ABSTRACT
        Portfolio assessment is increasingly used in teacher
education courses as teacher educators become aware of the importance
of modeling best practice in methods classes. However, implementing
portfolio instruction is not an easy task. Because this approach to
evaluation is so different from previous educational experiences,
preservice students typically struggle with defining how they can
create portfolios representative of their learning. A collaborative
study, conducted by two professors who recently implemented
portfolios in their methods courses, examined the use of portfolios
as a means of facilitating students in their creation of their own
learning goals and in their own assessment of their professional
development in language and literacy classes. Data for the study
included portfolios submitted by students enrolled in the professors'
classes, comments and letters written by the professors to their
students, audio-taped interviews of two focal students from each
class, and reflective journals written by both of the professors
themselves. The data were analyzed in two ways. One professor
analyzed the data through searching for categories of responses. The
second professor analyzed the data searching for overall themes.
Findings indicate that emerging among students is an inquiry stance
toward teaching that involves revision of lessons, focus on the
process of lessons, and an emphasis on learning about students
personally. The themes of "learning to plan" and "learning to look at
students as learners" frequently appeared in student portfolios.
(Contains 15 references and an appendix on the "language development
class.") (TB)

Portfolio Assessment in Preservice Courses:
Scaffolding Learning Portfolios

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Purpose

The purpose of this study is to continue our line of research
into our own teaching of literacy methods courses. We have
previously explored our students' perceptions of learning in
class and field settings. In this study we are collaboratively
examining the use of portfolios as a process for facilitating
our preservice students' ownership for creating their own
learning goals and assessing their own professional development
in language and literacy classes.

Background

Important reform efforts have stressed the need for both schools
and schools of education to become caring settings in which
constructivist learning guides educational practice (Goodlad,
1990; The Holmes Group, 1990). An important component of a
constructivist curriculum is to replace testing and teacher-
controlled evaluation with portfolio assessment (Tierney, Carter,
& Desai, 1991; Graves, 1992). Portfolio assessment matches
a constructivist curriculum with its emphasis on learning as a
process and student ownership for the goals, process, and
products of learning.

Portfolio assessment is increasingly used in teacher education
courses as teacher educators become aware of the importance of
modeling best practice in methods classes (Hansen, 1992;
Bruneau, Ford, Scanlon, & Strong, 1994). However, implementing
portfolio instruction is not an easy task. Because this approach
to evaluation is so different from previous educational
experiences, preservice students typically struggle with
defining how they can create portfolios representative of their
learning (Chiseri-Strater, 1992).

Teacher educators are beginning to explore their attempts to
scaffold student independence through the ambiguous process of
developing ownership for portfolio assessment. Hansen (1992) has
reported success in helping graduate students develop ownership
for their learning process through sharing her own portfolio as
well as through writing individual letters in response to
students' initial efforts. Ford (1994) has described his process

These group findings are supplemented by a case analysis of two focal students whose work was examined in depth and who were interviewed at the conclusion of the semester.

(1) Were the students able to engage in organized inquiry around self-selected questions?

The students engaged in a wide variety of activities as they tried to answer their individual questions. The kinds of inquiry activities included reading articles (95 articles were signed out of the class library), reading books, personal interviews, classroom observations, doing activities with children, making audio and video-tapes, writing research papers, journaling, developing visuals including collages and photo exhibits, developing lesson plans, and, exploring artifacts from their own literacy and educational experiences.

Many of the exhibits students developed began with a "doing-piece" followed by a "reflection/analysis/conclusion" piece. For example, students might summarize an article's main ideas and then write how they felt about these ideas or describe an activity with a child and then respond with what they believed they learned from this interaction. At least two students developed research hypotheses and attempted to test these out with children. Two other students attempted case studies. Students frequently used the term "research" to describe their work.

Perhaps the kinds of inquiry are best illustrated by our case studies. Our first student, Kathy, used her portfolio to explore questions about teaching and learning. Kathy looked for connections between her previous ways of understanding school and schools where whole language and play raise exciting possibilities. Kathy used her portfolio to examine the new possibilities, contrasted her own experiences as a student, worried what about how whole language works in the real world and "tested" whether she would be able to become a whole language teacher.

