This paper presents findings of a case study that documented the implementation of a portfolio assessment system in response to mandated program improvement and assessed its impact on teacher and student behaviors. The sample included elementary and middle school teachers and students from three Chapter 1 schools in a rural California school district. The schools had been identified for mandatory program improvement and decided to implement a portfolio assessment system to increase student learning. Data were collected through a teacher questionnaire, teacher interviews, monthly onsite visits, and document analysis. A conclusion is that if Chapter 1 programs use portfolios as an alternative form of assessment, teacher concerns become important. Organizational, logistic, and teacher-behavior factors that affect portfolio implementation are identified. Organizational factors include district support, staff development, the role of portfolios in student assessment, and parental support. Logistical factors include time, portfolio management, and rubric development. Finally, portfolios may impact teachers' instructional practices. Criteria for validating portfolio assessment include cost, efficiency, and generalizability. (LMI)
Implementing a portfolio assessment system for Chapter 1 program improvement: A case study

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Introduction

Chapter 1 of the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Act of 1988 made some fundamental changes in the implementation of Chapter 1 in local school districts. One of the major changes was the requirement for program improvement. Specifically, the new rule (34 CFR 200.38) requires a school with a Chapter 1 program to conduct an annual review of the educational effectiveness of each school's project (Education Funding Research Council, 1990). If schools do not make substantial progress in both basic and advanced skills the schools are required to enter a program improvement process.

Substantial progress is defined in terms of aggregate performance on a norm-referenced achievement test and other desired outcomes. Desired outcomes are defined as goal statements or measurable objectives which focus on what children will learn and accomplish as a result of their participation in the program. Desired outcomes can be measured by alternative assessment strategies different from standardized norm-referenced tests. In fact, the inclusion of desired outcomes as one method to assess substantial progress was in recognition of the position that norm-referenced tests often do not capture the growth made by Chapter 1 students. Thus, Chapter 1 promotes the use of alternative assessments. The types of alternative assessments that can be used to measure desired outcomes include promotion indicators (e.g., grades, retention rates), progress checks (e.g., number and types of problems solved), and performance-based assessments such as portfolio assessments. Although Chapter 1 promotes the use of alternative assessment procedures, there is little information about them, especially portfolios, to guide their implementation in Chapter 1; which factors facilitate implementation and which factors hamper implementation.
Schools are not only encouraged to use alternative forms of assessment to evaluate the effectiveness of their Chapter 1 program, but they can also use alternative assessment as part of a program improvement plan to enhance student learning. When schools are required to enter a program improvement process, the school must develop and implement plans to improve the performance of students in the program. Schools are encouraged to select from a number of different methods to improve student performance such as implementing new instructional strategies, improving the coordination between Chapter 1 and the regular classroom teachers, and monitoring student progress. Because of the renewed interest in alternative assessments, some schools which are in a program improvement process are developing portfolio assessment systems as a way to monitor student progress and to enhance student learning. While a dearth of studies exists on portfolios in general (Worthen, 1993) some advocate portfolios as a viable means to integrate instruction and assessment, encourage student success and keep better track of children's individual progress, thereby improving student performance. The implementation and impact of portfolio assessment systems developed in response to program improvement has not been investigated to support these claims. Thus, the purpose of the research was to document the implementation of a portfolio assessment system in response to mandated program improvement and assess its impact on teacher and student behaviors. Specifically, the research questions were:

1. What organizational, logistic, and teacher-behavior factors are associated with the implementation of the portfolio assessment system and how do they influence this process?

2. What effect does the portfolio assessment system have on teacher instructional strategies?
3. What effect does the portfolio assessment system have on coordination between Chapter 1 and regular classroom teachers?

4. What effect does the portfolio assessment system have on student achievement and learning behavior?

Methodology

Participants in this study were elementary and middle school teachers and students from a rural school district in northern California. Three school buildings were represented. Since Chapter 1 students in these buildings had not made substantial progress in basic and advanced skills, the schools were identified for mandatory program improvement. As an integral part of their program improvement plan, the three schools decided to implement a portfolio assessment system to increase student learning.

