying to say this is mine, this is me. . . The main thing for you to remember is that these are the children themselves and their future."

It is evident that important changes took place in the way these and other teachers used and viewed portfolios. Portfolios had moved away from a tool for the teacher toward a tool for student self-assessment. Teachers and students were becoming partners in teaching, learning, and assessment. What else was happening while those changes were taking place?

Issues

The effect of portfolio assessment when the teachers and students are placed in the role of expert or evaluator of learning is uncertain, at best. This study sought to explore the effects of learner-centered portfolio assessment on teachers' and students' views of literacy. Did teachers increase their understanding of literacy development? Did students reflect meaningfully on their own literacy growth? Did teachers relate learner-centered portfolio assessment to their instructional practices so that learning, teaching, and assessing really worked together? In addition, did interactive outcomes emerge as a result of learner-centered portfolio assessment?
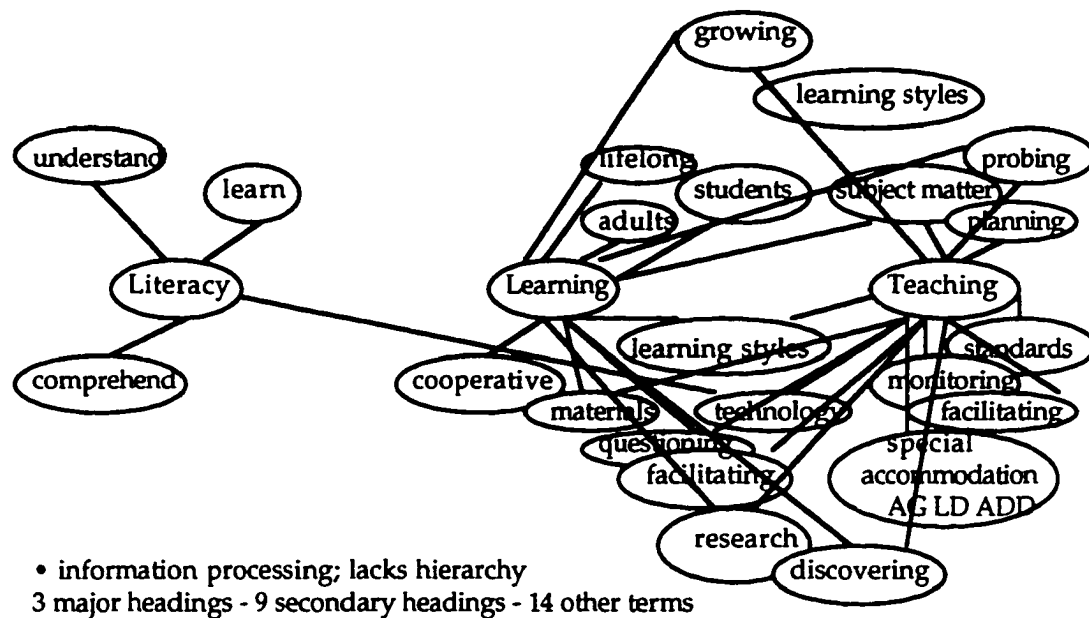
Views of Literacy

Identifying change in views of literacy is not an easy matter. Concept maps offered one way to track conceptual change. Conceptual development

involves increasing differentiation among concepts and increasing hierarchical organization and integration (Beyerbach, 1988). An analysis of teachers' and students' maps did show evidence of change through greater organization, fluency, depth, and the number of secondary headings and terms.

Interviews with the key informants, Mrs. Bryan, Mrs. Bowen, Mrs. Lewis, and three students from each of their classes, offered another way to determine whether change had occurred. The three teachers had each selected a higher performing, middle performing, and lower performing student representing the range of achievement in their classes as key student informants for the study. An analysis of comments made during the interviews also provided evidence of change.

Teachers' Views of Literacy. The concept maps of literacy created by all the teachers in February and again in May displayed more categories and greater organization, fluency, and depth for all teachers except one. An examination of the range found in the number of terms and degree of complexity from least to greatest among concept maps created in February and May offered a glimpse into the degree of that change. Mrs. Bowen noticed the change in her two maps right away. "I have more about literacy - I didn't have categories on the first one - I have elaborated more in every category," she commented without hesitation (see Figure 4).

February concept map:

- information processing; lacks hierarchy
3 major headings - 9 secondary headings - 14 other terms

May concept map:

- three level depth moving to four; hierarchies; information processing; strategies; attitudes; connectedness
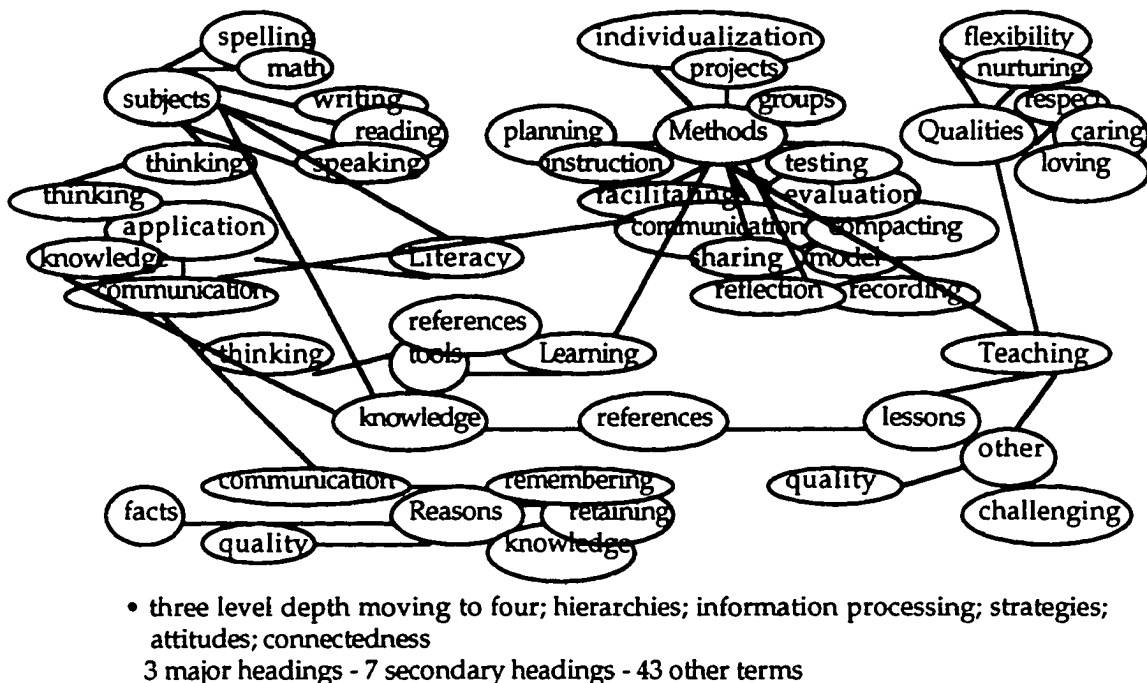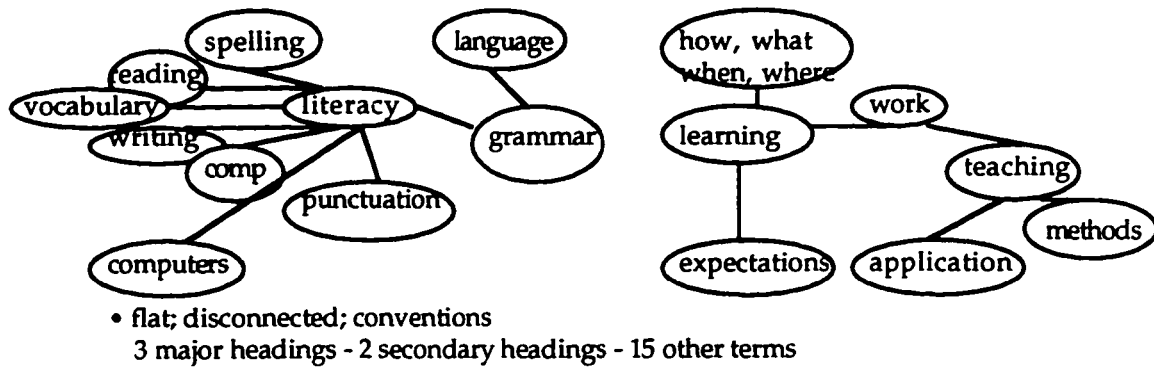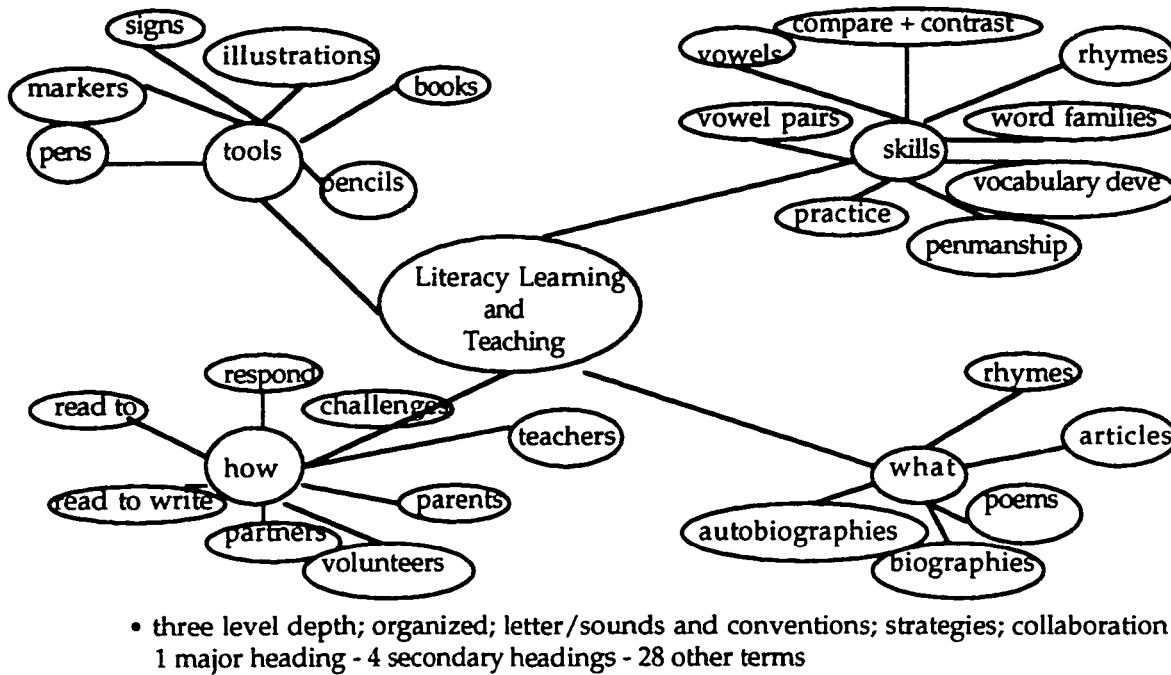3 major headings - 7 secondary headings - 43 other terms

Figure 4. Mrs. Bowen's concept maps.

Certainly, the staff development activities focusing on reading and writing throughout the course of the year might have generated the conceptual change. Interestingly, 6 of the 22 teachers' concept maps stood out as showing far greater change than the others. Of the six, three belonged to Mrs. Bryan, Mrs. Bowen, and Mrs. Lewis, the key informants in the study (see Figures 4 and 5).
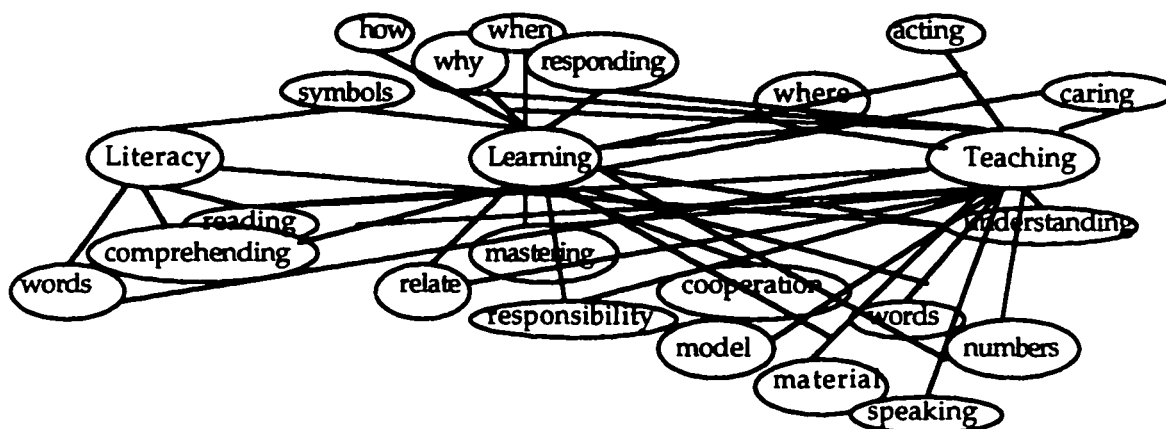
Mrs. Bryan's February concept map:

- flat; disconnected; conventions
  3 major headings - 2 secondary headings - 15 other terms

