

## Implementing Portfolios in a Teacher Education Program

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The increased focus on the preparation of pre-service teachers for teaching in an ever-changing world impacts how teacher education programs both prepare and assess pre-service teachers (National Commission on Teaching and America's Future, 1996). The most recent impetus for this focus began with a general call for reform of public schools that ultimately demanded high standards and demonstration of performance by both teachers and their students (Carnegie Forum on Education and the Economy, 1986; Darling-Hammond, 1986; Goodlad, 1990, 1994; Holmes Group, 1986). Teacher education programs had to change from a model of paper and pencil evaluation to one in which the teacher is responsible for demonstrating his or her own knowledge and skills in actual teaching situations (Shulman, 1987). Portfolios provide one means of monitoring, documenting and assessing both the pre-service teacher and the teacher education program.

The reality of developing a portfolio process that has meaning to pre-service teachers and that incorporates a conceptual framework and related standards is a challenge confronting educators today. Nevertheless, the use of portfolios for assessment coordinates with the new National Council for Accreditation of Teacher Education's (NCATE) standards that assess pre-service teacher performance prior to entry into the profession (NCATE, 2000). Furthermore, developing portfolios pro-

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vides the opportunity for pre-service and in-service teachers to reflect on their own learning and communicate who they are as teachers. “Ultimately, the portfolio as a process demanding at its best constant reflection on teaching and learning holds the promise—however fragile—of forcing a broader reflection on the ways teachers are educated and continue in their professional development” (Lyon, 1998, p. 4).

Finally, the portfolio as a means of teacher assessment aligns with the movement toward more authentic assessment in education. Performance-based assessment involves tasks closely related to those found in the real world, which demonstrate proficiency for a given topic (Wiggins & McTighe, 1998). It is a type of alternative assessment that asks students to demonstrate what they have learned, how they engage in the learning process and how they apply their knowledge demonstrating their preparedness for teaching (Viechnicki, Barbour, Shaklee, Rohrer, & Ambrose, 1993). “What has emerged is assessment that is authentic in nature, offers multiple indicators of student progress, encourages students to take an active role in their learning, affords teachers new roles in the assessment process, and encourages students to demonstrate what they know in ways that encompass their personal learning styles” (McLaughlin & Vogt, 1996, p. 9). As highly individualized expressions of the teacher they represent, portfolios exemplify authentic assessment. They provide a means to describe current understanding of teaching abilities in a way that is not evident in other formats (Campbell, Gignetti, Melenyzer, Nettles, & Wyman, 2001). While portfolios represent only one aspect of documenting teacher effectiveness, they are important tools for assessing preparedness for teaching.

Six years ago, the Division of Education at Indiana University East began the process of developing a performance-based program consistent with our division’s conceptual framework, the Interstate New Teacher Assessment and Support Consortium (INTASC) principles, and Indiana state standards. This decision coincided with the state mandate for teacher education programs to be performance-based, a practice that is becoming increasingly widespread across the country. One component of the state mandate is that all teachers must prepare an INTASC-based induction portfolio to receive licensure at the end of a two-year probationary teaching period. INTASC identifies a set of ten principles that teacher candidates must demonstrate before they are licensed.

Developing, implementing, and assessing the portfolio process has been and continues to be a daunting task. There is no blueprint and, while we did extensive preparatory research, we did not understand the depth and complexity of issues to be confronted. With that acknowledgement, the purpose of this paper is to discuss areas that must be addressed prior

to portfolio implementation and provide our response to each. Table 1 displays our inquiry questions for each of the six areas. In the sections that follow we share what we learned, benefits to be gained, and what we see as critical issues in portfolio implementation.