The portfolio project and research on it consists of two phases. The first phase was devoted to a pilot portfolio project which was implemented for the 1992-93 school year. Participants included one to three teachers per grade level (grades K - 8) in each of three school buildings. Each teacher worked with a selected number of students in their class for the pilot. The total number of teachers participating during the pilot was 31. The purpose of the pilot was to work-out some of the management decisions about implementation and to determine if portfolio assessment was feasible at the district level. In terms of research activities, data collection focused primarily on question 1 for the first phase, and some information was collected on research question 2.

The second phase deals with full implementation of the portfolio assessment system in all schools with all faculty and students participating. Timing for this component is to begin during the 1993 - 94 school year. Research activities for the second phase will
focus on data collection on research questions 2, 3 and 4. Checks on interrater reliability will also be performed during this phase.

The initial start of the project began with three days of in-service training of teachers participating in the pilot concerning portfolio, rubric, and standards development and monitoring. This was done in the context of a framework of sound assessment practice (Airasian, 1991). Also during the first phase, we made monthly on-site visits to monitor and support project implementation.

During the first phase of the project and research, data were collected from teachers in three ways. First, the Stages of Concern (SoC) questionnaire based on the Concerns Based Adoption Model, or CBAM (Loucks and Hall, 1977; Parker and Griffin, 1979), was administered during one of the monthly on-site visits after teachers had two months to begin to develop and use their portfolios. The data provided information on the concerns that teachers had about implementation of the portfolio system and further staff development needs. Second, Levels of Use (LoU) interviews, also from the CBAM framework, were conducted with a sample of teachers concerning implementation of the portfolio systems in their own classrooms. Finally, a variety of information was collected during the monthly on-site visits: observations of teacher portfolios, semi-structured interviews with teachers, and minutes from the monthly meetings of the District Portfolio Committee meetings. The District Portfolio Committee was established to review and monitor portfolio implementation.

Once the data was collected, the information was analyzed for the first-phase research questions. To this end, the survey and interview data were summarized, and systematically integrated with field notes from the monthly site visits.
Results

Before reporting the data collected to answer the research questions, it is important to describe exactly how far along teachers were in developing their pilot portfolio assessment program. To date, teachers and the District Portfolio Committee have made substantial progress in building a portfolio assessment system to determine if portfolios will help them better assess student progress, coordinate Chapter 1 with the regular classroom, and enhance student learning. All of the decisions that teachers made regarding their portfolio (goals, management, areas to be assessed, methods of assessment, and rubrics) were put into a brochure which they distribute to new teachers who become involved in the project.

The first step teachers completed was to identify the goals and purpose of their portfolio program for the different populations; the district, Chapter 1 program, teachers, students and parents. Together, the goals and purposes for the different populations provided a direction for the project which is to monitor student progress to enhance student learning. Next, teachers decided what they wanted to assess as part of this pilot portfolio project. They decided to assess writing, reading comprehension, and oral language. Because these are rather broad categories of learning, teachers decided to focus on one specific component, tied to the district’s curriculum, for each of the three broader categories. For writing, teachers focused on descriptive writing. For reading comprehension, they focused on literal comprehension including main idea, sequencing, following instructions and remembering facts. And for oral language, they focused on speaking and listening.
After identifying what they thought was important to assess, teachers identified how to assess each area, and built rubrics for each assessment instrument. For descriptive writing, teachers planned to collect writing samples and developed a wholistic rubric to assess them. For literal comprehension, teachers decided to use different methods of assessment (e.g., webbing, investigations), depending upon the grade level, and also developed a wholistic rubric to assess them. Teachers had yet to identify the assessment instrument or rubric for speaking and listening.

In addition to the three assessment areas, teachers also wanted students to complete a self-reflection letter where students would explain the reason for selecting the pieces they put into their portfolios, and what they learned from the process. However, teachers had yet to work out the details for when students would complete these letters and, to date, no students had written self-reflection letters for their portfolios.

Even though teachers had yet to complete the details for each assessment area, because of a lack of time, the district portfolio committee decided to proceed based on the areas they had completed in their design. They decided to focus their initial efforts on collecting and assessing writing samples. The main factor that prohibited teachers from completing the design of their portfolio assessment program was the time necessary to meet. Teachers hoped that the district would provide the necessary support to complete their portfolio design. In the hope of meeting this objective and gaining district administrative support, the District Portfolio Committee agreed, at the request of the school board, to present the project at a meeting of the school board in April 1993.
Organizational, logistic and teacher-behavior factors associated with implementation of a portfolio system:

Data to answer questions regarding the pilot phase of the project were collected from Stages of Concern questionnaires administered in November 1992, Levels of Use interviews conducted in March 1993, and site observations which were conducted monthly from September, 1992 to April, 1993 in conjunction with monthly District Portfolio Committee meetings. Results from these data collection activities are presented below.