Mrs. Bryan's May concept map:

- three level depth; organized; letter/sounds and conventions; strategies; collaboration
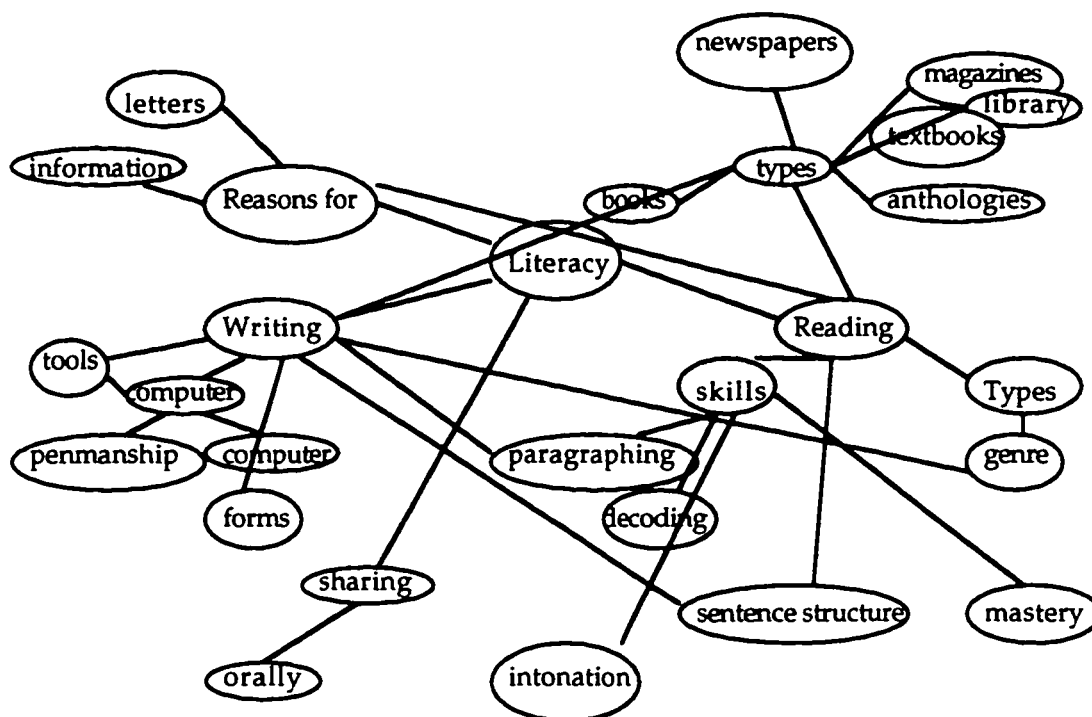 1 major heading - 4 secondary headings - 28 other terms

Mrs. Lewis' February concept map:

- flat, busy; "discovered headings"; objects; actions; conventions; attitudes
  3 major headings - 11 secondary headings - 11 other terms

Mrs. Lewis' May concept map:

- three level depth moving to four; conventions; objects; purpose; collaboration
  1 major heading - 4 secondary headings - 23 other terms

Figure 5. Other key informants' concept maps.

If staff development generated the change, why did six teachers stand out with much greater growth than others?

Mrs. Lewis attributed the change in her maps to practice, "The more you do concept maps, the better you become." For her, you learn by doing. She also thought she gained clarity by watching her students create their maps. "When I got ready to do mine, all I could think about was the words that these little kids had put down. . . . The hardest part for the kids is clustering into categories. I think adults, even the teachers, have a problem with that." Mrs. Bryan also referred to practice. "Now look at mine. The first time I did it I really wasn't sure. The second time I could have taken even more time with it. I had a better understanding of what I was supposed to do. . . . Doing it with the children - I thought about it. The first time I thought, phew! But this time I felt good about it. I thought about what I've asked the children to do. What have I done to help them learn? So I felt better about doing it."

The effect of practice, even combined with learning through staff development, doesn't fully explain the greater evidence of change observed in those six concept maps. All the teachers had experienced the same staff development activities. All of the teachers had created two maps. Of the six teachers who showed outstanding growth, only three had used concept maps with their classes, but all six had also expanded their use of learner-centered portfolio assessment during the course of the study according to self-report or

other documentation collected by the researcher. Several days after

identifying the teacher whose concept map had change perhaps the most, the

researcher was surprised to find out that Mrs. Price had selected portfolio

assessment as her annual goal in her Professional Development Plan (see

Figure 6). Her year-end conference with Principal Bennett was filled with

enthusiasm for portfolio assessment and the ownership her K-1 children had

of the process. She was one of only two teachers who had actually included

the term assessment in their concept maps.

Mrs. Price's February concept map:
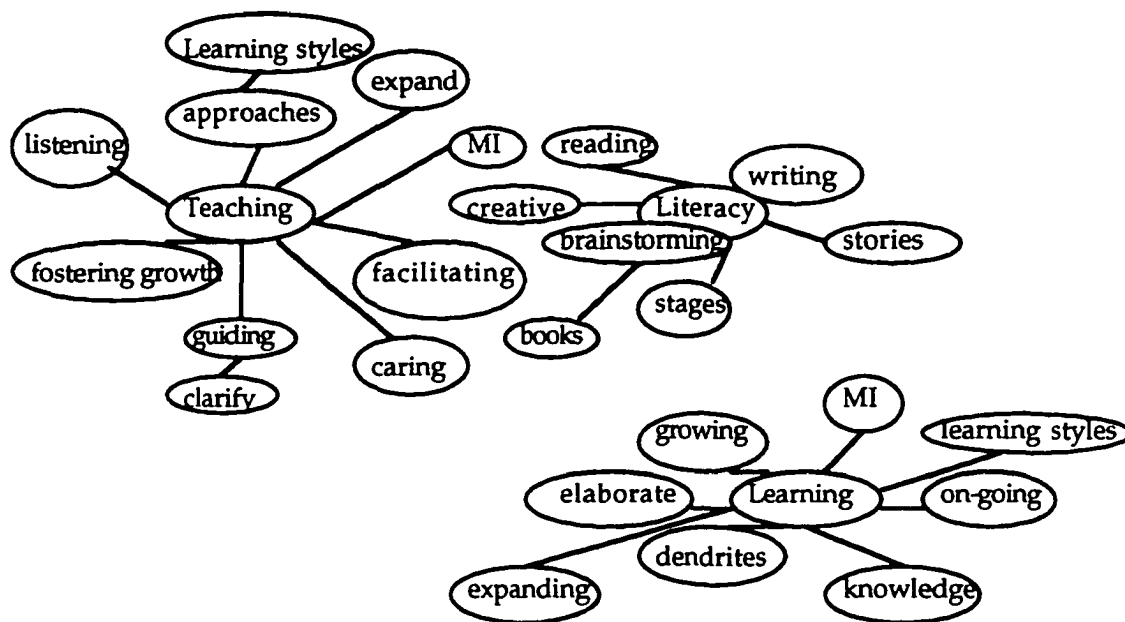
- disconnected; lacks depth; nurturing; facilitating; processes
  3 major headings - 2 secondary headings - 23 other terms

Mrs. Price's May concept map:
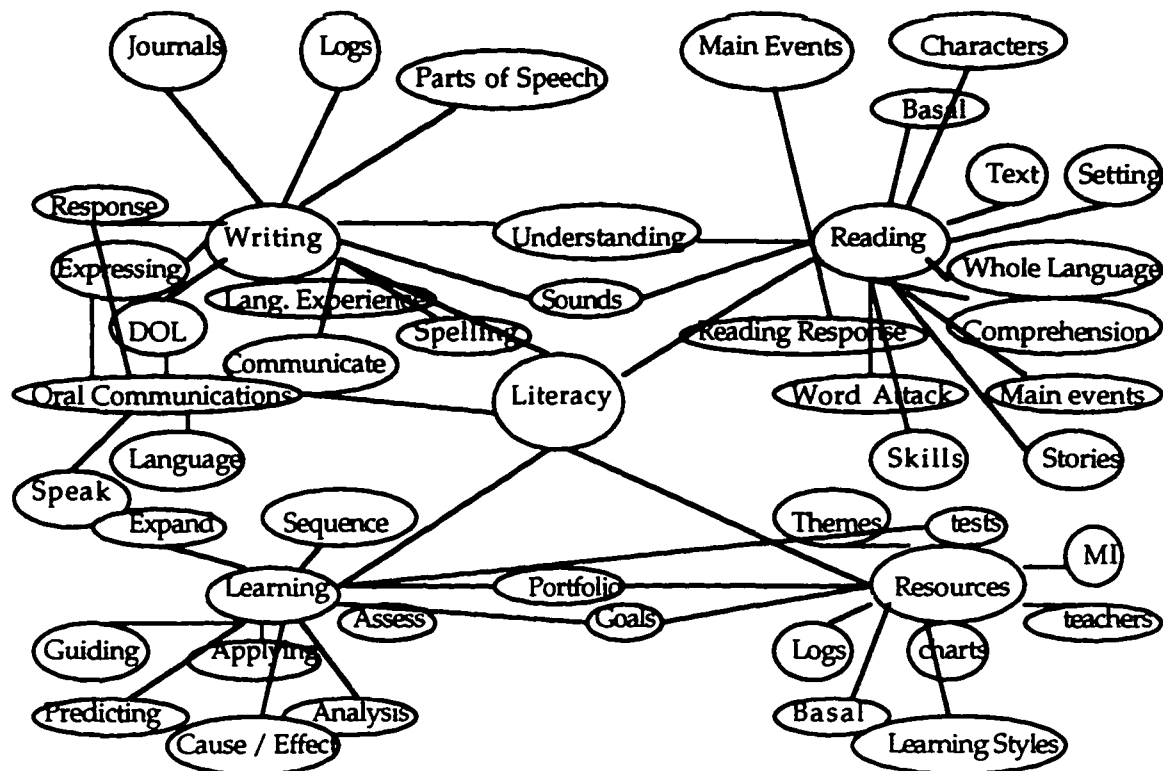
- three to four level depth; embedded; strategies; processes; conventions; assessment; connectedness
  1 major heading - 5 secondary headings - 43 other terms

Figure 6. Mrs. Price's concept maps.

Comments made by Bryan, Bowen, and Lewis during interviews in February offered another window into their views of literacy. All of them mentioned skills and conventions as important aspects of literacy:

> Another thing that they're looking at, because they write quite a bit, is beginning, middle, and ending of stories. And trying to give them something to go by as far as punctuation and things like that. *Bryan*

> Another thing with Patrick and his writing, he's looking at words and looking for patterns - like he'll write and he'll see a pattern. . . . I'm proud of his writing - very neat. *Bryan*

Most of the words Erica could spell. She'd spell on her own. The other words I might say look at a book, these words are in there - but she sounds them out and that's one of the first things she did. *Bryan*

I have my side [of the portfolio] and their side. My side contains the math card, reading tests, reading record conferences, and end of quarter spelling tests - those are the kinds of thing on my side. *Bowen*

Structurally, sentence structure and stuff, she still has some problems with that and I don't know if they'll ever indent a paragraph as much as I tell them over and over and over. *Lewis*

The teachers' comments weren't totally limited to skills and conventions. Mrs. Bryan addressed a holistic or naturalistic view of literacy learning in her suggested focus for the researcher's observation. She asked the researcher to look for opportunities the children had for writing; evidence of writing within the environment; opportunities that children had for reading; and how reading and writing go hand-in-hand. She wanted the observer to "see if it's there." She also wanted the researcher to talk with the children to see how they felt about their reading and writing.

Comments regarding literacy made by the teachers during the second interview were more extensive, varied, and diagnostic in nature. For instance, Mrs. Bryan's statements on her use of portfolios evidenced greater emphasis on engagement with text and the connectedness of reading and writing:

You can work with children one-on-one but you need to have something down. You need their writing. You need to see their thinking. You need to see how whatever you think, you can write.

Writing is important. See what types of things they're interested in so you can provide those types of activities for them. You need to know about their reading. If they can read, if they're not maybe you can pick up on reasons why they're not. Or to help them to become better readers. Sometimes you can see their reading in their portfolios. You can look at their writing sometimes. If the writing doesn't make a lot of sense because there are not a lot of words in a sentence, then you know they're probably not doing a lot of reading and picking up on a lot of words. I think that your writing comes from your reading - whatever you read you can write about. If you are doing a lot of reading, then I think your writing will change.

Mrs. Lewis was certain that her thoughts on literacy had changed. She attributed that change directly to her changes in implementation of portfolio assessment. "I was looking at [portfolios] negatively - and that's changed. So, yes, my thoughts on literacy based on the portfolios has to change. It's a positive change - not a negative - because it could have gone either way."

Students' Views of Literacy. The concept maps on reading and writing created by students in February and again in May also displayed changes. The headings and subheadings were more logically connected. The first and second graders showed an increase in the actual number of terms, although that was not necessarily a factor for fifth graders. As with the teachers' concept maps, an examination of the range from least to greatest in February and May offered insight into the change.