Particularly important was Kathy's mid-term learning analysis task which became a critical focus of dissonance when I asked her about memorizing information. Writing in her portfolio she recalled, "Upon receiving my mid-term task back -- I discovered a key word in your comment -- MEMORIZE! That is what I do. I don't learn it, I memorize it!" Kathy added flashcards and M & M's as symbols of how her own school learning had worked. She wrote, "These are the absolute wrong ways to go about education." She further added, " "I get angry -- I feel very cheated because I don't feel comfortable when people ask me how why I got that answer. Education should be a process not a memorization warehouse." In her interview Kathy reflected on how this incident challenged her portfolio development, "Things that I had been taught to do were wrong. I wanted to find out, "Why?" What was a better way? I wanted to know WHY all these things are inappropriate."

of working collaboratively with graduate students in building criteria for evaluating portfolios. He found that the construction of a rubric appeared to both enhance and detract from the ownership process. In a study of undergraduate students Anderson and Niles (1993) described student self assessment as being a fluid process as instructor and students interact and negotiate with each other throughout the semester. All of these researchers call for further investigation into portfolio implementation within education classes. The need for research is further emphasized by Graves (1992) who suggests that future research is needed to explore student values concerning portfolio development, the effect of teachers' comments on students' portfolio building, and the effect of different approaches toward portfolio implementation.

Data Collection and Analysis

As teacher educators we have begun to study the process of implementing portfolio assessment through systematic self inquiry into our individual practice (Kincheloe, 1991). We have further engaged in collaborative research through sharing data and hypotheses with one another. (Cochran-Smith & Lytle, 1993). This present investigation began in January, 1994 with a series of discussions about the themes for each class, goals for the portfolios and how we might scaffold our students' successful engagement with the portfolio process. (Descriptions and goals for each class can be found in Appendix A and B). Because each class differed in goals and student background we asked different questions about our specific assessment process. Collaboratively, we've asked two questions: (1) How can we successfully scaffold our students' development of learning portfolios?; and, (2) How do differences in our class and portfolio organization facilitate student learning?

Data for this study included portfolios submitted by students enrolled in each of our classes, comments and letters written by us to our students, audio-taped interviews of 2 focal students from each class, and reflective journals written by both of us during the spring semester (Spradley, 1979.)

The data was analyzed in two ways. One teacher/researcher analyzed the data through searching for categories of responses. The second teacher/researcher analyzed the data searching for overall themes. Common categories and themes are reported as findings of the study.

FINDINGS

The Language Class
Karen Niles

Findings in response to my four research questions are based on portfolios submitted by the entire class of 18 students all of whom volunteered their portfolios for this research project.

connecting one aspect with another. Further evidence of Melinda's academic task orientation is that she concluded her self evaluation with the statement, "I hope that all of my hard work is acceptable."

Melinda seems to accept the idea of whole language uncritically and never seems to wonder how, or if, it would work in a classroom. Instead of analyzing the articles she reads or challenging them in any way--she restates their content and offers her emotional response to them. "This only backs up my belief that I want to be a whole language teacher," is a typical personal reaction statement. Her understandings seem quite surface. For example, in her summary of an article about phonics she concludes, "Obviously exposure will lead to learning. This is the thought behind this article. I wholeheartedly agree." In her teaching philosophy she expresses faith that whole language "will provide enough motivation to reinforce, modify, or change behavior." Melinda's definition of whole language based on her summary statements is quite general, "theme-based, child-centered, builds self esteem, motivates children to learn."

(2) What kinds of questions did the students choose?

Exploration in the Individual Inquiry category followed appeared to focus on three recurring themes.

Questions that related to the students' own understanding of teaching. Many of the special education students chose to explore language learnings in their area (e.g. ideas to help raise the reading abilities of deaf children.) An early childhood major confessed that in the beginning invented spelling was, "A bunch of gibberish that really baffled me." At the semester's end she concluded that, "These children were making total sense and developing their language...language grows as we grow...we are babies and we coo and make noise that others say makes no sense...there's always language going on within children and it always has meaning."