Stages of Concern.

Educational innovations commonly take a period of time to be fully integrated in school settings, and depend on factors such as the level of training and support, as well as the project's complexity. At this point as what can be best characterized as an early stage in the adoption of the portfolio assessment system, most teachers are concerned with management issues as is common in the early stage of adopting an innovation. Although common, it is a very important stage of concern. If teachers do not resolve basic management issues, which focus on the effective integration of the innovation into their daily routine, they will drop the innovation. Teachers need to move the project to the point where it can be conducted in a routine, effective manner if the project is to survive.

Figure 1 presents a summary of the Stages of Concern questionnaire completed by 17 staff at the three schools where each Stage of Concern is expressed as a percentile score; the higher the percentile score, the more intense the concern.
The goal of interpreting the SoC Profiles is to present an overall perspective of the relative intensity among the Stages of Concern. It is important to note that profiles represent the average concerns of teachers, and it doesn't necessarily mean that all teachers have the same relative intensity of concern for each stage. In fact individual patterns of concerns across stages can be quite different among teachers.

The results indicate that most teachers have high Awareness, Informational, Personal and Management concerns. This pattern of responses is characteristic of new and non-users of an innovation, which is consistent with the fact that this is the first year in the implementation of the project. They are looking for additional information about the project and are concerned about how the project will impact what they do in the classroom, and how it will affect their time. They also have management concerns about portfolio implementation: they are interested in practical matters, specifically in terms of program logistics. Most teachers are concerned with how to effectively and efficiently integrate portfolios into their instructional program. Teachers seem to be equally concerned with how portfolios will be integrated into their current assessment system. No strong negative concerns about the innovation were identified.

It is interesting to note that while there is a small peak at Collaboration concerns, it is not as high as the other concerns listed above. Collaboration concerns are characteristic of individuals who are implementing an innovation that requires collaboration with others who are within a person's sphere of influence. It could be that teachers have not arrived to the point that they are actively involved with other teachers about portfolios and how they can be implemented. Instead, teachers are more concerned
about trying to determine how best to implement portfolios in the classroom effectively
and efficiently.

The data indicate there is a need to train staff who enter the program after the
program development phase is completed so that they have a background similar to the
other teachers. In addition, the program would benefit if teachers were provided further
clarification of their role in the program and answer any questions that teachers may have.
Illustrations of these concerns will be described as themes from the monthly observations
and meetings.

Levels of Use:

The results from the Levels of Use (LoU) interviews determined that the three
staff interviewed are at Level III, Mechanical Use. This result is not surprising given the
results from the Stages of Concern questionnaire which found the teachers to be primarily
concerned with information and management issues. These teachers are using portfolios,
but as we will see later, they are not using all the components and are using them in a
stepwise fashion, resulting in disjointed and superficial use. Equally important, the
teachers are not collecting information for the portfolios efficiently, and have not
integrated the portfolio system into their instructional program.

In addition to the eight Levels of Use, each level is further divided in terms of
seven categories (knowledge, acquiring information, sharing, assessing, planning, status
reporting and performing). These categories represent the key functions that users carry
out when they use an innovation, and provide insight and additional information about the
typical behaviors the three teachers are engaged in. Although there is slight variations in
the typical behaviors the teachers are engaged in, there is a great deal of overlap. For the
most part, these three teachers know the logistical information to begin to implement portfolios in their classrooms on a day-to-day basis, for the short-term, but have not reconciled implementation over the long-term. They are looking for information about how best to implement portfolios efficiently and trying out some different procedures; however, at this point there is little sharing among teachers about management and logistic issues. They are examining the use of portfolios, primarily in terms of management issues, but they are also concerned about its role in the district assessment system, and whether parents will participate and support portfolio use. Perhaps because they are unsure about the future of portfolio use in the district, there is little planning or time spent, aside from the District Portfolio Committee, for organizing teachers and managing portfolios at either the individual or school or district level.