Table 1 : Six Areas of Inquiry

<p>Responsibility:          Who is primarily responsible for researching and presenting ideas to the division of education as a whole?          What is the decision making process?</p>
<p>Purpose:          What is the rationale for implementing portfolios?          What is the benefit of portfolios to pre-service teachers?</p>
<p>Placement:          Where do portfolios 'fit' in the program?          What are the portfolio requirements: e.g., content, artifacts, organization, explanation and reflection?          At what point do pre-service teachers have the necessary depth of content and experience to complete a portfolio?</p>
<p>Preparation:          When are portfolios introduced to students?          How are students prepared to meet portfolio requirements?</p>
<p>Assessment:          On what criteria/standards will portfolios be assessed?          Who will assess portfolios?          How will inter-rater reliability be assured?          How can the division of education document and use data from portfolios for pre-service teachers and for programmatic improvement?</p>
<p>Policies:          What policies and appeals process support the portfolio?          What types of remediation are available to pre-service teachers?</p>

### Six Areas of Inquiry

#### **Responsibility**

Our division of education's organizational structure includes a variety of committees. Hence, it fell to the Assessment Committee to conduct research on performance-based assessment, develop drafts, facilitate divisional discussions and revise drafts as needed. They also developed the portfolio guidelines. Initial preparation of the guidelines by committee structure allowed for efficiency; however, final decision-making had

to be inclusive to maximize effective implementation. While time consuming, a division consensus process made it possible for divergent views to be heard, discussed and resolved. Consensus improved understanding and faculty acceptance of portfolios as a means of assessing the performance of pre-service teachers.

### ***Purpose***

Our rationale for implementing portfolios stemmed, in part, from a need to “offer a coherent program of studies that will prepare effective teachers rather than a collection of courses based on what professors prefer to teach” (National Commission on Teaching and America’s Future, 1996, p. 71). We share the belief that pre-service teachers need a cohesive view of teaching and learning and a theory about learning to teach which gives direction to the practical activities of teacher preparation.

Reflection is perhaps the greatest benefit of the portfolio process for in-service teachers. Those dedicated to teacher reform identify successful teachers as those who continuously reflect critically about their teaching and adjust classroom practice accordingly (Moss, 1997). Novice teachers from several studies, interviewed after they were in practice, noted that reflection was the most valuable part of the portfolio process (Freidus, 1996; LaBoskey, 1994, 1996; Lyons, 1996, 1997). Nearly all the teachers in these studies found the portfolio process challenging, yet recognized it as a “significant reflective learning experience” (Lyons, 1998, p. 255).

A second benefit of portfolios is the opportunity for pre-service teachers to document growth or “author their own learning and professional development” (Lyons, 1998, p. 250). They may select artifacts that demonstrate their learning closely tied to actual teaching—such as lesson plans, assessment of student work, and evaluations by classroom and university supervisors (McLaughlin & Vogt, 1996). The portfolio process helps them learn to identify, analyze and apply principles, content and dispositions that will be needed to accurately and convincingly document their competency as a teacher for independent practice and initial licensure. This issue is quickly becoming high stakes in many states, given new licensure expectations and procedures.

Furthermore, the portfolio may serve pre-service teachers in a variety of ways after completion of their pre-service experience (Ambach, 1996; McLaughlin & Vogt, 1996; Paulson, Paulson & Meyer, 1991; Vogt, 1994; Wolf & Dietz, 1998). One benefit is during the job search for a teaching position. Beginning teachers report their portfolio provides an edge by drawing attention to their candidacy during the job search even when interviewers did not review the portfolio (Jonson & Hodges, 1998; Winsor & Ellefson, 1995). An equally important benefit of pre-service

teacher portfolios is that they help teachers understand the process so they can better implement this form of assessment in their own classrooms (Stroble, 1992).

### ***Placement***

The Assessment Committee, charged with leadership in the transition to a performance-based program, determined that there would be three programmatic decision points: admission to teacher education, admission to student teaching, and graduation. Responsibility for the first decision point was given to the Admissions Committee. The Assessment Committee retained charge of the remaining two. The committee determined that a portfolio based on the Division of Education conceptual framework and INTASC principles would be required for admission to student teaching and again for graduation. The same rubric would be used for both portfolios; however, the graduation portfolio would require more documentation and higher expectations based on practical application during student teaching.