Mrs. Lewis had been surprised by the changes she observed in the concept maps created by her students in February and those created in May. She had marveled at the increase in concepts and complexity. She noticed
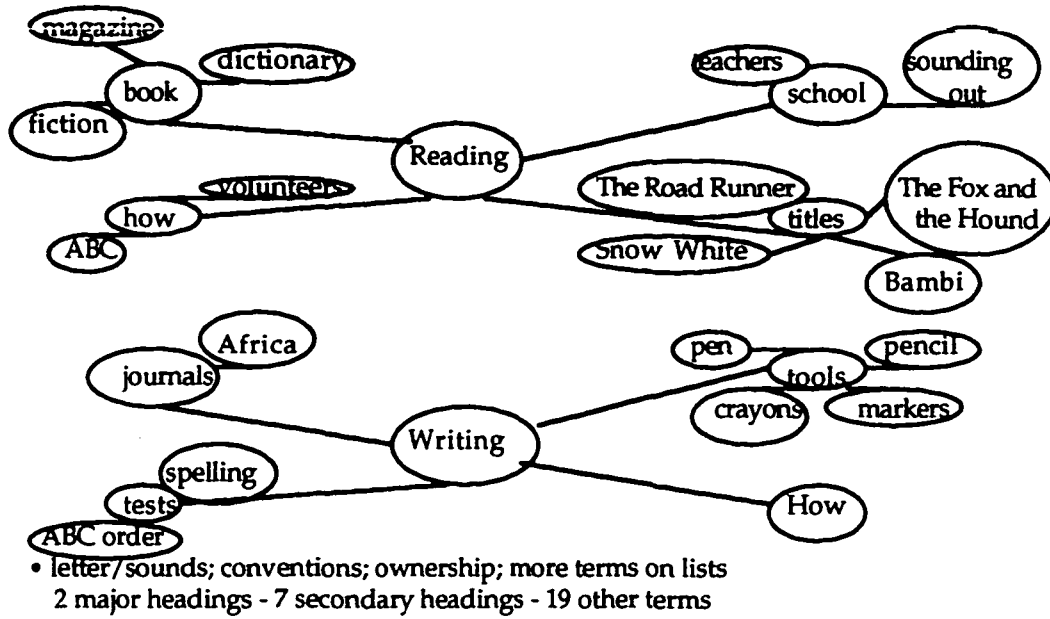
that thinking was deeper and more organized. There were more headings and a better sense of organization. Mrs. Bowen had found the same type of changes: "More that half the categories changed - and there are lots of things under each category - more than the last time."

Mrs. Bryan took her time while analyzing Erica's concept maps:

> She's added more - here when talking about reading. *How* for instance - she's able to think of more ways she's learned how. She really thought about it. She put these things down and was not able to do that the first time she did the web. She had a better understanding of what was asked for her to do. This one - maybe she really does understand about reading and what helps her learn to read. *Fun* - why was it fun? Read about friends, animals. The second time she had a better understanding of what helps her to become a better reader. With the writing, the same thing. The second time she had more words down. I think all of them had a better understanding the second time that we did this."

Mrs. Bryan saw evidence of change in Erica's understanding of reading and writing through her concept maps (see Figure 7). What did Erica say about her own maps? "I put different words in there and I put sometimes some of the same kind of words." As a first grader, that was all she seemed to be able to figure out. As a fifth grader, Salena could describe the differences in her concept maps, "I changed - I guess in here I have larger words than I did here. . . . I had those same kinds of categories - materials, genre, time, and uses. It's more sophisticated. . . . With this I included some more specific things. . . . I have more connections."

Erica's February concept map:

* letter/sounds; conventions; ownership; more terms on lists
  2 major headings - 7 secondary headings - 19 other terms

Erica's May concept map:

* greater depth; organized; letter/sounds and conventions; attitudes; connectedness
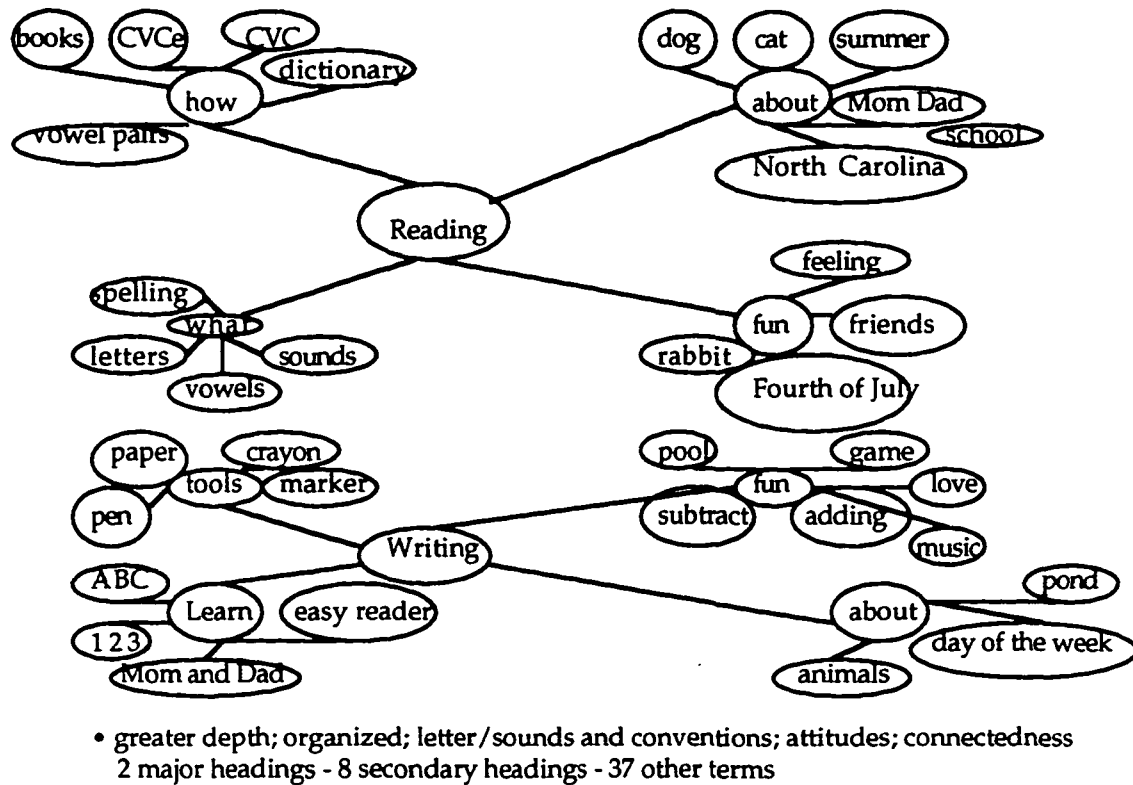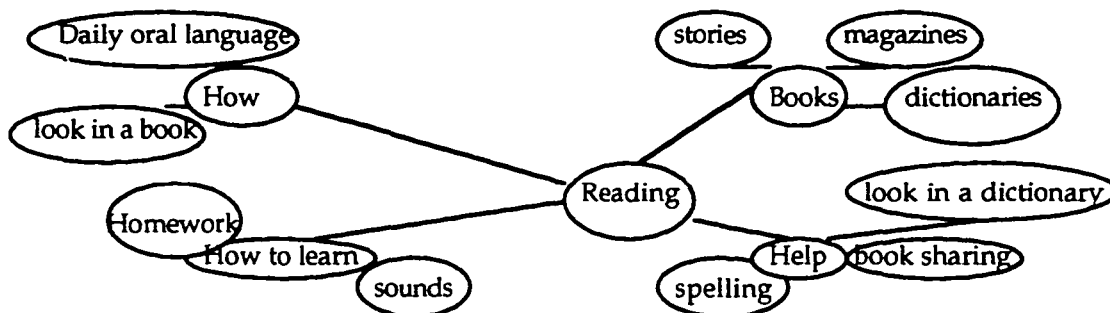 2 major headings - 8 secondary headings - 37 other terms

Figure 7. Erica's concept maps.

A review of all the maps created in all three classes offered the same pattern: more clearly defined categories, more examples for each category, more logical connections. That students' views of literacy change over the course of a school year should be no surprise. After all, one would hope that they are learning. How would one know if the change resulted from engaging in portfolio assessment?

A comparison of key informant first graders' year-end maps with second graders midyear maps revealed that the concept maps of the younger students exceeded those of the older students. The younger students had been engaged in learner-centered portfolio assessment, the older students had not. By the end of the year with a semester of learner-centered portfolio assessment under their belt, the older students' maps jumped ahead rather dramatically. A comparison of the concept map created in May by Patrick, a typically performing first grader, with those created in February and May by Mike, a typically performing second grader, would lead one to conclude that the engagement in learner-centered portfolio assessment did change the students' views of literacy (see Figure 8).
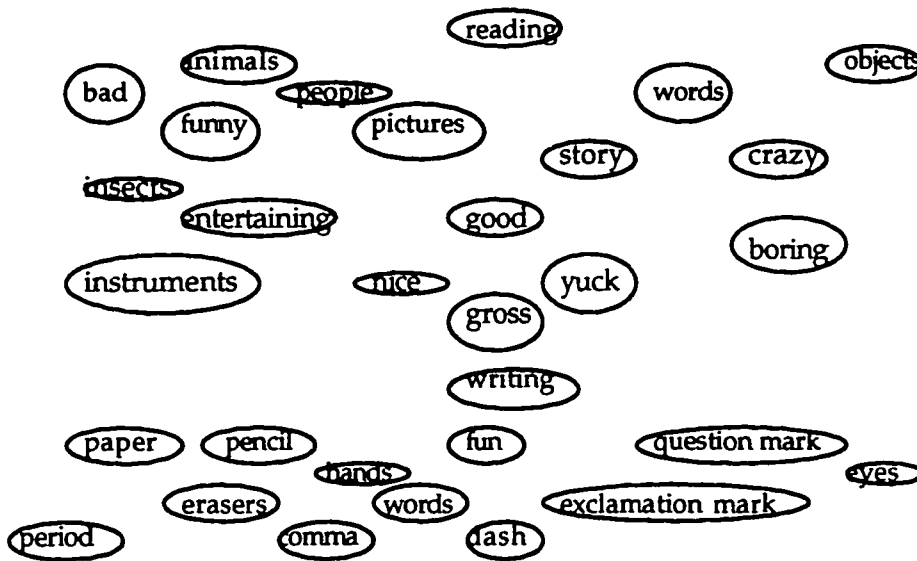
Paul's May concept map:

Paul's May concept map (continued):
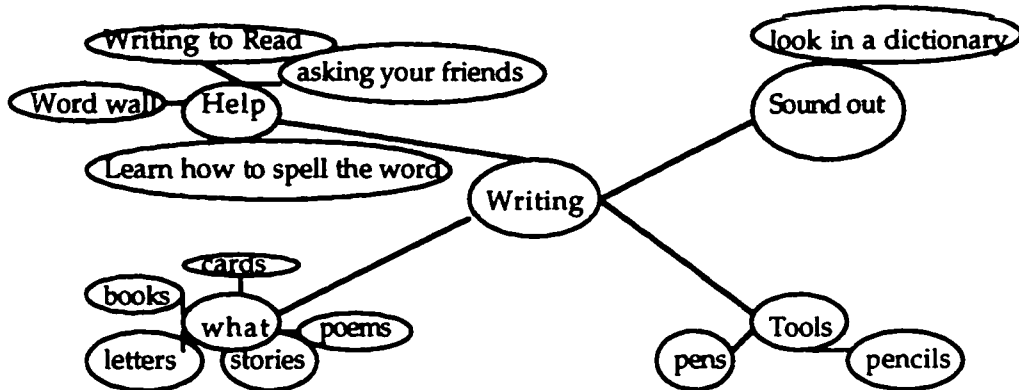
- beginning hierarchies; collaboration; letter/sounds; processes
  2 major headings - 8 secondary headings - 22 other terms

Mike's February concept map:

- disconnected; attitudes; conventions
  2 major headings - 2 secondary headings - 30 other terms

Mike's May concept map:
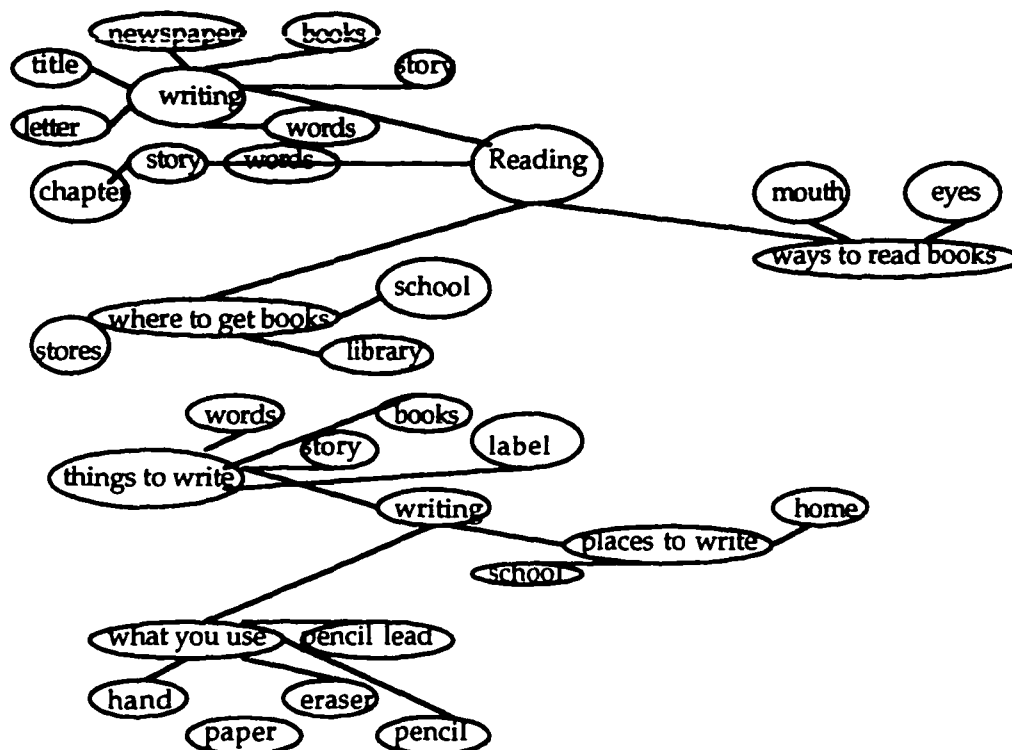
- moving to three level depth; some hierarchies; components; conventions
  2 major headings - 6 secondary headings - 25 other terms

Figure 8. Patrick's and Mike's concept maps.