In terms of their own perception of where they are in the implementation process, teachers report that logistic, time and management issues are the focus of most of their efforts regarding portfolio implementation. While they are managing portfolios with varying degrees of efficiency, they have yet to understand how 1) they will arrive at the goal or purpose of the portfolio system which is to monitor and assess student progress, 2) portfolios impact their instructional program, and 3) portfolios help students get more involved in their own learning.

**Monthly Meetings/Observations:**

Data were collected from the monthly District Portfolio Committee meetings. The purpose of these meetings was to review the progress of the portfolio implementation and discuss any concerns or issues teachers had. In addition, the meetings allowed us a time to observe portfolio collections, ask teachers questions about implementation, and discuss any
concerns and issues they had. Field notes were taken during the monthly visitations for the committee meetings, observations, interviews, and discussions with staff. The field notes were reviewed, analyzed, categorized and coded. Data from the categories are used to clarify and better describe the concerns and use of the portfolios which were identified in the SoC questionnaires and LoU interviews. Several themes emerged from the analyses of these data. They are discussed below.

**District Support.** A key concern was whether the district’s administration would support teachers’ effort to implement the portfolio assessment. Initially, teachers were concerned whether the district would accept portfolios as a form of assessment of student learning. Because portfolios was an alternative assessment, not a norm-referenced test, teachers did not know what the district would think of this teacher-initiated project. While the question of district support continued to be a concern of teachers during the length of the research, teachers later became more concerned about whether the district would actively support the portfolio implementation with resources for staff development. Teachers soon realized that in order for schools and the district to implement the project successfully, teachers needed additional time for staff development (such as in the use of the portfolio, impact on instruction, and involving parents), and time to manage the portfolio system. In addition, teachers also needed additional time to complete the initial portfolio design. Finally, because teachers saw the project as a long-term commitment, they wondered if district support would also be long-term.

**Replacing Grades.** Another concern which emerged about the portfolio implementation was whether portfolio assessment would replace grades to assess student learning. In fact, this concern was mentioned most frequently by teachers. Teachers
repeatedly asked whether portfolios would either replace or be conducted in conjunction with grades. Teachers were often told by the principal who headed the District Portfolio Committee that because they were only in the pilot phase of the project, any discussion of portfolios replacing grades to assess student learning was premature and needed to wait until after the project was in operation for a period of time. However, the scenario where portfolios would replace grades was presented to teachers as a possibility.

**Time consuming.** One of the major concerns that teachers had about implementing portfolios was that they found the project more time consuming than they initially thought. This concern had three components: portfolio development, portfolio management and staff development. However, teachers really had no knowledge about how long that process would take partly because they had no idea what steps needed to be completed to develop a portfolio system. In addition, they were very concerned about how much time it would take them to manage the system; however, again they had no knowledge about the steps involved in that process. Teachers were beginning to raise questions not only about the amount of time it was now taking them to manage the information that they were collecting in this pilot, but also about when the project moved to the next phase where the entire district became involved. Finally, they were also concerned about the time requirements for staff development. They soon began to realize that without district backing and support, it would be difficult, if not impossible, to complete what they started. In a related theme, teachers also began to state that while teachers can be told the procedures for using portfolios (what to collect, when to collect it, etc.), the process of learning how to conduct these procedures correctly for their classrooms and how to integrate it into what they were already doing was slow and filled
with trial and error. Although teachers had initially thought they could have their assessment system "up and running" by the end of the school year, they soon set their sights towards more reasonable progress goals, especially since they did not yet have district support.

**Parental Support.** Teachers were also very concerned about what parents would think about portfolios. To teachers, parents would be the litmus test for portfolios implementation at the district level. Teachers were concerned whether parents would accept portfolios to assess student learning, and they felt they needed additional information about how best to share portfolios with parents. They were also concerned about when and how parents could be involved in their children's portfolio. They felt that if parents did not support portfolios, teachers would be unable to implement it at a district level.