The Assessment Committee began the lengthy process of aligning INTASC principles with our conceptual framework as the basis for pre-service evaluation. Faculty discussed with pre-service teachers and cooperating teachers possible documentation that would demonstrate competency for each principle. An extensive list was developed including such items as video-taped lessons, lesson plans, thematic units, transcript, and student work. Just before the Assessment Committee prepared to present their plan for portfolios to the Division of Education, two members of the committee attended different conferences related to portfolios. They returned and in a hallway discussion discovered that each had come to the same conclusion—pre-service teachers should have choice for the portfolio, the opportunity to demonstrate “Who I am as a Teacher.” The faculty decided the portfolio should contain one video-taped lesson, an accompanying lesson plan, and a reflection on the lesson. The only other requirement was that pre-service teachers choose adequate and appropriate documentation to demonstrate their performance on INTASC principles and the Division’s conceptual framework. This decision aligned with the need for pre-service teachers to make meaningful connections and decisions relative to who they are as teachers and supports the goal of reflective scholarship.

It is important that portfolios be connected with a program component to ensure that pre-service teachers are ready to continue in the program. At the elementary level the pre-student teaching portfolio is a part of the field experience associated with an Integrated Reading and Social Studies Methods course offered just prior to student teaching. This

aligns well with our secondary program where the pre-student teaching experience is co-requisite with the reading and specialized methods courses. Linking the portfolio to the pre-student teaching field experience provides greater continuity of instruction. Pre-service teachers at both programmatic levels are similarly instructed enabling them to make appropriate connections between standards and relevant experiences.

The graduation portfolio grade continues to be a component of the capstone taken concurrently with student teaching. The rationale for keeping the grade separate from student teaching is that it is possible for a pre-service teacher to pass student teaching yet need to repeat the capstone should he/she fail the portfolio. If a pre-service teacher fails either pre-student teaching or graduation portfolio, there is one opportunity for resubmission. If he/she fails the resubmission as well, the guidelines indicate that the person is removed from the teacher education program. He/she may follow the appeals process already in place at the university.

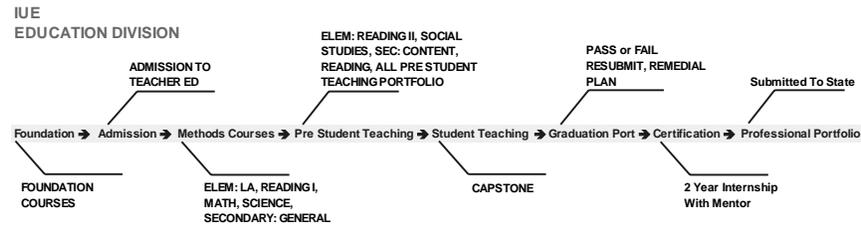
### ***Preparation***

As part of the transition to a performance-based program, INTASC principles, state standards, the Division of Education conceptual framework, and portfolio expectations had to be effectively integrated throughout our program. Each of these components is introduced in early education courses with appropriate discussion. Beginning with foundation courses, pre-service teachers begin to develop artifacts and focus on initial reflection. Pre-service teachers begin self-evaluation using the INTASC principles, division themes and appraisal of professional performance in their first field experience, and continue doing so through student teaching.

While this is a start, the two year portfolio pilot indicated that pre-service teachers needed even more guidance. Hence, we determined a system whereby practice with portfolio expectations is gradually introduced. Pre-service teachers review portfolio guidelines and have an opportunity to practice explanations and reflections in their first methods course. During Integrated Methods, the last methods course prior to student teaching, portfolio information is discussed throughout the semester and at a much deeper level. Early in the semester, INTASC principles are revisited, related to application in the classroom and restated in more meaningful terms. Figure 1 provides a timeline indicating the sequence of instruction and portfolio implementation.

The next step taken during the Integrated Methods course is brainstorming possible documentation for each principle and division theme. Sample portfolios are examined and pre-service teachers are guided to consider their artifacts from other courses and from their on-

*Figure 1.*  
Timeline indicating the sequence of the pre-service teacher preparation.



going field experience. This activity helps them to understand application of INTASC principles and themes in their teaching and to begin identification of appropriate artifacts.