Themes of the Course. Students chose this option to research in depth the themes of diverse language, whole language, and reading and emergent literacy. Our two case study students chose to further investigate whole language. Another student chose to investigate portfolios. Initially, she reported that the only kinds of portfolios she was aware of were, "The ones that are used by models." After describing herself as "Pretty lost," she decided to, "Read up on the subject," and concluded, "I can really grasp the concept of a portfolio now."

Personal Meaning Themes. Students chose issues of great personal importance to the writer because of their own school experiences. Examples in this category included an exploration of ADHD by students who were so labeled; children who hurt by a student whose parents were divorced; and, diversity/bias by a minority student.

To help her "undestand the real world" and "understand how teachers use this (whole language) in their room," Kathy interviewed a first grade whole language teacher. She searched for holistic lesson planning resources, created a big book and taped her story to, "Begin to put some of these things to use." In her journal, Kathy recorded the responses of children to her big book, created a mini-experiment in which she compared her nephew's response to the story to the children at school (she was interested in finding out differences between home and school environments) and observed two children's language development throughout the semester. She read articles about play, communicating with parents and developing units. At semester's end Kathy took a teacher self test on whole language commenting, " I was trying to not only answer th uestions but also answer "why" I chose the one (answer) I did. he repeatedly expressed a desire to "go back" to elementary school now that things have changed."

Kathy appeared to construct her portfolio as a form of whole language inquiry. " The question why was the key to whole language instruction for me, to be able to ask that and feel comfortable that you have looked into many different areas of inquiry that didn't just include bookwork." Overall, Kathy appeared very goal directed in putting together her portfolio based around her theme of "trying to understand whole language." Her "academic work" -- article reading, interviewing, searching for units were based on her concern for how do you teach whole language. She repeatedly expressed concern that she wasn't quite sure, "How to do it." She articulated a general understanding of whole language as being child-centered and theme based, but mentioned repeatedly she wasn't quite sure how she could teach. She wanted to see it in the real world, to understand how lessons flow together, to observe children's development, to understand effective play interactions and how to communicate to parents. For Kathy, the portfolio seemed to provide an opportunity to genuinely inquire about and test out ideas she was learning in her classes.

In contrast, Melinda. appeared to view the portfolio as an academic task. Like Kathy, Melinda centered her portfolio around whole language and wrote in her preface, "I wanted to know everything I could.... I decided I wanted to do all this research." Melinda's research consisted of reading 15 articles and interviewing a favorite teacher who was now a principal, her aunt and her nephew's first grade teacher. Each piece was written in the same format, a restatement of major points followed by a personal, affective reaction such as, "This article really motivated me....It's so exciting I hope I can get it to work."

Throughout the semester Melinda volunteered to work weekly with children in a kindergarten classroom. Melinda did not choose to add this experience to her portfolio. In her final self evaluation she wrote about her participation in the college language class, her participation in the kindergarten room, and her portfolio construction as separate entities, never once

6   4

seemed related to having "overcome" their original anxiety. One student reported telling a student in my current class, "You're feeling overwhelmed, but don't worry about it. We all went through that."

Self Reflections

Although the students initially were troubled by the freedom to construct their own portfolio, once they began the process the open-ended structure facilitated individual inquiry. I was struck by the variety of concerns the students chose to investigate and how many of them integrated personal experiences into the portfolio. Autobiography was an important theme developed throughout the portfolio and included in numerous categories. Students added pictures, papers, drawings, videos, journals, and poetry to help illustrate the importance of what they were saying. I was impressed by the time and care students devoted to developing their presentation. For example, one student hand-wrote her entries to retain the "personal touch" that she wanted to communicate. The students were eager to talk about their portfolio. They wanted to tell me why they were choosing each piece. As I listened to them I was aware of how much thought they had given to the construction of the portfolio.