**Effect on instructional program.** Although teachers were told that implementing a portfolio system may impact how they conduct their instructional program, teachers did not realize how and to what degree this would happen. Early in the process of implementation, teachers discovered that implementing a portfolio system required changes in their instructional program. Teachers stated that the implementation of portfolios affected how they conducted their instructional program and how and when they interacted with students. For example, many teachers had to change the way they conducted their writing classes, since implementing portfolios required different procedures for writing than teachers conducted previously. Now teachers emphasized more of a writing workshop approach to writing instruction. In addition, portfolios caused them to meet more regularly with students about their writing to review student work and
to share expectations with students based on the rubrics which teachers developed. As a result, teachers saw that portfolios had an instructional value to students because students had a better idea of what was expected of them.

**Portfolios evolve over time.** Another theme that began to emerge towards the end of this research period was that the portfolio design began to evolve. Although teachers designed the portfolio at the beginning of the project, they hadn't realized that the design might change over the course of the implementation even though they were told otherwise. By the middle of the school year, teachers were already beginning to raise questions about the design and suggesting changes. For example, teachers originally decided to assess writing samples wholistically; however, they began to question whether a wholistic scoring system would give them the type of information they wanted about student progress. As a result, they started to discuss the option of developing an analytic trait method to assess writing samples. They also talked about focusing on another genre of writing rather than descriptive writing. So, teachers realized that the portfolio design might not look the same at the end than at the beginning of the project.

**More balanced view of assessment.** One of the outcomes of being involved in developing a portfolio system is that some teachers began to have a more balanced view of assessment. Many of the teachers had a fairly negative view of norm-reference tests (NRT) and thought portfolios held the answer to their concerns. In fact some teachers became involved in portfolios in reaction to NRT's. By the end of this research period, some of the teachers expressed that their view of NRT's and assessment changed. Even though they plan to continue with the portfolio program and refine it further, they realized that portfolios can only provide some of the information needed by a district.
They felt that NRTs can also provide useful information for the district and for teachers. Thus, as a result of being involved in developing portfolios, some teachers claimed they arrived at a more balanced view of assessment rather than a view based on emotions and politics.

Discussion

Although much has been written concerning the reliability and validity of alternative assessment instruments, little had been written about the process of implementation, especially regarding the concerns and issues that teachers have about implementation. This case study was an attempt to begin to identify some of these concerns about implementing alternative assessment instruments, specifically in terms of portfolio assessment. Although this study is meant to be a long-term study, results are already beginning to emerge about some of the research questions. Specifically, we identified some of the organizational, logistic and teacher-behavior factors associated with portfolio implementation. Later, we hope to have additional information about the effect of portfolios on the instructional program, coordination between Chapter 1 and the regular classroom, and its impact on student learning.

If Chapter 1 programs use portfolios as an alternative form of assessment to evaluate student learning or as a way to enhance student achievement to remove themselves from mandated program improvement, then teacher concerns become important. In order to implement a portfolio system effectively, projects will have to address these teacher concerns. In addition, these factors also have implications in terms
of the standards required of any measurement instrument used to assess student learning.

These issues are discussed below.

Organizational, logistic, and teacher-behavior factors associated with portfolio implementation.

The case study identified several organizational, logistic, and teacher-behavior factors which are important to implement portfolios at a school or district level. Perhaps one of the key organizational factors that facilitate portfolio implementation, is district support. Without district support, school or teacher-initiated efforts to implement portfolio assessment systems will have a difficult time being implemented. District support means resources. District support is necessary in order to provide the time necessary that teachers believe they need for staff development on portfolio, rubric, and standards development and the time they need to manage a complex project such as a portfolio assessment system.

A second organizational factor, which was already alluded to, is the need for staff development. The process of portfolio, rubric and standards development within the context of sound assessment practice is complex and an area where teachers have little, if any training (Stiggins, 1985). Professionals versed in assessment and the integration of instruction and assessment must provide school and district staff with the inservice training they need to develop a valid and reliable portfolio assessment system. Based on the concerns of staff in the case study, staff development must be on-going since a portfolio design takes time to develop. In addition, because of teacher turnover and because portfolio designs evolve, staff development must be on-going to keep abreast of personnel changes and changes in the portfolio system.
The third organizational factor that must be addressed is the role that portfolios in student assessment. Teachers were very concerned about whether portfolios would replace grades as the method to assess student progress. The question that teachers wanted the district to answer was will portfolios be used in lieu of or in conjunction with grades? Teachers felt that this question needed to be resolved before they continued to commit their time to developing and implementing portfolios. They did not want to continue their efforts if portfolios had no place in assessing student learning.