The portfolio is not formally revisited until the field experience is completed, two weeks prior to the end of the semester. A class session is then devoted to instruction and practice in writing explanations and reflections that make connections between standards and artifacts. The instructor models how to write an explanation and reflection using an artifact that pre-service teachers might include, such as a lesson plan. This is followed by examination of sample explanations and reflections based on the model. Then each pre-service teacher writes an explanation and reflection for a piece of documentation he or she has chosen to use in the portfolio. The instructor provides individual feedback so pre-service teachers have at least one well-written explanation and reflection that can be used in the portfolio.

During the same class session, pre-service teachers examine sample portfolios. The focus is on selecting documentation, on different organizational formats, and on quality explanations and reflections.

On the day portfolios are submitted for evaluation, each pre-student teacher brings the portfolio to share with classmates. During the informal presentation of each portfolio, pre-service teachers may ask each other questions about organization, choice of artifacts, or related questions. Then classmates share positive comments about each portfolio.

During the capstone sessions additional guidance is provided for the graduation portfolio. The focus of this portfolio is to demonstrate competence in INTASC principles and division themes while preparing a document that will be appropriate when interviewing for teaching positions. Student teachers prepare and present a 10-minute informal presentation of their portfolio to their peers. This presentation has limited requirements including an explanation of its organization and citing of specific examples for how a principle was met. The student

teacher receives feedback from peer reviewers based on his/her own questions. Peer review is a valued source of feedback and a professional habit worth cultivating in pre-service teachers (Lyons, 1998). Following this presentation pre-service teachers have the opportunity to improve the portfolio before submission, therefore retaining responsibility and opportunity to make their professional case.

Division faculty are available for portfolio consultation prior to submission. Every pre-service teacher preparing the pre-student teaching portfolio meets with one of the instructors for the Integrated Course for one-half hour. For the graduation portfolio, pre-service teachers meet with one of three faculty members who supervise student teachers and have the option of meeting with others. Individual consultations provide the student with the opportunity to seek clarification or advice from trained portfolio assessors across the breadth of faculty expertise. This avenue provides supplemental guidance in a less public, more individualized manner. It also provides students with additional information to help them analyze their personal assessment of the portfolio and comments from the peer review of the portfolio.

Guidelines containing suggestions for organization, artifact selection, and layout were developed to help pre-service teachers through the portfolio process. They have several appendices including the INTASC principles, the Division conceptual framework, the rubrics, and some sample excerpts from outstanding portfolios. Particularly important to pre-service teachers is one appendix with examples of explanations and reflections. These guidelines can be found on our web page ([www.iue.indiana.edu/departments/doe/](http://www.iue.indiana.edu/departments/doe/); click assessment).

There are still many portfolios that have to be resubmitted due to poor selection of documentation or failure to write substantive explanations and reflective entries. Frequently, poor writing skills are part of the problem. Table 2 indicates the numbers of pre-service teachers who passed the portfolio, who were required to resubmit portfolios, and who failed the portfolio during the years in which they have been high-stakes. Resubmission is not so much a reflection of potential as a statement of current professional preparedness. We teach pre-service teachers that students are individual learners and so are they. "Not yet" is not necessarily a failure statement.

### ***Assessment***

The first portfolio rubric used in Fall 1998 included the INTASC principles and Division themes as criteria. The four-point scale ranged from (1) little progress, few expectations met, little documentation, to (4) exemplary progress, all expectations met, outstanding documentation.

**Table 2**  
**Summary of passing, resubmitted, and failing portfolios.**

Pre-Student Teaching Portfolios								
	Elementary				Secondary			
	Submitted	Passed	Failed	Resubmitted	Submitted	Passed	Failed	Resubmitted
00-01	15	15 100%	0 00%	4	8	7 87.5%	1 12.5%	2
01-02	27	24 88.9%	3 11.1%	8	10	8 80%	2 20%	9
02-03	22	20 90.9%	2 9%	5	12	11 91.6%	1 8.3%	2
03-04	30	29 96.7%	1 3.3%	6	7	7 100%	0 0%	2

Graduation Portfolios								
	Elementary				Secondary			
	Submitted	Passed	Failed	Resubmitted	Submitted	Passed	Failed	Resubmitted
00-01	28	27 96.4%	1 3.6%	8	10	10 100%	0 0%	3
01-02	18	17 94.4%	1 5.5%	5	4	4 100%	0 0%	2
02-03	17	17 100%	0 0%	6	8	8 100%	0 0%	1
03-04	30	30 100%	0 0%	12	7	7 100%	0 0%	1

For the pre-student teaching portfolio, a score of 3 was the best possible on Section I. Our rationale is that someone who has not completed student teaching should not be expected to achieve exemplary progress on these standards.