The interviews with students offered further evidence that views of literacy changed as they engaged in learner-centered portfolio assessment. For example, in March, Patrick stated that people learn to read by looking at the words and they learn to write from the teachers and parents teaching them. What do they teach them? "How to do it." When asked what his portfolio told him about his reading and writing, he responded, "That I read good and that I write good." What makes writing good? "Practice." How do you know its good? "By looking at it lots of times and checking it after you finish."

When asked what he'd learn next, he responded that he would become a better reader and writer - because he already had. A probe of what would be better about his reading and writing finally uncovered a bit of process, "I'll be able to figure out words that I use to not know and I'll know words that I used to not know." A probe of writing fell flat, "It will start looking even better than it looks now." Patrick's sense of audience was external. His response to a query on what he'd learned from putting things in a portfolio was that it would show his second grade teacher what he'd done. He had no idea what Mrs. Bryan, his teacher, did with his portfolio.

By May, Patrick described how his writing had changed. "I did more writing. Lots more. Only 10 on this one and probably 20 or 30 on this one. And it makes sense. I know something else that changed between these two, on this one Mrs. Bryan did all the writing and on this one I did all the writing and I put *proud of* on there." He described how first graders were learning to write, "They have to look in dictionaries. Sometimes they ask their friends to help them with the words - how to spell the words." Later he added that you can sound a word out if you don't know how to spell. He gave an example, "*Looking* - you could say, 'I know how to spell *look* and this sound is *-ing* and you could put it together and get *looking*." The audience for Patrick's portfolio had broadened to his mom, dad, and principal. But, if he had to show it to the whole school, he would be embarrassed. This youngster who had written on his summary sheet that he was number and picture smart

answered a question about what his portfolio would look like in fifth grade very quickly - "Lots of math!"

Erica may not have been clear about the progress she saw in her concept maps, but she was certain about the progress she saw in her portfolio, "Last year I was starting to learn how to read and this year I already know how to read. I learned to write different kinds of words and I know how to spell different kinds of words that I didn't know how to spell when I was in kindergarten." How? "Sounding out words and looking in dictionaries. By practicing reading your words and writing the words."

Over and over students offered evidence of changes in their views of literacy. Some aspects of students' views of literacy, however, remained constant throughout the study and across grade levels. One constant was that there were surprisingly few comments on reading strategies. Another was that the terms writing and handwriting were regularly interchanged. In fact, writing might mean anything written down, math - whatever.

> *Anything you'll learn in order to write better?*
> Well, I'll learn to hold my pencil not so tight and my mother said if I hold my pencil too tight I'll get this knot. And so I'll hold my pencil n-o-o-o-t so tight. *Sheri, grade 2*

> *What do you think you'll learn next (in writing)?*
> To write everything in cursive - to learn my times tables - and math super stars. *Linda, grade 2*

> *What are some of the ways your writing is better?*
> I'm writing neater. *Patrick, grade 1*

*How are second graders learning to read and write here at the end of
the year?*
We write stories a lot and we use a pencil like everyday and that's it.
Mike, grade 2

*What do you think you'll learn next - in second grade about reading
and writing?*
To write in cursive. *Erica, grade 1*

*If we had a piece of writing from your portfolio from another grade,
how would it compare to this?*
It wouldn't be in cursive. *Tabetha, grade 5*

Discussion of teacher's assistance with reflection sheets.
Being sure with categories, for instance with writing, some of them
chose handwriting vs. story writing. *Mrs. Bowen, second grade teacher*

Another view that surfaced consistently throughout the study had to

do with the nature of reading. Reading was also anything you read. Mike

pointed that out quite clearly. When asked about what kinds of things were

hard to find for in his portfolios, Mike had indicated that it was hard to find

something that had to do with graphs - with data. Since the researcher had

not seen evidence of reading related items, Mike was asked to show the

different things in his portfolio that told about his reading. Without

hesitation, Mike pointed to the first sheet, "That." The second sheet, "That."

The third sheet, "That." He proceeded straight through the portfolio

pointing to anything with any type of writing on it. "I read all those."

Practice, effort, and hard work emerged as common traits throughout

the course of the study:

What makes it a great story?
It's a great story because I worked hard on it. *Linda, grade 2*

What helped you to learn to read and write?
Practicing at home. *Jurrell, grade 1*

What suggestions do you have to improve your own portfolio?
Work harder in my writing. *Tabetha, grade 5*

How do you think people learn to read and write?
By practicing reading and writing. That's all. *Erica, grade 1*

What makes writing good?
Practice. *Patrick, grade 1*

How do you think people learn to read and write?
By practicing to write words that they already know. *Salena, grade 5*

And, of course, adults and family members played important roles.

Children repeatedly mentioned their teachers, moms, dads, grandparents, and

brothers and sisters as sources for learning to read and write.

Despite the short time-frame over which this study was conducted,

greater engagement in learner-centered portfolio assessment appeared to

have a positive effect on teachers' and students' views of literacy. Teachers'

and students' views of literacy increased in complexity and shifted toward an

emphasis on readers' and writers' engagement with text.

Assessment and Instruction

Advocates of alternative assessments in general, and portfolio

assessment in particular, insist that measures of student progress should draw

from desired classroom practices and engage teachers in the development of

measures and standards. This study sought to explore whether teachers did relate learner-centered portfolio assessment to their instructional practices.

The answer was short and to the point. When asked if portfolios came to mind when planning for instruction, Mrs. Bowen quickly stated, "No." Passage of time and use of portfolios caused virtually no change. In May, Mrs. Bowen noted, "To be honest with you, I already know by the instruction, selection process and just working with them where their thinking is and where their strengths are and needs for remediation. Portfolio, in that way, doesn't help me. I think its nice that they get to write about what they do."

Mrs. Lewis mirrored some of those responses in her first interview, but did recognize a little benefit from portfolios as a resource. In February, Lewis was describing her use of group work and the difficulty in identifying work products suited to portfolio collection. "I can tell you exactly where my kids are. Well, I mean most teachers can. But it doesn't take a paper for me to do it." By May, she was willing to concede that portfolios were one of the things she used to make instructional decisions. But, "I don't use that as much as I do my instincts." When pressed to identify what she'd be missing without portfolios, she went further: "I think it's comparison - the growth. Even as much as I have in my mind - I can tell you exactly where my kids are, exactly where I think they're going. But when I looked, there were some of the things that I had forgotten and I - it really showed growth. I knew that growth was there - but I didn't really remember how far it had come."

Lewis recognized that review of student progress over time offered diagnostic opportunities. She reviewed samples of writing collected in Salena's portfolio over three years. "So, I can see for her, third grade, really struggling - sentence structure worked hard - great - coming into fourth grade - reminders again - signs of falling back to poor sentence structure - lots of growth - fifth - back to the same pattern again. So there's a pattern. Now that's one of the things I can do with a portfolio."

In May, Mrs. Lewis used another lens for interpretation. "It's remarkable to me the organizational styles. Jessica has structure; Salena has no style; Tabetha has stuff in there but in no order. We could give this to a teacher and the teacher could look at this and say this child is not all that organized. . . . We have a student here who does not follow directions very well. And it's probably going to take one-on-one with this child because I need to make sure they understand the procedures and steps - whether it be in math, science, or whatever."

Mrs. Bryan automatically used the students' portfolios for diagnostic reflection. "Last year Patrick was doing a lot of dictation. I would really have to pull things out of him and he did not like writing last year. He would cry when he would write. I would write it down for him and he would copy it. But this year, Patrick is writing everything down. Sometimes I help him with the spelling, but I also encourage them to go to the dictionary. Now he is going to the dictionary. Before he would come to me and ask how to spell

words. He's using his digraphs, he is asking other people. He really likes writing now. So he is doing his own writing. He is coming up with his own ideas and writing them down. Another thing is his skill. He couldn't get the first letter off the charts. Now he's on the ABC at the third level - doing a wonderful job. He has made a lot of improvement."

Bryan was combining work samples with her recollections of the child. Yet, she repeatedly referenced the next year's teacher as the audience for the portfolio. She did, however, recall the usefulness of Jurrell's portfolio when she received him from another class at the beginning of first grade. "I looked at Jurrell's portfolio and I could tell that Jurrell was good in writing but that was also a way I could challenge him - in his writing. I knew by looking at that portfolio that I could take him further with his writing."

Like Mrs. Lewis, Bryan would miss the opportunity to see growth if she didn't have portfolios. "You wouldn't see how they've grown from the beginning of the year. I can look at their writing and see how they've progressed. At the beginning of the year, two or three sentences - at the middle, longer and thinking about sentences - end of the year, front and back stories with beginning, middle, ending. Story ideas really make sense - real stories - something that somebody else would like to read."

The teachers really didn't think they used portfolios to plan instruction - at least on a day-to-day basis. They did not plan "from portfolios." They did, however, note that at times they planned "for portfolios." More like

traveling down a one way street. Mrs. Bryan described how she planned

activities for the portfolios: "Trying to plan activities that would give them a

variety of areas to choose from since we try to have something from all the

multiple intelligences. Like we're doing Africa - doing something within the

seven intelligences and then giving them the opportunity to choose." Mrs.

Bowen had a similar comment, "I don't plan the lesson according to what

activities may fall into the portfolio, I plan the lesson and then think of a way

to capture it in the portfolio." Student comments made it clear that they had

no idea what their teachers did with their portfolios other than "put things

in" and "put them somewhere" or "give it to next year's teacher" according to

their interview comments. It appeared that teaching and portfolio

assessment were separate.

These teachers did not see a connection between portfolios and day-to-

day instructional decisions. Some benefit was noted when portfolios were

used as a tool for assessing longer term growth or for starting the year with

new students. Those advantages were not strong enough to drive a

comprehensive use of learner-centered portfolio assessment.

Student Self-Assessment

If teacher assessment of student learning occurs naturally through the

interactions of classroom activities without the need for portfolios, what

about student self-assessment? Do portfolios provide a unique learning

opportunity for students, or are classroom activities sufficient for them as well?

The teachers did not readily recognize the potential benefit of student self-assessment. The very fact that virtually no teacher had thought of sharing prior years' portfolios with the students indicated that teachers "owned" the portfolios. They existed for teachers to interpret.

A careful examination of comments made by teachers and students revealed that as teachers listened to students' interpretations of their own portfolios, they began to believe that students could and should assess their own growth. Student comments showed that they readily practiced self-assessment. Written responses to questions posed to fifth graders about the value of portfolio assessment confirmed that notion.

Teacher Perspective. Teachers, particularly those who did not invite student engagement in their own portfolios, doubted student ability to assess learning. A teacher who retained ownership of selection of portfolio items and had held only one set of portfolio conferences summed it up, "Half didn't know what was going on. The other half were more interested in seeing that good stuff, not bad stuff, go in." Other teachers expressed concern over inclusion of only "best work." The teachers seemed to think that self-assessment rested with the selection of a range of performances on isolated tasks, not with an examination of patterns of learning over time. Another frustration for teachers was the lack of student insight into individual work

products. "I keep trying to get them to respond more deeply as to why they want to keep it in the portfolio - they're at a loss for words," worried one third grade teacher. Teachers seemed to think that students should assess work in the same way that a teacher might.

As teachers watched and listened and students assumed more responsibility for selection of the portfolio contents, perceptions began to change. One teacher reported that some students self-assessed when they reviewed their portfolios. That K-1 teacher felt that if students had two or three years of work samples to review, they would be able to see how far they'd come. A third grade teacher commented that students were beginning to put items into their portfolios that represented first experiences with a new endeavor such as long division or cursive writing. They were beginning to have a sense of continuity to learning.