Apart from the question of portfolios' relationship to grades, there is a larger question of portfolios' role in the entire district assessment system, including grades, district testing, and Chapter 1 assessment. Given teachers' concerns over portfolios relationship with grades, it probably would not be long before others would also raise questions about portfolios' relationship to other aspects of the district's assessment program.

Finally, a key player for portfolio implementation in this study who are not often mentioned in the literature as an important stakeholder, but who teachers believed were very important to the success of the project, are parents. Without parent approval, teachers felt they would neither be able to implement portfolios nor have portfolios become an important enough part of student assessment to make their efforts worthwhile. Teachers thought parents would be an important factor in influencing the school board's position on portfolios.

There are several logistical factors that will influence the implementation of a portfolio assessment system. Certainly one that is often cited in the portfolio literature, and perhaps the most important factor is that developing and maintaining portfolios is
time-consuming. First teachers found that it takes time to be trained in classroom assessment and time to develop a portfolio assessment system. Teachers also began to find, even though they were only implementing a portion of the portfolio system they had designed, that they spent a lot of time collecting, sorting, filing, and storing portfolios.

Another logistical factor that teachers found important for portfolio assessment was managing the portfolio system, such as collecting samples to go into a portfolio. Teachers also had concerns about what to take out of the portfolio at the end of the year, how the portfolio will be stored over time, and where the portfolio will be stored. These questions arose, not only because teachers were concerned about the amount of time it would take, but were also concerned about the complexity of the management process. It was apparent that teachers wanted more information and experience in dealing with the process of portfolio management.

A third logistical factor that can influence portfolio implementation is rubric development. For example, teachers were already considering changes in how to assess the descriptive writing samples, from a wholistic to an analytic trait model. Teachers were concerned that the wholistic assessment would not give them the information they wanted and they were concerned whether the wholistic scoring gave teachers enough information so writing samples would be assessed consistently.

There is one key teacher-behavior factor that influenced the portfolio implementation at this time: the effect of portfolios, or any alternative assessment measure, on the classroom's instructional program. When assessment is tied to instruction, as with alternative assessment measures, including portfolios, then their implementation requires changes in the teachers instructional program. In this study, portfolio
implementation caused some teachers to change how they conducted writing workshops. Even though teachers may be in favor of portfolios, they may change their minds about portfolio implementation after they realize that it also requires changes in their instructional program. Thus portfolio will require a new set of behaviors from teachers not only in terms of assessment, but also changes in their instructional program.

As the development of the portfolio system progresses, especially as an assessment instrument, the need for validation will become critical. Acceptance and credibility of this relatively new and innovative approach for Chapter 1 assessment will depend on a systematic validation effort. Linn, Baker, and Dunbar (1990) have offered a framework for validating complex performance-based assessments. Although it would be premature to consider all the criteria offered for validation this early in implementation, the criteria cost and efficiency and generalizability specified by Linn, Baker, and Dunbar have shown to be central to the current work.

Cost and efficiency relates to the ease with which assessment data can be collected and the expense at doing so. Many teachers have shown concern for the efficiency aspect. As the portfolio assessment system moves to full implementation ways for efficient data collection and storage will have to be found if the system has a chance for fruition. And in a time of budget crises in several states, especially California, the cost will have to be kept at a minimum before acceptance from the local community can be obtained.

The other criterion for validation becoming apparent at this early date in implementation is the issue of generalizability of the assessment data. In other words, how generalizable are the findings to a larger domain of achievement. Part of the issue of generalizability is interrater reliability. As a recent Rand study on the Vermont Portfolio
Assessment System has shown (Rand, 1992), interrater reliability suffered rendering the
generalizability of the assessment data suspect. The report identified the need for clear
criteria contained in the rubrics and training to enhance reliability and generalizability.
Several teachers in the current project have stressed concern for the clarity and accuracy of the rubrics. Refinement of the rubrics and staff development will be essential ingredients for the data to be generalizable and gain the full acceptance of the teaching staff and local community.
Figure 1 Stages of Concern: Portfolio Implementation
References