Even before the first portfolios were submitted, the Portfolio committee realized that this rubric was inadequate. Hence, Section II was added to examine portfolio design. Criteria are measured on a four-point scale, however, in section II there is a specific criterion for each category. From this rubric, we are able to ascertain individual pre-service teacher growth as well as identify areas of programmatic concern.

Following the pilot and based on inter-rater agreement at that time, faculty determined that evaluating the pre-student teaching portfolio on a scale of Pass, High Pass, or Not Pass was fairer to students. This made the process less competitive and provided more rater reliability. The scale for graduation portfolios remained constant as they are held to a

Figure 2.

## Rubric for assessing graduation portfolios.

Candidate \_\_\_\_\_ Date \_\_\_\_\_  
 Semester:  Fall  Spring Year \_\_\_\_ Certification Area \_\_\_\_\_  
 Evaluators \_\_\_\_\_

## Section I: Integration of Division Themes and INTASC Principles

The following descriptors apply to the number on the scale

- 4 - Exemplary progress, outstanding documentation
- 3 - Consistent progress, adequate documentation
- 2 - Some progress, some documentation
- 1 - Inadequate progress, little documentation

Division Theme	Score	Comments
<i>Reflective Scholars</i> actively contemplate that what they teach is of value and that their approach is effective.		
<i>Instructional Leaders</i> work to develop curriculum that promotes active engagement in developmentally appropriate learning.		
<i>Global Citizens</i> seek to shape the world of the twenty-first century through their roles in the classroom and beyond.		
INTASC Principle	Score	Comments
1. The pre-service teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.		
2. The pre-service teacher understands how children learn and develop, and can provide learning opportunities that support their intellectual, social and personal development.		
3. The pre-service teacher understands how pupils differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.		
4. The pre-service teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.		
5. The pre-service teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.		
6. The pre-service teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.		
7. The pre-service teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.		

Figure 2. Rubric for assessing graduation portfolios. (continued)

INTASC Principle	Score	Comments
8. The pre-service teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social and physical development of the learner.		
9. The pre-service teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.		
10. The pre-service teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well being.		

Section I Subscore \_\_\_\_  A score of 1 in any category initiates the resubmission process.

## Section II: Portfolio

Criteria	Score	Comments
Introduction: 4=Significant, clear information about purpose & organization 3=Adequate information about purpose & organization 2=Some information about purpose & organization with elements lacking clarity and/or completeness 1=Insufficient information about purpose & organization		
Organization: 4=Evidence is logically presented in a way that is clearly "reader friendly" 3=Evidence is logically presented clearly and consistently 2=Some organization with some lack of clarity or consistency 1=Insufficient organization that confuses reader		
Documentation of Achievement: 4=Well-chosen, significant documentation 3=Adequate documentation demonstrating appropriate selection 2=Some documentation with some problems of superficiality or appropriateness 1=Insufficient or inappropriate documentation or too much documentation without evidence of selection		
Variety among Documentation: 4=Evidence of high versatility 3=Evidence of expanding versatility 2=Moderate versatility demonstrated 1=Insufficient versatility demonstrated		
Explanations Accompanying Artifacts: 4=Relationship to Division's themes & INTASC principles is clearly articulated 3=Clearly articulated explanations with most information relating relevance		