Students seemed more likely to "dig deeply" into ideas through activities in which they were personally invested. For example, when Kathy arranged her pictures of the preschool setting, she talked about how the sorting process helped her see the relationship of ideas she had learned in the language class and their connection with the classroom. In contrast, Melinda, did not draw connections with her own or her classroom experiences. Her products, which at first glance seem more "scholarly" (researching journal articles rather than arranging pictures), demonstrate a less reflective response to class content. A strength of this open-ended portfolio approach was that it provided our beginning students with an opportunity to build on their existing understandings of language teaching and learning.

The Literacy Class
Beverly Bruneau

The portfolio process in my class was structured much more than the process in Karen's class. Specifically students had definite assignments within the six themes I selected for the course (Appendix B). The students completed their portfolio through adding seven self-selected pieces which typically included further readings in a particular area, observations of teachers, parent and teacher interviews, expanded observations of children; and reports of professional meetings and in-service sessions.

My research questions focused on the goals for my course. Generally, I wanted to explore how the portfolio would help my students construct a personal view of teaching which would include careful observations of students and a reflective, inquiry oriented stance toward their own development.

The inclusion of autobiographical information was a strong theme throughout many of the portfolios appearing most often in the Assessment category. Students shared their educational assessment "pain" with disturbing regularity. Labels, disastrous ACT's, low report cards and humiliating school experiences were described much more frequently than the "inspiring teacher" or "happy school memories". Many students linked their unhappy memory to standardized assessment procedures and wrote vividly about how they "felt".

(3) What criteria did the students believe were important in evaluating the portfolio?

The criteria adopted by the class included creativity, organization, variety of sources, variety of presentations, content knowledge, and neatness. Some students believed that time, effort, and "hard work" should count and included these in their self assessment. Many students believed that "learning a lot" should be counted since this was a learning portfolio. Some students prioritized the above criteria, although the class did not feel we should prioritize as a whole. The students gave themselves grades ranging from B- to A. I believed this was the weakest area and have now devoted more time to developing criteria in my present class in which we have constructed rubrics for class assignments and for the portfolio as a whole.

(4) How did the students perceive the scaffolding?

Data pertaining to this question was found in individual student journals and in the focal interviews. The students reported they were confused until the time the specific class sessions focused on the development of the portfolio. The students characterized these sessions as the beginning of their understanding. One student stated that prior to the sessions she viewed the process as, "Total chaos, I can't do this." By midterm she began, "Formulating things with no specific categories." Within 3 to 4 weeks she described things had "clicked". "Once I had the basic idea, things just seemed to flow." She further described as helpful the openness - "an anything goes attitude, time to think about it, and the variety of options available" as well as the scaffolding in the lessons and workshops.

When students were asked if they would have liked more directions, most students responded they would have liked more direction at the time, but in retrospect feel that the initial dissonance was necessary. "If we would have had an outline, I wouldn't have learned a thing," responded one student. "I'm very good at giving things back to you. It was nice I didn't have to do that....I was creating my own learning and it made it meaningful to me." Early in the semester many students' journal entries expressed concern about the portfolio process. After the portfolio building sessions and the mid term conferences only a few students continued to write that they were having problems.

Many students expressed a sense of pride in their work that

of a child. Two students liked this activity because they saw growth in their child, "I looked at reading and writing and could see how he changed," and "It gave me a chance to record progress and document my activities." And, two others focused on helping a child in difficulty, "I focused on what could be done with a struggling student," " I learned about possibilities ." The fifth student reported this assignment gave her an opportunity to, "Take in information from class and see it with my student."

One student wrote that she liked her theory paper the best because, "I applied what I learned from my classes and what I've seen with children."

The other most liked pieces were self-selected pieces. Two students chose to journal each day as they worked with a particular group of students, " I can see their progress," wrote one while another student wrote that this activity helped her improve her planning and, "My confidence has gone up."

Other self-selected activities which were described as best liked included activities students thought would prepare them for student teaching -- developing an organized list of literacy activities, visiting a classroom at another grade level, and working on my own teaching problem, "I focused on how I could present lessons and be a better teacher." Two students liked their work with parents, one conducted a parent interview and a second wrote a letter to parents which, "Helped me figure out how to explain whole language." Additionally, one student compared writing of a three year old and five year old child, " I could see progress." Another student created a book with kindergarten children and found that both he and the children enjoyed the process.