In February, Mrs. Lewis wanted the researcher to ask her students what they were expecting to learn from what they chose for their portfolios, "because I don't think they understand this is a learning tool. It is just another learning tool in my opinion." By May, her interest had deepened. She suggested, "Ask them how they think the portfolios should be used. What do they think their value is. Our value may not be their value."

Assessment in Action. The hesitancy expressed by teachers was erased and not even hinted at by the students. They enthusiastically described their learning as they looked through their portfolios during the first round of

interviews. That initial enthusiasm was actually surpassed during the second interview when the students finally had access to portfolios from prior years.

Though the students assessed their own learning without prompting, the comments during the first interviews tended to be comparative and lacking in specific criteria:

> I knew my ABCs and some words. *Erica, Grade 1*
>
> I've learned more - and I now all these answers now. *Mike, Grade 2*
>
> I've learned that I can write very good - and read very good - and that I can write stories and read long, like chapter, books. *Linda, Grade 2*
>
> I think I could have done a lot better on this one. I missed three and basically they were either careless mistakes or I misunderstood. *Jessica, Grade 5*
>
> I've learned how you are good and how you've improved and what you've done over the years - you can look at - like I missed two - here I only missed one. *Tabetha, Grade 5*

Student comments in May, referenced more specific criteria as they spontaneously assessed their own learning:

> I learned to write different kinds of words last year and I know how to spell different kinds of words that I didn't know how to spell when I was in kindergarten. *Erica, Grade 1*
>
> I have complete sentences and I use punctuation. My spelling has improved. I used to write down stuff that I didn't really think about - I just wrote things down and it didn't make any sense. I know how to describe things better. I know how to write poems. *Salena, Grade 5*
>
> When I look at this I see that I messed up with spelling and everything - but that was how I learned to spell. . . . I think that the books that I'm

reading now have more detail. One of these is like *Pet Day*. Now a book that I might read would be *The Day That My Dog Went to School*. You can tell by the title that they're longer and more sophisticated and serious. These were probably like picture books and now I like to read chapter books without pictures so I can imagine in my head. I think then that I wanted to read more picture books so I could see it. So now it's better for me to be more imaginative. *Jessica, Grade 5*

As students had practice with making selections for and taking part in the assessment of their portfolios, they did begin to see purpose for selecting pieces that were not exemplary. Jessica explained why, "I think that to improve my portfolio, I could add more not so great work and compare it to the better work. I think that would show that I have grown or that I have found out how or that I need work. . . . If I see something in my portfolio and I write on a slip how I learned how to do it - I can use that in the future."

Mrs. Lewis's fifth grade students' written comments affirmed the self-assessment stance and sense of purpose heard during student interviews. After having reviewed their portfolios that had been collected each year at The Downtown School (many since first grade), they wrote responses to three questions: (1) What did you like best about doing this? (2) What did you find out about your learning? and, (3) What recommendations do you have for others in future years? Every student generated a comment addressing self-assessment of learning growth. All statements were positive and encouraged others to engage in the process.

I found that my learning has improved greatly from 2nd - 5th grade in all things. *Dennis*

I found out that if I study, I do better and I can't get away without studying. *Pamela*

I found out that I have the ability to grow in all subjects, even if I am already good at it. *Jessica*

I've learned that there's a reason I've gone to school these past 6 years. *Gary*

I recommend that others pick not only great work, but not-so-great work to show growth in a subject - put in what they have just learned. *Salena*

To always keep a portfolio to remind yourself of you. *Alison*

Self-Efficacy. The written comments made by the fifth graders were permeated with a "can do" attitude. That stance was reiterated repeatedly during student interviews. A sense of confidence in continuous progress, a long-term outlook, and internal control of learning emerged through the course of the study. Comments made on reflection sheets attached to portfolio artifacts by one fifth grade student who was a key informant showed a dramatic shift from an "external" to an "internal" sense of control as classroom engagement with portfolios increased.

Students repeatedly made positive references to their own learning, had an eye on the future, and were confident that they would succeed:

I think I'll learn that I became a better reader and writer - because I have. . . . I'll have different ideas in my writing - I'll probably be a little more creative. *Patrick, Grade 1*

I'll be reading fifth grade books with thick and hard words and I'll learn how to use the dictionary. I mean I know how sort of now. I'll get better. That's all. *Mike, Grade 2*

I think I'll learn to crochet and I'll learn how to - when I go to the early ages, I'll think I'll learn how to read more - better than I am this year - try to remember things I know. Yes, I keep on growing. It's small - big, big, big, big - and when I keep growing, everything happens. *Sheri, Grade 2*

I would tell others that you should show some stuff that you just learned - and stuff you had to work on and you didn't understand . . . so they could learn from their mistakes. *Salena, Grade 5*

I think one thing that has changed is that I - instead of just looking at how I've progressed. I'm looking at what I need to work on and what I don't need to focus in on. If I see a math sheet like multiplying fractions that I didn't do so well on but adding fractions I did well on, then I tell myself that I need to work on the multiplying. *Jessica, Grade 5*

Whether the students' strong sense of self-efficacy came out of the ongoing instructional climate, the elimination of traditional grades, the use of portfolios, or a combination of all would be difficult to determine and would be well beyond the scope of this study. The change in Tabetha's comments on her portfolio reflection sheets did, however, provide some evidence that participation in learner-centered portfolios might have had some effect. Tabetha's fourth grade comments consistently referred to doing good or bad based on the accuracy of the papers, without any sense of control over outcomes: "I think I did bad because I missed 12." "I think I did good because I only missed three." "I think I did very bad on this paper because I missed 8." "I think I did pretty good because I only missed two." At the end

of fifth grade, Tabetha wrote very different types of comments on reflection sheets attached to papers to be sent to middle school. Her stance changed dramatically: "I think it shows improvement when I study." "This paper shows improvement in my writing and spelling." "This shows that I did not study." "I chose this paper because it improves on my tests that I have had."

Tabetha had attended The Downtown School since first grade. Mrs. Lewis had been her teacher for three years. Two things were different, during the second semester of fifth grade, she had been a key informant in this study and her class had increasingly engaged in learner-centered portfolio assessment.

Students needed to see examples of their work over time in order to generate meaningful comparisons. The reflection statements may not have offered deep analysis of an individual item, but that process seemed to set the stage for the more global self-assessment that took place when students reviewed their own portfolios. Keeping portfolios in the teachers' closet year after year certainly created many a missed opportunity. The moment a teacher sat with the students and listened to their spontaneous comments, whether reviewing that year's portfolio, or ideally, multiple year portfolios, perspective shifted. Ownership of the portfolio was quickly shared and the process became learner-centered.

Fostering Change

Portfolios had been around The Downtown School since it started. They existed. That was about all. The fifth year brought about dramatic change for many teachers and students. Factors that stimulated change emerged as an issue of interest. Dialogue among participants, the introduction of technology, and the occurrence of this study appeared to encourage teachers to try learner-centered portfolio assessment. As they tried it out, the actual engagement in the process motivated increased use. Additionally, the increased attention and the nature of the principal's activities during the study also promoted change. Teacher and student comments during interviews, at grade level meetings, and informally over the course of the year offered some insight into the emerging issues related to the changes. The researchers' thoughts recorded in a journal and etched in memory added possibilities.

Motivating Factors. A physician records height, weight, blood pressure and a variety of other indicators of health. But, no diagnosis would be complete without talking with the patient. Portfolio use changed when dialogue began.

Mrs. Bowen's advice for novice portfolio users was echoed over and over by other teachers: talk with others and talk with the children. In February, Mrs. Bowen suggested that grade level planning should be used to talk about portfolios whenever time permitted. At the end of the year, she

remarked, "The discussions we have periodically across grade levels and sometimes by subject, I think that was beneficial. Somebody might say I tried that and it worked and someone might have tried it and it didn't work. I like the sharing." Another teacher recommended that when beginning to use portfolios, "Be sure you have a system for sharing among teachers. It's given me a comfort level." Other teachers made reference to the benefit of talking with one another at staff meetings when they reviewed student portfolios for aspects of literacy. One remarked that it helped to see how things fit in; another how it helped with understanding the concept of improved growth.

Mrs. Bryan emphasized the importance of talking with the students in advice she would give to others, "I would recommend that they start early talking with children about the portfolios. Explain to them what a portfolio is. Let them know that this is what we're going to share." Bryan went on to describe how much the children enjoyed talking about their portfolios during conferences with her. Mrs. Bowen emphasized the same point, "Just talk about it and the more you talk about it with the children the more they'll grow in their understanding of what it's all about." Another teacher described interaction with students, "When we were sharing - looking at the child's portfolio - I could see his focus - what his favorite smarts were." Interestingly, no one commented on the possibilities of students sharing with students.

Some teachers referenced technology as a factor motivating change. A moment that stood out for one teacher was learning to use Hyperstudio and putting that together along with conferencing with the children. Another said, "It's easier to use the computer instead of gobs of papers. Looking at the disc or videos lets you see things faster."

Mrs. Lewis and Mrs. Bryan noted that the study itself had initiated change. Bryan told the researcher, "I've been working with you and we're talking more." Lewis summed it up, "The principal asked me to be in a study." She noted that the students who were interviewed by the researcher reminded her to find time for them to review portfolios from past years. Then she countered her own conclusion by pointing out an exception, "But look at Leslie. She's not [a key participant] and she's doing it all."

Learning by Doing. Collaboration and a sense of audience did tend to foster change. But there was more to it than that. Understanding came from engagement in the process. According to Mrs. Lewis, "I think the students are beginning to understand what the portfolio is all about. I think the more they do it, the more they understand. Just like the more I do it the more I understand." The actual engagement of students in the collection, selection, and reflection of items for the portfolio had been an important factor.

Teachers who were not really implementing portfolio assessment frequently commented on barriers that seemed to them to be insurmountable. According to a third grade teacher, "I don't see them

selecting by themselves - not my group. Maybe by fifth grade - it takes so much time." One teacher stated that some fourth graders just didn't have the maturity needed. They got nervous and cried; they worried about what was in their portfolios. For some it was a shock, they wanted to know if their parents would see it and what it was going to be used for. That same teacher said, "I don't really understand the concept."

Teachers willing to try, found that as they used portfolios, they were able to work out the glitches, even if they were frustrated at times. In February, Mrs. Bowen confessed, "I struggle with it because I know I'm not doing the kind of job that I want to do with it. I need to take the time to get the Quicktake camera. I need to take time to talk over with them. I need to think of a way to get the other intelligences. These were good ideas and they help me, but there are other things to do."

Real problems that draw from real situations can have real solutions. When one teacher talked about having a problem with other students interrupting during portfolio conferences, another teacher offered her own solution. "I usually tell the whole group that I'll be interviewing today. It's getting much better. I find out if I spend less time (I was talking about too many things at once), if I stick with one thing, they find the rotation moves faster and they have more patience."

As K-1 teachers made plans for next year, they agreed. Start portfolios earlier. Start conferencing earlier, making it a part of the day. Do a little at a

time, instead of feeling like it all has to be done at one time. Their recommendation to others was, "Go ahead. Get started. Once you do, you'll find out that it's beneficial." Mrs. Lewis took the recommendation one step farther, "It's probably a good idea to put yourself in their role and do your own portfolio - who I am as a teacher - who I am as a student. I would not mandate it, but it could be an option."

The Principal's Role. The principal conducted the research in the role of participant as observer. It had been assumed that since the principal's usual role was that of a supervisory nature, not directly engaged in classroom teaching and assessment, enough distance existed to maintain the researcher role. The dual role offered natural contact with all staff with regard to implementation of portfolio assessment. Supervision included the direction of staff development activities and interactions as they normally occurred in the context of school routines.

Those assumptions did hold true. But, the dual role also changed the principals' role in ways that were not anticipated. As the principal engaged in the research, she modeled the interactions that were necessary for implementation of learner-centered portfolio assessment. Mrs. Bennett demonstrated the process for others. As teachers followed her lead, she became an audience for others. When that audience was offered, others became performers. They engaged in dialogue; they thought about the transactions. When the principal listened to students talk about their

portfolios, the teachers began to listen to students. When the principal
provided audience to the students as they reviewed prior years' portfolios, the
teachers did the same (sometimes at the insistence of the students). When
the principal listened to teachers describe their use of portfolios, teachers
engaged in the practice more regularly. When the principal invited the
teachers to reflect on their choices, they became more reflective about their
students as well. The principals' dedication of time, attention, and interest to
learner-centered portfolio assessment was at least one of the factors that
fostered change.

Reflections

The teachers didn't see the need for portfolios. They had their own
ways of assessing students during daily classroom activities. The portfolios
took time and were cumbersome to store. It wasn't until teachers began to
recognize the benefit to students and to their own understanding of their
students' learning that portfolio assessment appeared to have merit.

Because the teachers didn't see the need for portfolios, they didn't
initiate use or change. The impetus was external, or top-down, stemming
from the original program evaluation design and then from the principal
telling teachers that it would be worthwhile. Perhaps, if the principal had
dedicated the time, energy, and supportive supervisory activities to portfolio

assessment earlier, the changes that began to take place in the fifth year would have occurred earlier.