*Figure 2. Rubric for assessing graduation portfolios. (continued)*

Criteria	Score Comments
2=Somewhat clear explanations with some information relating relevance 1=Explanations lack clarity with little or no information relating to principles or themes	
Reflective Entries: 4=Significant insight & critical thinking demonstrated 3=Some evidence of insight & critical thinking 2=Superficial evidence of insight and/or critical thinking 1=Lacks evidence of insight and/or critical thinking	
Appearance: 4=Creative appearance that piques reader's interest 3=Neat, professional appearance 2=Somewhat professional in appearance 1=Messy, unprofessional appearance	
Writing Mechanics: 4=Word Usage & mechanics captivate reader 3=Few errors in grammar, spelling, word usage, or punctuation 2=Significant grammar, spelling, word usage, or punctuation errors 1=Substantial grammar, spelling, word usage, or punctuation distracts reader	

Section II Subscore \_\_\_\_  A score of 1 in any category initiates the resubmission process.

higher expectation and would use their portfolio for a competitive job search.

To ensure inter-rater agreement we developed a faculty workshop and a process for ongoing review of inter-rater reliability. Prior to the workshop each faculty member read a portfolio that was rated as the best portfolio, i.e., the standard. All subsequent portfolios would be judged against that standard. Then each faculty member individually scored a portfolio of lesser quality and shared the scoring. Discussion of how and why items were scored as they were helped achieve consensus on the standard by which a portfolio would be scored.

Each portfolio is evaluated by varying teams of two faculty, one of whom is a member of the Assessment Committee. Since each Assessment Committee member works with faculty members who have worked on other teams, a high rate of agreement is confirmed. To maintain reliability and to introduce new faculty to the process, we regularly review portfolio standards and provide training. Review teams may request that a second team score a portfolio. In every case where a team

has requested a second team review of a portfolio, the second team score was within two points of the original score.

In order to evaluate program effectiveness, we developed a database that systematically assesses portfolio data and provides aggregate information of pre-service teachers' performance. The aggregate data provides evidence of program quality and identifies areas of concern. We compare pre-service teacher scores on each measure to identify areas that might indicate a program weakness. Insights from data analysis are invaluable for determining program improvement. For example, in early portfolios it was evident that pre-service teachers were unable to document teacher as global citizen, which is part of our conceptual framework. As we examined our program, it became clear that we were not emphasizing this theme to the extent necessary for pre-service teachers. Hence, changes and additions have been made in many courses and across the entire program. For example, a service-learning project was added to a course providing pre-service teachers the opportunity to work and learn with diverse groups.

### ***Policies***

Every portfolio policy developed has a supporting story. Policies are reviewed every semester and revised as needed. Development of policies came from experience, and student and faculty concerns. In every instance, we strive to create a process with integrity so that pre-service teachers are fairly and consistently evaluated regarding their preparation for teaching while ensuring the quality of public school teachers. For example, one policy is related to the date and time for submission of portfolios. Early in the pilot, a few pre-service teachers submitted their portfolios after the time deadline. To be fair to everyone, we developed a policy that if a portfolio is not submitted by the set day and time for submission, when submitted it is considered a resubmission. Therefore, that pre-service teacher would only have one opportunity for the portfolio to pass.

A key portfolio policy is that pre-service teachers have one opportunity to resubmit a revised portfolio. The resubmission is only evaluated in the areas that did not pass and by the team of reviewers that evaluated the original portfolio. If this resubmission fails there is a third review process by another team of evaluators.

For those who fail the third review, a remedial plan and/or an appeals process is implemented based on the reasons for failure. One pre-service teacher might repeat the Capstone course, including a limited field experience and submit a new portfolio. Others might be required to take a writing course, register for another field experience, or even be encouraged into another field. All policies are included in the Portfolio

Guidelines, which are regularly updated and accessible on our website.

### Lessons Learned

During the time we implemented the portfolio process, we learned many valuable lessons. Here is a summary:

- ◆ Portfolios need to be more than a collection of course documents; they need to provide opportunity for creativity, personal reflection and professional growth.
- ◆ Preparation for developing a portfolio must be integrated into the program.
- ◆ The process of reflection must be taught at increasingly complex levels.
- ◆ Faculty need to review portfolio guidelines and to review inter-rater reliability issues each semester because of the time lapse between portfolio reviews.