<u>Which</u> <u>of</u> <u>the</u> <u>portfolio</u> <u>activities</u> <u>did</u> <u>you</u> <u>feel</u> <u>you</u> <u>learned</u> <u>the</u> <u>most</u> <u>from?</u>

Here, too, lessons planned and taught were listed as the most popular category. Sub-categories included positive comments about planning and teaching lessons as a whole, " I learned I could plan a lesson and carry it out. I learn by doing, I was also able to learn by reflecting on my lessons." Another student stated she learned, "I could be creative and relate to what they know." Five students listed lessons they thought were successful and felt this was evidence of important learning. A sixth specifically listed a skills-based lesson, "I learned I could teach it in an exciting and interesting way. I had the students journal and they gave me examples of what they learned."

Four students listed lessons which were not successful as important learning experiences, "I taught two skills, it was too much, the children became frustrated," wrote one while another reflected, "I did a writing activity the children' didn't have a full understanding of; they seemed to find it sort of difficult -- I need to explain it better." The third wrote, "I learned if you try to teach too much you'll lose them." A fourth student

9

Specifically, I wanted them to be and feel ready to student teach-- to have begun to develop a repertoire of strategies for planning, teaching, assessing, and revising lessons. Because there were so many assignments (both required and self-selected) I wanted to know which types of assignments were m' st and least valued by the students and if my emphasis on required assignments was helpful or inhibiting toward their taking ownership for their own work. Further, I wanted to explore how I could scaffold students as they worked on this new and ambiguous task.

I had tried to integrate alternative assessment into the class through having students do their own portfolio and participate in a similar process to one they might use with their own students. For example, criteria for evaluating the portfolio were developed by the students during a class session which focused on portfolio evaluation in general. As a result of this session a cover sheet was designed and students evaluated themselves according to the class generated criteria which is listed on the cover sheet. As part of this session we also completed a reflective open-ended free-write on the value of specific assignments. I have used this anonymous draft assignment to provide an overall view of the students' perspectives of their work near the end of the class.

<u>Which of your portfolio activities did you like the best?</u>

The one assignment which clearly stands out as "best-liked" is the required assignment to include your best lessons. Thirteen students chose this as their favorite. Three students's responded generally about all the lessons, " Hands-on is always most useful. The reflections were helpful, although they were a pain," wrote one student. A second student emphasized that she had learned to, "Introduce, teach, evaluate students, and revise (plans) from this work." The third student indicated she believed the pre, guided, post lesson plan format helped her better understand how to organize lessons for teaching.

Five students indicated they liked one of their comprehension lessons the best. Two students indicated they liked a particular lesson because the children they worked with had enjoyed the lesson, "The kids really wanted to do this." One student was pleased with the product, "We produced a big book." Three students included responses about the lesson process, "The children and I worked together, " I had taken different approaches to writing," and, "We decided as we went - the children constructed the lesson with me."

Surprising to me five students indicated they liked the lesson in which they focused on a literacy skill. "I could see the children understand the concept," reported one student. A second seemed to agree, "I got positive feedback from the children, I could see them learning." A third student was pleased with the process, "I could see the children problem solve."

The second category of best-liked assignment was the case study

10

Which of your portfolio pieces did you like the least? How do you think you would have liked it better.

Not surprisingly to me the theory paper was the most disliked assignment with six students selecting this piece. The reasons given reflect a lack of confidence, " I need more time in the classroom to answer this." and "I'm not an experienced teacher - I"d like to see a role model to get ideas." Another student reflected, "It doesn't say what I want it to say, I need to revise it and add to it." A fourth student responded, "When I wrote it I was only aware of how to teach Pre K kids." Two others responded that they weren't sure they were, "On the right track."

Four students reported they learned the least from lessons which didn't go as planned. "The story was boring, I should choose a better book." "My first lesson, I felt unorganized." "My second lesson, it didn't go as I planned; I needed to redevelop it." One student specifically mentioned much time put into a lesson, "All the bears and overalls I made, it took a lot of time, the teacher said I only needed to make a few." Another student reported feeling frustrated about having to decide on best lessons, "None were perfect, all had different parts that had good in them."