Portfolios are not just something to look at. They need to be "felt" as well. The enthusiasm that bubbled out of the students as they reviewed their work was unforgettable. Their recollections of specific details of situations surrounding the original production of items, even after several years, was remarkable. The depth of their memories made a lasting impression on the listener. With an audience, students did become learners of their learning.

It was evident that portfolios could exist without assessment, and portfolio assessment could exist for the teacher or others without ever generating student self-assessment. Classroom activities may actually pass too quickly and may become too fragmented for the student to grasp the significance beyond "good" or "bad" performance. Portfolios captured the learning activities through concrete examples; fleeting moments became stationary in time. Students may need that concrete evidence to develop a sense of ownership of the learning process. Portfolios provided for students a mechanism for self-assessment and an avenue for creating meaning. As portfolio assessment became learner-centered, students gained ownership and teachers gained a reason to implement portfolio assessment. Bottom line, everyone learned more about learning.

When Jurrell was asked what suggestions he would have to others visiting The Downtown School who might begin using portfolios at their

school, he paused for what seemed like too long. His brow furrowed; he looked toward the ceiling pensively. Then, slowly he spoke. "Well, first I would ask them, **'Why don't you have portfolios already?'"**

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to explore the effects of learner-centered portfolio assessment on teachers' and students' views literacy as an indicator of whether teaching, learning, and assessing really work together to inform each other. Other issues of interest included how teachers related learner-centered portfolios to their instructional practices and what interactive outcomes emerged.

Interest in learner-centered portfolio assessment drew from a convergence of theoretical/investigative strands found in the literature on assessment and reform, portfolio assessment, literacy, and professional development and change. The role of testing and assessment has changed through the years. Whether it should drive or draw from changes in teaching practices remains open to debate.

Testing and assessment that outside experts create, administer, and interpret has long been used to tell teachers how they and their students are doing with mixed results. Calfee and Hiebert (1991) compared externally

mandated tests and assessments with internally generated assessments according to purpose, method, interpretation and decision making, and effects on teachers' roles. They determined that internally generated assessments tend to be responsive to teaching/learning transactions because they include use of evidence available to teachers through daily exchanges with students.

Portfolios have emerged as a type of performance assessment that holds the potential to shift ownership of learning to teachers and students thereby producing the desired teaching practices and learning outcomes sought in school reform. Learner-centered portfolio assessment, as might be found in a constructivist classroom, creates a new kind of partnership between teachers and students (Stowell & Tierney, 1995). It shifts ownership to the student changing the teacher's role to that of guide or facilitator. For the purpose of this study, learner-centered portfolio assessment referred to placing the student at the center of the assessment process. Portfolios then vary among students, displaying each students' range of achievement, improvement, interests, and attitudes. The portfolio contents build a rich description without specific attention to established scoring criteria.

Examples of sites using this type of portfolio assessment were found in projects that generated from the classroom in a bottom-up fashion. The teachers had responded to a need that they had identified. They shifted control to the learner and through that process became learners of learning. The process superseded the product and meaning was constructed by the

shared learning. The purpose for assessment was that of inquiry, or finding out - not keeping track or checking up. Student empowerment actually became an instrument for instructional improvement.

Literacy development was the centerpiece for this study. As a core endeavor in all schools, it was considered worthy of investigation. The dimensions and attributes of literacy identified by Paris et al. (1992) served as an organizer for this study. That framework offered a view of literacy that was well suited to consideration of learner-centered portfolio assessment. They described it as "interactive, social, constructive, metacognitive, motivated, and integrated with functional language uses" (p. 92). The framework encompassed the range of dimensions addressed in the literature review. Aspects included engagement with text through reading and writing, knowledge about literacy, orientation to literacy, ownership of literacy, collaboration, and connection with other communication skills, curriculum and use in and out of school.

Confidence in the teacher's professional knowledge becomes essential when assessment is internally generated and the teacher serves as the interpreter, or guide. Teachers learn through reflection on teaching, through action research, through collaboration, and as part of a learning community (Fullan, 1994; Joyce et al., 1993; Schon, 1983). Learning implies change and change takes place in different people in different ways (Hall & Hord, 1987). In the school setting, the principal can influence professional development

and change by addressing teachers' concerns and differentiating supervision strategies (Glickman et al., 1995).

Much has been written about the influence of testing and assessment on teaching practices and student learning. Little has been learned about the effect on teachers' and students' beliefs and understandings. This case study explored what actually took place as learner-centered portfolios were created and interpreted by teachers and students as they moved toward a shared ownership of the process.

The case was a school implementing portfolio assessment school-wide including preschool through fifth grade students with the entire staff involved in investigating ways to assess student growth through the use of artifacts collected over time and across all dimensions of learning. The strategies of interviewing, observing, and document analysis that are generally associated with case study were used to gather data (Denzin & Lincoln, 1994; Stake, 1978, 1985, 1994, 1995; Yin, 1994). Selected teachers and students were interviewed at successive intervals with a semi-structured format. With permission, audio tapes of the interviews were analyzed to offer opportunity to examine actual language and to note categories, patterns, themes, and outliers. Classroom observations were scheduled between observations and were focused on aspects jointly identified by teachers and the researcher. Near the end of the study, grade level discussions of portfolio assessment were taped and comments were analyzed. One fifth grade class

submitted written responses to questions posed by the researcher. In addition, concept maps created by teachers and students were collected as a means to identify possible changes in beliefs and understandings of literacy through the course of the study (Beyerbach, 1988; Morine-Dershimer et al., 1992; Roehler et al., 1990).

Issues identified as research questions guided this case study. The intent was to come to know this particular case well, to understand the case itself (Stake, 1995). Changes in teachers' and students' views of literacy and the connection between learner-centered portfolio assessment and teachers' instructional practices were issues of interest from the outset. Interest in aspects of student self-assessment and factors related to change emerged.

Conclusions

Case studies do not lend themselves to generalizations. "But people can learn much that is general from single cases" (Stake, 1995, p.85). People who read a case develop new understandings when they recognize similarities to their personal experiences or cases of interest to them. Thus, the real conclusions will be those made by the individual readers as they make their own personal meanings. The understandings shared in these conclusions are those that had meaning for the researcher.

Views of Literacy

Teachers' and students' views of literacy did change as they increasingly engaged in learner-centered portfolio assessment through the course of this study. The dimensions and attributes of literacy served as a useful framework for analyzing that change. The framework was a bit limited in differentiating among specific skills and conventions which were referenced repeatedly by both teachers and students. That difficulty was most evident when addressing students' early entry into decoding and encoding text. The specificity found in bottom-up type models of reading and writing would have been helpful (Clay, 1979b; Rumelhart, 1985). The concepts maps proved to be valuable for recording change. They provided snapshots into the thinking of the participants of the study that supplemented insights generated through coding of interview comments. Teachers' and students' conceptions of literacy became more complex and organized during the course of this study. Comments became more extensive, varied, and diagnostic. Emphasis shifted from knowledge of conventions and structures to engagement with text and the connectedness of reading and writing. Evidence of ownership of literacy, particularly self-assessment, increased. The dimensions of orientation to literacy and collaboration appeared regularly in comments and concept map categories.

The changes that surfaced consistently across the different methods of data collection, suggested that learner-centered portfolio assessment does hold

the potential to both drive and draw from changes in teaching practices. As teachers' and students' engaged in assessment, they increased their understanding. As they increased their understanding, they were more likely to make sound teaching/learning decisions. Teaching, learning, and assessing did begin to inform each other in a dynamic and recursive role (Murphy & Smith, 1992).

Instructional Practices

Teacher's views of literacy changed, but their use of portfolio assessment was not directly connected with day-to-day instructional decisions. That distance from everyday planning appeared to be one of the barriers to use. Teachers were already utilizing teaching practices consistent with a constructivist view of learning. They felt that they already had access to sufficient information for assessment and planning. This differed from the teachers described in the literature review as implementing bottom-up portfolio assessment. Those teachers were also already drawing from a whole language or constructivist philosophy, but they had initiated the change through portfolio assessment. The Downtown School teachers weren't responding to a need that they had identified. Instead, the principal was generating the impetus for use. Since portfolios did not meet an immediate internal need, teachers tended to put them on the back burner.

Perhaps comfort with the results of standardized test scores and the instructional freedom of the particular school chosen for the case study

contributed to a lack of tension that might have generated need. Perhaps the elimination of letter grades was a factor. Whatever the initial reason, as teachers did increase use of learner-centered portfolio assessment and as they moved toward the routine level of use identified by Hall and Hord (1987), they did begin to recognize benefits. Teachers commented that learner-centered portfolio assessment was valuable for assessing individual student growth over time. The portfolios were also useful for initial assessment of a students' range of accomplishments at the start of a new school year. Perhaps, an indirect benefit was that in planning for portfolios with a holistic view of the learner, teachers conscientiously planned for a variety of activities that would offer opportunity to capture many dimensions of learning.

Student Self-Assessment

As teachers responded to encouragement for implementing learner-centered portfolio assessment, they became captivated by the potential power of student self-assessment. The ability to see learning through the students' eyes surfaced as the impetus for continued implementation. As students engaged in reflection and self-assessment, they showed a strong sense self-efficacy and an expanded range of learning possibilities. Students exhibited an increased awareness of their own progress in relation to the past and future: they adopted a goal oriented stance.

Through shared inquiry, teachers and students generated intrinsic reasons for implementation of portfolio assessment. The shift toward the

inside-out end of Stowell and Tierney's (1995) continuum created a new kind of partnership between teachers and students. Inquiry, or finding out, superseded keeping track or checking up. As the teacher shifted control to the learner, the teacher did become a learner of learning. Teachers and students expressed confidence in their ability to make sound decisions. Student empowerment became an instrument for instructional improvement as teachers and students implemented learner-centered portfolio assessment.

Fostering Change

The positive effect of collaboration extended to the dialogue among teachers. They found that talking with one another was both informative and encouraging. The sense of shared inquiry extended to teacher interactions as well.

The principal, too, discovered that providing audience to teachers fostered desired change. As she recognized the positive influence of her time, attention, and interest, she began to realize that ongoing action research could offer multiple opportunities for future endeavors. The effect of learner-centered portfolio assessment may extend well beyond the identified purpose of enhancing teacher/student learning transactions. It may hold the potential to foster a learning community focused on an ever increasing understanding of the nature of teaching/learning transactions. An attitude of inquiry consistent with the literature review on teacher change embraced teacher learning. The use of learner-centered portfolio assessment complemented

the over-all school climate and mirrored the dimensions of *The Self-Renewing School* described by Joyce et al. (1993).

As suggested by Fullan (1994) and others, there are good reasons for top-down initiatives. The study was conducted at a time when change was initiated by the principal. Had she not seen a need to change portfolio collection to learner-centered portfolio assessment, and had not taken steps to foster that change, it probably wouldn't have happened.

McCarthey and Raphael's (1992) organizational lens for clustering research perspectives was too broad to be useful in detecting change in views of literacy within this study. It was helpful for reflection on the principal's role in relation to change. A naturalistic or developmental perspective would have suggested that given the supportive environment, change would have happened as people were ready. The information-processing perspective would have suggested that modeling strategies for use would suffice. The social-constructivist perspective would suggest that shared engagement would be key. In this case, all three perspectives were incorporated, but the social-constructivist notion of learning by doing and talking with others appeared to be essential.

Recommendations

Implications for Practice

Learner-centered portfolio assessment is a part of everyday classroom practice, if it's used. Usage, and ways to encourage usage, surface as important considerations. Once in use, portfolios might add to the demands of teaching, or they might become a part of teaching - "add on" or "add in."

Nurturing Usage. Who wants learner-centered portfolio assessment? The answer to that question defines many of the other considerations. If teachers have a need or a curiosity that could be met, they will own the process of implementation. The supervisor need only to clear the way and offer support when barriers arise. If someone outside the classroom owns the need or the question, it will be necessary for that source to provide differing types of encouragement.

McCarthey and Raphael's (1992) clustering of research perspectives can be helpful for thinking about strategies that might foster usage. From a naturalist perspective, the supervisor, or owner of implementation, will need to create conditions to support the change. In the case of learner-centered portfolio assessment, support would include materials, time, and freedom from highly regimented classroom accountability systems. Telling, showing, and practicing portfolio assessment would provide strategies for usage consistent with a cognitive information processing perspective. The supervisor would provide information on how to use portfolio assessment.

Modeling the process as a demonstration or reciprocally in action would be ideal. Additionally, creating time for dialogue - teachers with teachers, teachers with students, students with students, and supervisors with teachers and students - would address the social-constructivist perspective. Since learner-centered portfolio assessment draws from a constructive view of knowledge, the social-constructive practices would be particularly important.

Mrs. Lewis hit the nail on the head: it's probably a good idea to do your own portfolio. Two of the studies cited in the literature review agreed. "Do it yourself." As teachers and supervisors create their own portfolios, they will discover their own meaning and interest in using portfolio assessment. Supportive conditions, practice with strategies, and collegial sharing will also encourage usage for novices. Learning by doing works; learning by doing with others works better.