### Benefits of Portfolios

Our experience with portfolios has furthered our understanding of implementation, assessment, and of the value of portfolios and of our students' needs. A pre-service teacher leaves our program well prepared and with a portfolio that includes a professional development plan. Each semester pre-service teachers express how difficult it was to prepare the portfolio, yet they are justifiably proud and have a feeling of accomplishment when it is completed as noted anecdotally by their comments. Furthermore, the graduation portfolio brings closure to the undergraduate experience while providing strong evidence for entry into the teaching profession. More recently, our graduates have commented that our portfolio process better prepared them for the induction portfolio required by Indiana as part of attaining their professional license.

Local school districts have identified how well our pre-service teachers are prepared for interviews and for teaching in their districts. The value of a pre-service teacher's development as a reflective scholar through the portfolio process cannot be underestimated. Successful teachers are those who can critically reflect on their practice for continuous improvement and being able to do this as a beginning teacher will make a difference for the children they teach (Lyons, 1998).

Pre-service teachers' ability to be reflective has improved as the process has evolved. We now see professional-looking portfolios containing

well-chosen artifacts that effectively demonstrate the self-concept and strengths of the pre-student teacher. Explanations connect artifacts to INTASC principles and themes and reflections that go beyond “the lesson went well.” Figure 3 provides examples of an artifact “explanation” and “reflection,” the first from a portfolio submitted 2001 and the other from a 2004 portfolio. These examples evidence the increased depth of reflective practice after reflection was integrated throughout the program.

The faculty in our Division of Education identified several ways in which the portfolio has benefited our entire teacher education program:

- ◆ Team-work among faculty in resolving philosophical and student issues.
- ◆ Innovation in teaching as we integrated performance-based assessment.
- ◆ In depth discussion with peers about teaching during portfolio review.
- ◆ A quality data base that is used as one means of program assessment and improvement.
- ◆ Continuous engagement in understanding and critiquing conceptual framework integration throughout our program.

### Critical Issues

Along with the valuable outcomes from implementing the portfolio process, unresolved issues remain. For faculty, the issue of workload is a problem. All Division of Education faculty evaluate from six to ten portfolios each semester, resubmissions, and if needed a third review. Each portfolio requires a minimum of two hours to evaluate. This occurs at the end of the semester when faculty are involved in assessing and grading their courses. Faculty in other divisions do not have such expectations on their time, making this an inequitable workload. The only solution identified thus far is to indicate involvement with portfolio review under the teaching component of our annual reviews. This is a step, albeit insufficient, to recognizing the rigors of portfolio review. Division faculty recognize the benefits of portfolios to our pre-service teachers and our program and have accepted the responsibility for this assessment.

Another important issue is that a portfolio is “high stakes” for pre-service teachers. Although we built in a resubmission opportunity and an appeal process, each semester since implementation we have had pre-service teachers fail the portfolio. The enormity of the task of preparing

*Figure 3.*  
Examples of artifact explanation and reflection demonstrating increased depth of reflective practice.

Student Explanation and Reflection 2001	Student Explanation and Reflection—2004
<p><b>Explanation</b>After completing a chapter from the math textbook I gave students the standardized test as an assessment. After grading the exams, I created a graph to show the number of times each problem was missed. From this I was able to see that there were two problems missed 44% of the time. Each problem covered a different concept. As a result of the data I determined that to ensure the students mastery of these concepts re-teaching would be necessary. This process served as an assessment of my own instruction and led me to reflect on my instructional approaches to these concepts (INTASC #8, Reflective Scholar). I realized that the method of instruction for these concepts provided by the textbook was too abstract for some students (INTASC #2). I then developed a week-long math lesson focused on these concepts. I used my knowledge of the theory of multiple intelligences to guide instructional choices to ensure that the needs of the diverse learners in my classroom would be met (INTASC #3, Instructional Leader).</p>	<p><b>Explanation</b>This lesson was a re-teaching of haiku poems. The first lesson, taught the previous day, was not effective and I did not feel that students were grasping the ability to write haiku poems. It was evident by their comments and short, choppy poems that students didn't understand the process (8). Students were familiar with haiku and understood its layout after the lesson, but were having a hard time writing haiku poems. In this lesson, I broke the process down into more basic steps. This lesson started the writing process in a completely different manner, which was what I thought students had the most trouble with in the previous lesson. This time I had students start by writing one sentence about the assigned topic. Then, they added, changed or deleted words based on the syllable count to get 17 syllables. Last, they broke the poem down into three lines with five, seven and five syllables. When I taught this lesson the first time, I emphasized the three lines and students were writing three short sentences for their haiku poems. This time, I emphasized that it is one sentence divided into three lines. By writing the sentence first, I hoped to eliminate that problem. Also, I demonstrated the inability to break a poem down into the three lines because of the way the syllables were divided between words. Doing this showed students what to do to solve this problem if they encountered it (6).</p>
<p><b>Reflection</b>By completing this process I have learned a great deal about the importance of assessing myself as an educator. Student teaching has helped me realize that math instruction is an area in which I would like to continue to grow. Through these activities I have increased my knowledge of mathematical strategies and learned it is important for me to take the extra time to perform</p>	<p><b>Reflection</b>Writing haiku poems went much better this time around. Approaching haiku poetry from the perspective of one sentence worked for these students (4). Their poems flowed better and it seemed like they had an easier time drafting a haiku. Instead of three small, choppy sentences that repeat the noun, students were writing longer, complex sentences to tell about their subject. Also, this lesson</p>