Two students stated they did not learn from their class observations, "Mine seemed so typical, I should have written more details." A third student believed she didn't have enough time to really focus on her case study.

Three students listed reading articles as the assignments least learned from, " I need to find things that support my goals, wrote one while another simply stated, " I really don't learn like this, I like hands- on." The third wrote he made a poor choice, " I didn't know enough about teaching writing so I chose to read about handwriting. I wouldn't have read that now that I know there is so much else." Another student related a similar problem stating that she did not include enough information in a letter she had written to parents, "I wrote it too soon, it doesn't have important aspects of what I'd put in my literacy program."

Although not included as specific pieces three students found writing the portfolio letters to be not useful. "I don't set out with goals, reported one, I look at what I've done and pull it together." And, just one letter would tie it (the portfolio) all together."

Seven students left this question blank and two reported wrote liked everything they did.

Reflections

This survey presents only a brief glance at student learning and their perceptions of their learning through the portfolio

described an opposite problem, "I needed to have more to do. I realized I should move on to something else, but I was too puzzled."

Other required pieces which were selected as important learnings included the observation of the classroom as a whole, "I wrote down strengths and weaknesses which helped me in my planning activities and combined my observations with my partner, we saw similarities." A second student wrote she learned much from the reflection of children's writing, "I had to really pay attention what what they were doing in writing." Two students wrote they learned from constructing the unit, " I used the basal and it he' ` me see how to change questions," wrote one, while another w ʌ ʌ ɪ ʌ e saw, "How to put lessons together." One student reported ʌer case study of a child was important because, "I learned that children are different, some need an extra push of confidence."

Self-selected activities which were listed as important learning were also classroom based. Three students observed a primary teacher. One reported she learned, "How a teacher does things differently, how she asked open-ended questions." A second student stated the observation helped her visualize how to "handle centers and the types of activities students do in second grade." The third student valued how the teacher, "Budgeted her time and integrated reading and writing." Additionally, another student wrote that an interview with a teacher enabled her to see, "How I could incorporate literacy into lessons that work. I was given examples that helped me picture how to incorporate whole language into my student teaching." Relatedly, two students reported finding a local IRA Chapter's meeting about portfolio assessment helpful. "I could see what different schools were doing," wrote one student. The second student thought it was important to learn about problems teachers were having with portfolio assessment.

One student tape recorded a lesson and reflected, "It helped me be more in tune with my students. I learned I had to explain more." Another student studied three year old children's writing and learned, "About the range and saw development from beginning to end (of the semester)."

Two students reported important learning from reading articles. One student read about portfolios, "It helped me see where children are at different ages." The second investigated the process of invented spelling. Two students selected combinations of activities which they described as important. One student described learning about classroom organization from, "Reading journal articles and trying it out in my own teaching." Another focused on the "writing process, from reading articles, thinking about them, class discussions, and observing a child."

And, finally, one student noted, " I can't answer I have too much to do to think about what I am learning."

assignments. However, this "wide angle look" provides a promising viewpoint supporting portfolio construction. Even as students reflected briefly on their work through this draft writing response, many comments are indicative of an emerging inquiry stance toward teaching as students described revising lessons, focused on the process of lessons, and emphasized the importance of opportunities to learn about students in their classrooms. The themes of "learning to plan" and "learning to look at students as learners" frequently appeared and were listed as valued. Required assignments were seen as valuable by the students and the brief written comments about why they were valued are congruent with my class goals.

The vast majority of liked or important lessons integrated class and field work. Our previous studies (Bruneau, Niles, Ruttan & Slanina, 1993) have indicated that our students seriously engage in field-based work and are able to draw connections between university courses and their work with children. Academic tasks such as the reading of articles seemed to be of value when the articles were connected to on-going experiences with children. The students generally chose both required and self-selected activities which were classroom based as important learning activities.