Portfolios and Teaching. Portfolio assessment as a means for learning about learners is a one-way street; learner-centered portfolio assessment to learn about learners and plan for teaching is a two-way street. With the time limitations that strangle teachers, two for one is quite a bonus. In this study, the teachers did not readily access portfolios for daily instructional decisions. But they could have. A periodic review of students' comments would offer teachers insight into how the students interpret and apply their instruction. Teachers could conduct action research to answer questions of interest. Sharing of the results would create a network of possibilities.

The more global aspects of portfolio assessment and teaching become personalized when a teacher considers individual student progress. Student self-assessment might stand alone when learning is progressing more typically. When learning bogs down, diagnostic efforts should step up. The learner-centered portfolio captures learning in action and transports the transactions over time and distance. Other teachers can examine the portfolio and share in diagnostic interpretations to assist the classroom teacher. The role of the teacher then becomes paramount, so that the role of that particular student might flourish.

Implications for Research

The researcher makes decisions at every juncture of a study. The methodological choice defines the study. Within that frame, the researcher also makes choices about data collection and analysis. Reasons for choices should be closely examined.

Concept Maps. Watching what people do and listening to what they say offer filtered opportunities to analyze what people think. Because doing and talking are a part of everyday activities, they can be viewed as natural endeavors. Concept maps are less typical, but may be quite insightful. The concept maps open windows into the individuals' thought processes that might not open during more practiced data collection techniques. Since internal conceptions are an essential component of a constructivist view of learning, concept maps are a suitable match.

Concept maps can inform researchers and/or teachers as researchers. Teachers can use maps to analyze student learning throughout a course of study. If expected concepts don't develop, the teacher can alter instruction. An additional option, could be for students to analyze their maps. As students discover criteria, they would learn to establish standards and initiate efforts to meet those standards. The concept maps could be another tool for fostering teaching/learning transactions that inform each other in a dynamic and recursive role.

Research Methodology. Whether research is externally or internally generated, the methods should match the medium. Mismatches create the type of turmoil that exists in the field of testing and assessment. Externally or internally generated testing could be appropriate for any setting, if the methodology matches the instruction. Tests that draw from an exogenic view of knowledge do not offer valued results to teachers who draw from an endogenic view. The choice of research methodology parallels those concerns. Research questions and methodology should draw from a comparable perspective or stance.

Learner-centered portfolio assessment rests at the far end of the constructivist paradigm. Case study research can rest at the same end of the continuum. The match is a strength; the demands on the researcher can be a limitation. Without the prescribed format of quantitative methodology, the

researcher carries the burden of creating meaning. The researcher risks misunderstanding in the pursuit of genuine understanding.

Further Study

The results of this study suggest three avenues for further research. The first recommendation is that of longitudinal study. The immediacy of effect noted in this study may or may not continue. A longitudinal study of teachers as they implement learner-centered portfolio assessment over the course of several years with different groups of students would provide one type of insight. Another view would be that of a student engaged in the process of self-assessment over several years of school. So often, researchers investigate what is common over populations, this type would lead to greater understanding of the metamorphosis of learning within an individual.

Another recommendation for further study is to conduct a similar study in a school initiating learner-centered portfolio assessment when the instructional practices in place are more traditional in nature. It would be interesting to learn how the dimensions of change might differ. Dialogue emerged as such an important factor in this study. It would be interesting to know whether it would emerge as a factor in that type of setting. In this study, the shift to student ownership of portfolios happened quickly once teachers and students started talking together. If instruction is teacher driven, one wonders if that shift would even take place. Further study would clarify whether assessment drives, or is driven by, teaching practices.

The final recommendation for further study is to conduct a similar study focusing on another curricular area, perhaps mathematics. If teachers' and students' understandings and beliefs change in other areas as well, the benefit of implementing learner-centered portfolio assessment would be more fully established. If found to be true, that knowledge would offer new possibilities to those seeking to enhance the professional expertise of teachers.

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APPENDIX A

THEORETICAL FRAMEWORKS

Dimensions of Literacy (Paris, et al., 1992)

Table 2
Performance Indicators for each attribute and dimension of literacy

ENGAGEMENT WITH TEXT THROUGH READING

Low engagement	High engagement
Reading is constructive	
a Fails to build on prior knowledge	a Integrates new ideas with previous knowledge and experiences
b Few inferences or elaborations; literal retelling of text	b Exhibits within text and beyond text inferences
c Focus is on isolated facts; does not connect text elements	c Identifies and elaborates plots, themes, or concepts
Reading is evaluative	
a Fails to use personal knowledge and experience as a framework for interpreting text	a Uses prior knowledge and experience to construct meaning
b Is insensitive to the author's style, assumptions, perspective, and claims	b Is sensitive to, and may even question, the author's style, assumptions, perspective, and claims
c Fails to examine or go beyond a literal account of the ideas in the text	c Expresses opinions, judgments, or insights about the content of the text

ENGAGEMENT WITH TEXT THROUGH WRITING

Low engagement	High engagement
Writing is constructive	
a. Writes disconnected words or phases with few identifiable features of any genre	a Writes well-constructed, thematic, cohesive text that is appropriate to the genre
b. Fails to use personal knowledge as a base for composing text	b Draws on personal knowledge and experiences in composing text
c Little evidence of voice, personal style, or originality	c Creative writing reveals a strong sense of voice, personal style, and originality
Writing is technically appropriate	
a. Writing includes numerous violations of the conventions of spelling, punctuation, and usage	a Displays developmentally appropriate use of the conventions of spelling, punctuation, and usage
b. Inappropriate or inflexible use of grammatical structures	b Writing exhibits grammatical structures appropriate to the purpose and genre
c Limited and contextually inappropriate vocabulary	c Rich, varied, and appropriate vocabulary

KNOWLEDGE ABOUT LITERACY

Low knowledge	High knowledge
Knowledge about literacy conventions and structures	
a Unaware of the functions of print conventions and punctuation in written communication	a Understands the functions that print conventions and punctuation play in written communication
b Unaware of text structures and genres	b. Can identify and use several specific text structures and genres
c. Unaware of the subtleties of language use; does not understand or use connotative meaning, ambiguity, or figurative language	c Understands that words have multiple meanings; can use and understand ambiguity and figurative language
Knowledge about strategies	
a. Unaware of the strategies that can be applied while reading and writing	a. Knows strategies that can be applied before, during, and after reading and writing
b Limited understanding of how strategies can be applied while reading or writing	b. Can explain how strategies are applied or might be used
c. Naive about the value of strategies; does not use strategies selectively	c. Understands how and when strategies can be used and why they are helpful

(continued)

Dimensions of Literacy (continued)

ENGAGEMENT WITH TEXT THROUGH READING

Low engagement	High engagement
Reading is constructive	
a. Fails to build on prior knowledge	a. Integrates new ideas with previous knowledge and experiences
b. Few inferences or elaborations; literal retelling of text	b. Exhibits within text and beyond text inferences
c. Focus is on isolated facts; does not connect text elements	c. Identifies and elaborates plots, themes, or concepts
Reading is evaluative	
a. Fails to use personal knowledge and experience as a framework for interpreting text	a. Uses prior knowledge and experience to construct meaning
b. Is insensitive to the author's style, assumptions, perspective, and claims	b. Is sensitive to, and may even question, the author's style, assumptions, perspective, and claims
c. Fails to examine or go beyond a literal account of the ideas in the text	c. Expresses opinions, judgments, or insights about the content of the text

ENGAGEMENT WITH TEXT THROUGH WRITING

Low engagement	High engagement
Writing is constructive	
a. Writes disconnected words or phrases with few identifiable features of any genre	a. Writes well constructed, thematic, cohesive text that is appropriate to the genre
b. Fails to use personal knowledge as a base for composing text	b. Draws on personal knowledge and experiences in composing text
c. Little evidence of voice, personal style, or originality	c. Creative writing reveals a strong sense of voice, personal style, and originality
Writing is technically appropriate	
a. Writing includes numerous violations of the conventions of spelling, punctuation, and usage	a. Displays developmentally appropriate use of the conventions of spelling, punctuation, and usage
b. Inappropriate or inflexible use of grammatical structures	b. Writing exhibits grammatical structures appropriate to the purpose and genre
c. Limited and contextually inappropriate vocabulary	c. Rich, varied, and appropriate vocabulary

KNOWLEDGE ABOUT LITERACY

Low knowledge	High knowledge
Knowledge about literacy conventions and structures	
a. Unaware of the functions of print conventions and punctuation in written communication	a. Understands the functions that print conventions and punctuation play in written communication
b. Unaware of text structures and genres	b. Can identify and use several specific text structures and genres
c. Unaware of the subtleties of language use; does not understand or use connotative meaning, ambiguity, or figurative language	c. Understands that words have multiple meanings; can use and understand ambiguity and figurative language
Knowledge about strategies	
a. Unaware of the strategies that can be applied while reading and writing	a. Knows strategies that can be applied before, during, and after reading and writing
b. Limited understanding of how strategies can be applied while reading or writing	b. Can explain how strategies are applied or might be used
c. Naive about the value of strategies; does not use strategies selectively	c. Understands how and when strategies can be used and why they are helpful

CONNECTEDNESS OF THE CURRICULUM

Low connectedness	High connectedness
Within school	
a. Views reading and writing as decontextualized activities	a. Understands that reading and writing are tools for learning and personal insight
b. Views reading, writing, speaking, and listening as independent of each other	b. Views reading, writing, speaking, and listening as mutually supportive activities
c. Sees little relation between reading and writing and other content areas	c. Understands that what one learns in reading and writing is useful in other content areas
Beyond school	
a. Rarely engages in reading and writing outside of school	a. Reading and writing are part of daily routine activities
b. Views the school literacy curriculum as unrelated to one's own life	b. Connects school literacy activities with reading and writing in daily life
c. Feels discouraged and unsupported for reading and writing outside of school	c. Feels encouraged and supported to read and write outside of school

Types of Involvement in Portfolio Assessment (Stowell & Tierney, 1995)

Types of teacher involvement in portfolio assessment

General Characteristic	Purposes	Content	Process	Attitudes
Not Used	• No systematic collection of anecdotal records or samples of writing in portfolio	• Reliance on formal testing procedures	• Periodical testing that may or may not inform practice or students	• Dependent upon traditional forms of assessment
Portfolios Within a Traditional Framework (Top Down and Outside In)	• To indicate a child's level of progress • To show accumulating prerequisite knowledge and skills • To tell what a child doesn't know • To see what skill to reteach	• A collection of the child's tests and writing on assigned topics • The district exit skills checklist	• Teacher collects with no child input • Teacher grades and sets goals for students • Teacher controlled process	• Teacher likes more structured assessment • Teacher wants to know what must be included • Teacher feels need for documentation of exit skills
Portfolios and Traditional Assessment	• To collect and keep more in depth records of what child is doing • To tell teacher what skills to teach • To make decisions about promotion and retention	• Collections of children's work • District skills checklists • School forms used with no alterations or personal innovations • Observations of group responses to aspects of the curriculum such as Sustained Silent Reading	• Teacher keeps anecdotal records in head • Teacher selects portfolio content • Teacher integrates exit skills with curriculum • Students may select some elements • Classroom assessment adds other kinds of information.	• Teacher claims no time for mandated forms and portfolio assessment • Teacher tries various ways to record information • Teacher sees need for consistency by grade level • Teacher needs more experience to learn purpose of anecdotal records
Teacher-Directed Portfolio Use	• Teacher understands reasons for portfolio determining how children actually use skills • Information used to inform teaching • Authentic reasons for the showcase portfolio — teacher provides an audience for children to share their best work with	• Teacher uses a variety of strategies for collecting data: observations, checklists, scales, anecdotes, and artifacts • Teacher keeps a log or record of what has been taught	• Children select work for their portfolios • Teacher observes systematically (e.g., 5 children a day, each curricular area, and so forth) • Students do some analyses of their work • Teachers directs students to criteria	• Teacher is concerned about time and management system • Teacher says, "I can now see the progress of each child more clearly" • Parents are audience for portfolios • Students are partial partners.
Student-Centered Portfolio Use	• To inform instruction • To display and celebrate process and achievements • For students to assess their growth • To establish ongoing goals	• Students (with teacher support) analyze artifacts and student logs, reading journals, and so forth. Portfolio is not a collection of things, but has interpretive data as well. • Teacher utilizes records to reflect on instruction • Students use portfolio to consider progress and establish ongoing goals.	• Children reflect on why works are included in portfolios and can explain progress, learning, and goals • Teacher and students record information as it occurs • Students keep logs on learning • Innovations occur in assessment systems • Criteria emerge from the data, not set a priori	• Enthusiastic sampling of new ideas • Teachers and students deal with idiosyncratic and complex nature of development • Teacher and students value different perspectives on growth and value revisiting portfolios • Parents as partners in the activity • Student clearly a partner

Types of Involvement in Portfolio Assessment (continued)

Types of student involvement in portfolio assessment

General Characteristic	Purposes	Content	Process	Attitudes
Non-Use	• No systematic collection of samples of students' work	• Students' efforts are directed at a restricted range of tasks to be tested	• Students' task is to do well on tests	• Comparative grading non individualized assessment
Portfolios Embedded in Traditional Assessment Procedures (Top-Down and Outside-In)	• To display knowledge transmitted by teacher or acquired by student to teacher and parents	• Students collect tests and assignments in a folder/notebook • Students collect district- and/or state-mandated work	• Students collect work that has been teacher- and/or district-assigned	• Students told what to collect • Little or no student ownership in collecting or analyzing • Little student understanding or investment in portfolio
Portfolios Alongside Traditional Assessment Procedures	• To display knowledge to teacher, parents, and self	• Teacher-assigned work • District and/or state requirements • Work representing in class and out of class tasks • Most collections standardized forms	• Students begin to become reflective about work they place in the folder and attempt to negotiate with teacher about work to be included in the portfolio	• Students begin to resent teacher-mandated assignments and assessments
Teacher-Directed and Outside-In	• Students understand purpose of portfolio and the importance of their selections and reflections.	• Teacher observational and anecdotal records. • Student reflective journals • Conference notes • Showcase pieces • Work in process • Samples from outside of class • Samples that capture the total person • Reflections on their choices in the portfolio • Self-evaluations	• Students involved in negotiating the selection process • Students reflect on work and growth and share reflections in a conference or narrative. • While students may want to be full partners, they may not be viewed as fully equipped to articulate their own assessment.	• Students understand reasons for the portfolio and are enthusiastic • Students become more assertive about their work and their role in its assessment.
Student-Centered Approach (Bottom-Up and Inside-Out)	• To inform own learning. • Students are independently assessing own work and growth	• Teacher observational and anecdotal records • Students' reflective journals, self-evaluations • Conference notes • Showcase pieces • Work in process • Samples from outside of class • Samples that capture the total person • Reflections on their choices in the portfolio • Parent evaluation	• Students and teachers (and possibly parents) are full partners in the portfolio process • Students give input regarding the selection, reflection, and analysis of the portfolio.	• Students are enthusiastic, empowered, and feel ownership of their own learning and its assessment.