*Figure 3.*

Examples of artifact explanation and reflection demonstrating increased depth of reflective practice. (continued from previous page)

Student Explanation and Reflection 2001	Student Explanation and Reflection—2004
assessments of my own instruction in this subject area to improve my teaching.	breaks the process down into more basic steps, which makes the outcome attainable to a diverse group of learners (3). Modeling the problems students could have encountered was good, too. This is something that I need to do more of when I give students assignments. However, knowledge of those problems will come with more teaching experience. I need to forecast anticipated problems in my lessons to model ways students can handle them when they arise (6). Students worked more independently, only asking me for help replacing words to get the right number of syllables in a line. During writing time today, I did not hear complaints and some students wrote two haiku poems. Seeing the students' change in attitude toward haiku poetry and their improved poems definitely made this lesson worth re-teaching (RS).

a portfolio and its importance has been consistently related to pre-service teachers, yet some do not receive the message. To this point, we have worked closely with those who have failed to help them become successful, often within education and sometimes outside of education. One purpose of performance-based assessment is to support us in making difficult decisions and knowing when to deny continuation. Part of our professional responsibility is to ensure that teachers who graduate from our program are capable of being effective teachers.

Multiple opportunities for pre-service teachers to demonstrate proficiency are incorporated into coursework. We encourage them to use a variety of assessment tools in their classrooms, while considering the diversity of learning styles of their students. Therefore, it is critical that we model this when assessing their preparation for teaching. We recognize that for some pre-service teachers the portfolio does not adequately express their skills as a teacher. This reality is one aspect of our ongoing effort to improve the process of assessing our pre-service teachers. The portfolio is just one piece of multiple assessments in place for evaluating pre-service teachers.

We must also recognize the importance of protecting the self-esteem of those who do not do well on the portfolio. A portfolio is a personal

document and, quite appropriately, pre-service teachers take criticism very personally. Through workshops and discussion, faculty have been encouraged to make positive comments and constructive criticism that encourage student growth and reflection. The process is daunting and exacts an emotional toll on both faculty and pre-service teachers. Nevertheless, it is imperative that pre-service teachers are able to respond appropriately to objective criticism.

### Conclusion

We have established a comprehensive plan for using portfolios as *one* component of a performance-based program that is accountable for pre-service teacher learning beyond traditional means of assessment. The resulting portfolio is a personal document in which creativity and innovation demonstrate professional teaching characteristics and style that capitalize on pre-service teachers' potential. The final product prepares teachers for continued documentation of their progress toward meeting local, state and national standards. More importantly, it helps prepare teachers for the reflection and analysis necessary for professional development and provides a systematic method for on-going improvement of our teacher education program.

While the portfolio policies are well established, there is a significant need for revision of the process itself. Currently faculty are reflecting on the process and we are discussing ways in which we can continue to reap the benefits while making the process more humane. Doing so is a commitment and focus.

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