The question on how students perceived the scaffolding has not been answered. Eight students have volunteered their portfolios for a more in-depth analysis. Through this next analysis a more fine-grained understanding can be developed by documenting the kinds of learning engaged in by the students as well as the scaffolding provided by individual letters to students during the semester. However, based on this analysis of the class data I have continued to use this type of structured/self selected portfolio which emphasizes practical classrooms applications with my current group of students. Based on findings of Karen's study, I've changed the theory paper to begin with autobiography, a new piece to add to my on-going research of my own teaching.

Implications of Our Collaborative Research

In this study we have explored two kinds of portfolio organization in preservice teacher education courses as well as described how we attempted to scaffold our students' understanding of the process. Both kinds of portfolios -- one more open ended and one more structured appeared to successfully support student learning. However, we do need to continue our investigation on types of portfolio organization. For example, in this study students in both classes encountered portfolio assessment for the first time. Will students who have completed the open-ended language portfolio find the more structured literacy portfolio inhibits their taking ownership for learning? As we examine the literacy portfolios more carefully is there evidence of systematic focused inquiry or does work seem scattered over a number of unrelated assignments? Will the qualitative analysis of the portfolios, themselves, support the students' reflections on the value of the work they did?

13 [12]

Although we intuitively think the open-ended portfolio appeared to match the beginning students' reeds to explore, and the structured portfolio matched the pre-student teachers' needs to construct actual teaching practice -- more research is needed.

We did learn through our collaborative investigation that student work often represents only a portion of student learning. When we listened to students' reflections on the process of their learning we found more in-depth information regarding their purposes and thinking than was apparent in simply reading the product. It is imperative that we attend to the process as well as the product if we are to fully understand the meaning of the product to the student. The meaning understood by the student is is often the key difference between a waste of time and a valuable learning activity.

The analysis of Melinda's portfolio has been a definite learning experience for us. Melinda represents a typical early childhood student whom we worry about. Melinda is enthusiastic, participates often in class, and speaks about teaching and children in warm, nurturing ways. She restates class content and appears to be a strong student. It was only through a careful analysis of her "research" portfolio" that her lack of integration of content became apparent. Melinda did not question or integrate new information; but remained a "passive learner" accumulating knowledge which fit her novice understanding of teaching as nurturing. Melinda's class participation, and her interview, made it difficult to distinguish between and in-depth understanding and an enthusiastic one. Often Melinda's lack of integration is not discovered until late in student teaching when the student is largely responsible for the entire classroom. This portfolio process has enabled us to learn about Melinda as a student, and to begin to interact with her in more focused ways. Fortunately, Melinda has volunteered to participate in a longitudinal study and we're currently interacting with her and following her progress in the literacy class (this semester) and into student teaching.

Kathy's portfolio provides us with an understanding of an early benchmark of constructivist teaching. Kathy's work began with the critical incident in which Karen's question about memorization served to scaffold Kathy's inquiry into teaching and learning. Kathy's integration of her own past experiences, the content of her teacher education classes, the children and field setting which allow her to test out ideas, and her desire to find out Why provides us with a model of how a student might construct a critical understanding of theory and practice (Rodriguez, 1993). Through carefully examining both Kathy and Melinda's work we now have a better understanding of what to focus on or help students focus on as they begin to develop their understandings about teaching.

The value of collaborative research was especially worthwhile in looking at individual students as learners and also in thinking about the development of our teacher education program. As we

talked about what we found in the portfolios we were able, together, to more clearly identify and articulate successes and concerns. Sharing concerns about students may help us provide early-on needed critical learning experiences which foster constructivist learning. As we began this study we reflected not only on individual goals for our classes but, also, on how we might structure learning across the two courses in an attempt to provide a more coherent program for our students. Continuing this process of collaboration through documenting student development has enabled us to "study our own students as learners" a definite requisite for constructivist, student-centered learning.

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16

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17

Appendix A
The Language Development Class
Karen Niles

Language Development is one of the first courses taken by Early Childhood students. The purpose of this class is to introduce students to a constructivist perspective involving teaching and learning language. Students begin with examining their own educational experiences in the language arts. Building on these reflections, students then explore new understandings of language through holistic concepts presented in the text, interactions with individual children, and the construction of a learning portfolio.