Dimensions of Use (Hall & Hord, 1987)

Stages of Concern about the Innovation

Impact

6 REFOCUSING: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

5 COLLABORATION: The focus is on coordination and cooperation with others regarding use of the innovation.

4 CONSEQUENCE: Attention focuses on impact of the innovation on student in his/her immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

Task

3 MANAGEMENT: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

Self

2 PERSONAL: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation This includes analysis of his/her role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

1 INFORMATIONAL: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

Unrelated

0 AWARENESS: Little concern about or involvement with the innovation is indicated.

Levels of Use of the Innovation

VI RENEWAL: State in which the user reevaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.

V INTEGRATION: State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

IVB REFINEMENT: State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.

IVA ROUTINE: Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.

III MECHANICAL USE: State in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs than client needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in disjointed and superficial use.

II PREPARATION: State in which the user is preparing for first use of the innovation.

I ORIENTATION: State in which the user has recently acquired or is acquiring information about the innovation and/or has recently explored or is exploring its value orientation and its demands upon user and user system.

0 NONUSE: State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.

APPENDIX B

THE DOWNTOWN SCHOOL PORTFOLIOS

PURPOSE:

To capture a profile of the individual student's strengths and own pattern of growth

METHOD:

Students and teachers select among collected works each quarter adding items to the portfolio that relate to performance roles and various aspects of the curriculum (collect, select, reflect)

INTERPRETATION:

Teachers use their knowledge of child development and curriculum (*NC Standard Course of Study*, performance roles, student interests) to assess student progress and growth in self-assessment through conferencing, questioning, observing, and examining written materials and artifacts

APPENDIX C

PARTICIPANTS

Participant Selection Matrix

TEACHER SELECTION CRITERIA	# K-1 TEACHERS	# 2-3 TEACHERS	# 4-5 TEACHERS
Number on staff	6	6	6
Experience - 10 or more years	5	2	2
Longevity - charter for school or grade level	2	1	1
Participated in summer staff development	1	1	1
Use of portfolios	1	1	1
*Agree to participate as key informants	1	1	1

and
and
and
and
and

Note: No teachers selected from 4 preschool classes

STUDENT SELECTION CRITERIA	K-1 CLASS	GRADE 2 CLASS	GRADE 5 CLASS
Number in class	8 (1st graders)	16	14
Teacher selects as high performing	1 out of 5	1 out of 6	1 out of 7
Teacher selects as mid performing	1 out of 3	1 out of 6	1 out of 4
Teacher selects as low performing	1 out of 1	1 out of 4	1 out of 3
*Agree to participate as key informants	3	3	3

and
and
and

Participant Involvement

T = Key informant teachers
S = Key informant students
• = Possible others
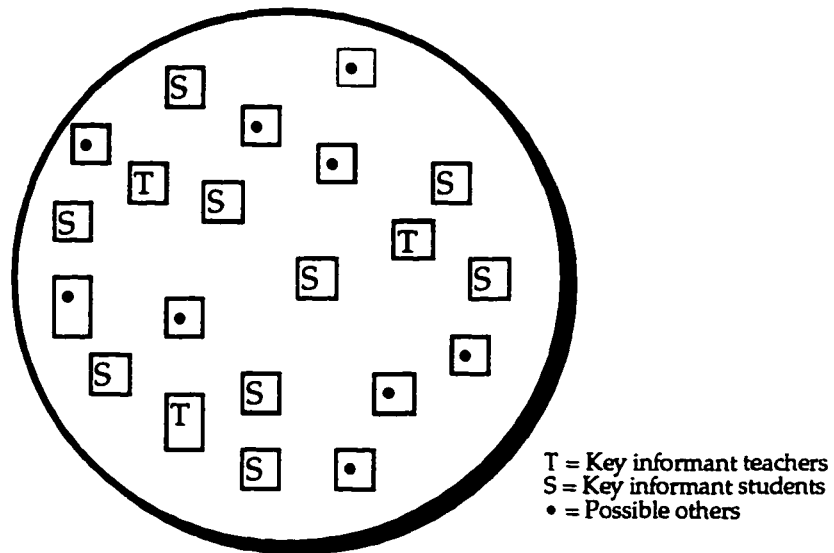
School

- Schoolwide learner-centered portfolio assessment implementation including staff development activities

Cases Study Data Collection

- Three teachers as key informants

- Nine students as key informants

- All 22 teachers create literacy concept maps

- Classes of three key informant teachers create concept maps

- Teachers at several grade level meetings participate in group interviews

- One class writes responses to questions

APPENDIX D

INTERVIEW PROTOCOLS

Teacher Interviews #1

1.   What have you done with portfolios up to this point?

2.   How are things going with portfolios in your class?   What do the students do? What about talking together? (Looking at three selected students' portfolios.)

3.   What do you see as the purpose of portfolio assessment? What's the point? Do portfolios come to mind when you make plans for instruction?

4.   (Look at concept maps of three selected students.) What stands out to you?

5.   What should I ask your students about portfolios? What would you like to know?

6.   What would you like me to see when I observe in your class related to literacy and / or portfolios?

Student Interviews #1

1.   How do you think people learn to read and write?

2.   What's worked best to help you learn to read and write?

3.   What does your portfolio show about your reading and writing? (Prompt: What do you think you'll learn next?)

4.   What have your learned from doing your portfolio?

5.   What do you do with your portfolio? What does your teacher do with your portfolio? (Probe: How does she use your portfolio to help you learn?)

6.   (teacher suggested question)

Teacher Interviews # 2

1. Has anything changed in your use of portfolios since we talked last time? (Have you used the sample questions for portfolio conferences with students? How did that go?)

2. (Look at three selected students' portfolios.) What would you like me to remember about these portfolios? (Why?)

3. What are you most proud of related to portfolio assessment? (challenges - funny moments)

4. Do you plan to make any changes next year?

5. What recommendations would you make to others thinking of using portfolios?

6. (Look at concept maps of three selected students.) What stands out to you?

7. (Look at own concept maps.) Tell me about your concepts maps.

8. (Share student responses from last interview.) What should I ask your students about portfolios? What would you like to know now?

9. What would you like me to see when I observe in your class related to literacy and / or portfolios?

Student Interviews #2

1. How are first graders in your class learning to read and write now (at this time of the year)?

2. Has anything changed in the way you use your portfolio since we talked last time?

3. (Look at current and prior years portfolios.) What are you finding out about your reading and writing? How do you know? (Prompt: What do you think you'll learn next?)

4. What suggestions do you have to improve your portfolio?

5.   (Show concept maps.) Tell me about your concepts maps.

6.   (teacher suggested question)

Grade Level Interviews

1.   How are things going with the portfolio conferences? What types of questions seem to generate the more informative responses?

2.   Do students self-assess as they review their portfolios? Give some examples:

3.   How can portfolios help you plan for instruction?

4.   Are there any moments to do with portfolios this year that stand out for you?

5.   Do you plan to make any changes in the way you use portfolios next year?

6.   What recommendations would you make to others thinking of using portfolios?

APPENDIX E

OBSERVATION PROTOCOLS

General

1. Classroom evidence of literacy (reading, writing, oral communications).

2. Examples of student literacy acts (reading, writing, oral communications).

3. Teacher actions that foster literacy.

4. Teacher selected focus.

Observation #1

Bryan

Suggested focus: The opportunities children have for writing - the writing that's within the classroom environment... the opportunities children have to read - how reading and writing go hand in hand.

Bowen

Suggested focus: Portfolios during selection/reflection. "Help me in my thinking about facilitating or probing."

Lewis

Suggested focus: Typical day and lesson. "Imagine how that could be captured in a portfolio."

Observation #2

Bryan

Suggested focus: Listening to the children read - how they are reading - participation - are they attentive to the reading?

Bowen

Suggested focus: We're doing fables right now. We're going to be either acting out what the student choose - eventually taking one of the three that

we've read and making fables and/or writing our own. You could come and see the puppet show - you don't need to see all the steps involved in getting there.

Lewis

Suggested focus: Ask them how they think the portfolios should be used. What do they think their value is. Our value may not be their value.

APPENDIX F

CONCEPT MAP PROTOCOLS

Teachers

1. List words and/or phrases associated with literacy learning and teaching.

2. Organize your ideas into groups. Think about categories for the words and/or phrases.

3. Display the grouped terms and/or phrases graphically by connecting lines to show links on a new sheet of paper.

Students

1. List words and/or phrases that tell about reading and writing. (Use a circle/frame map if you wish.)

2. Organize your ideas into groups. Think about categories for the words and/or phrases.

3. Display the grouped terms and/or phrases graphically by connecting lines to show links on a new sheet of paper. (Use a bubble type map.)

APPENDIX G

CODES

<u>Attributes and Dimensions of Literacy</u> (See Paris, et al., 1992)

TextR (Engagement with text through reading)
  * Const - Reading is constructive
  * Eval - Reading is evaluative

TextW (Engagement with text through writing)
  * Const - Writing is constructive
  * Tech - Writing is technically appropriate

Know (Knowledge of literacy)
  * Conv - Knowledge about literacy conventions and structures (letters/sounds)
  * Strat - Knowledge about strategies

Orien (Orientation to literacy)
  * Mot - Motivation for reading and writing
  * Att - Attitudes about reading and writing

Own (Ownership of literacy)
  * Int - Interests and habits
  * Self - Self-assessment of reading and writing

Coll (Collaboration)
  * Coop - Cooperation among peers
  * Com - Community of learners

Conn (Connectedness of the curriculum)
  * InS - Within school
  * OutS - Beyond school

<u>Types of Involvement in Portfolio Assessment</u> (See Stowell & Tierney, 1995)

T (Dimensions of teacher use)
  * Inform - Information used to assess students
  * Crit - Teacher directs students to criteria
  * Att - Teacher can see portfolio usefulness - valuable
  * Init - Teacher initiates selection of artifacts
  * Select - Teacher selects items
  * Purpose - Information used to inform instruction

S (Dimensions of student use)
  * Inform - Students assess their own growth
  * Crit - Children reflect on why works are included
  * Att - Students feel ownership of own learning and its assessment
  * Init - Student initiates selection of artifacts
  * Select - Student selects items

Dimensions of Use (See Hall & Hord, 1987)

C (Stages of concern)
- Self - Adequacy
- Task - Management
- Impact - Collaboration, innovation, benefits

L (Level of use)
- Non - Not using or preparing to use
- Mech - Mechanical use - short-term, day-to-day use - user needs
- Routine - Use of innovation stabilized
- Refine - User varies innovation to increase impact on clients
- Integration - User combines own efforts with colleagues for collective impact

APPENDIX H

CONTACT SUMMARY SHEET

Date/people/event   _____

1.   **Summary of information for each research question.**

2.   **Main issues or themes**

3.   **Any other salient, interesting, illuminating, or important aspects**

4.   **Concerns**

APPENDIX I

PORTFOLIO SUMMARY SHEET

Name_____   **Grade** _____

____ Writing   ____ Challenge/difficult

____ Reading   ____ Proud of

Mathematics   ____ Other

____ Computation

____ Problem Solving

____ Data display/statistics

People are smart in many ways. Right now, I think my strengths are

_____

because   _____

_____

_____

_____