Adapting a procedure outlined by Barton and Collins (1993) I began by articulating and prioritizing five major ideas I wanted my students to develop throughout this course: myself (the student) as teacher/learner; children as language learners; classrooms that support children's literacy; assessment; and, individual inquiry. The first four areas became definite portfolio categories. I chose to leave the fifth portfolio category open so that students could engage in self-selected inquiry as part of their own learning process. Within each category students were to develop three to five exhibits to demonstrate their learning. I assigned only two pieces; a statement of their teaching philosophy and a self- assessment of their portfolio. Other than these two pieces, the students could build their portfolios however they wished.

I made the portfolio project open-ended because I believed students needed opportunities to elaborate on and personalize new knowledge to construct their worldview. From previous classes, I knew most of the students would not yet have encountered concepts of whole language, constructivist learning theory, or portfolio assessment. For example, I have found that unless a student has had specific language problems, language learning is so implicit that it becomes one of those "taken for granted" understandings we assume everyone shares. " The concept of children's language was a blur to me at the beginning of this class," is one student's comment which seems representative of most students' unexamined understanding of children's language.

Scaffolding Portfolio Development
I was aware that the degree of open-endedness which I saw as necessary for developing understandings could easily be overwhelming for many students without appropriate scaffolding. Good portfolio skills, "do not happen by themselves," (Paulson, Paulson, & Meyer; 1991, p. 5). Accordingly, I developed several scaffolding devices:

(1) I wrote out the theoretical justification for on-going assessment and used those to introduce the portfolio project at the beginning of the class. I assured students we would go over specific details at length in later class sessions.

(2)   We then spent two class sessions working through a
step-by-step hand-out on developing inquiry questions.
Students shared questions they thought they might be
interested investigating and we discussed various ways of
finding out answers to our questions.

(3)   Students brought progress and problems to an individual
mid-term conference.   I also read their reflective journals
and answered individual problems in writing.

(4)   After mid-term I had frequent in-class "portfolio
workshops" in which students had 15 minutes to discuss
portfolio concerns with their learning group or myself, use
the class library of resource articles, or simply work
on their portfolios. This "university equivalent of reading
and writing workshops" provided opportunities for students
to think about their learning and to explore topics of
individual interest.

(5) I included articles on portfolio development in the
class lending library.

19

The literacy class is one of the last classes taken by preservice Early Childhood Education students just prior to student teaching. The semester course at that time involved 60 hours of university coursework and 30 hours of field experiences in which students were placed in groups of 3 or 4 preservice students to teach in K-2nd grade classrooms. I am continually confronted with an important dilemma as I reflect on my own movement toward constructivist teaching. I want students to construct for themselves an understanding of early literacy teaching. And, I want to give students specific strategies which will helpful to them as novice professionals in facilitating children's literacy learning. Developmentally, I believe my preservice students do need some knowledge of "how to" to begin to effectively teach young children. My portfolio assignment was then more structured than Karen's because I planned for documentation of certain kinds of knowledge development as well as planned for some self-selected investigations. The portfolio organization reflected the six themes of the class: the developmental process of children's literacy growth; theories of teaching literacy; facilitating reading comprehension; facilitating process writing, facilitating skills development; and, organizing integrated language arts instruction. Within each category I had a specific requirement. For example students were to include their best lesson plans and reflections to demonstrate their ability to facilitate comprehension and skill development; to complete a case study of one child as a literacy learner to demonstrate their understanding of development; and to plan a literacy unit as a way of demonstrating how they would organize language arts within their ideal classroom.

Although these students were completing their methods course work, this would be the first time this cohort would have experience in portfolio assessment. I attempted to scaffold the portfolio process in the following ways:

(1) Students were given a cover sheet in which required assignments were arranged according to categories. A list of suggested self-selected activities was given -- this list was added to throughout the semester as students developed their own ideas.

(2) Portfolios were submitted 3 times throughout the semester. Students were to include a letter describing their learning goals. I responded with a letter describing strengths and providing suggestions for future development.

(3) The students met in small groups of 12 every other week in which we discussed their concerns about teaching and about their portfolio development.

(4) Criteria for evaluation were developed through a small group and whole class planning session in April.