

E-Portfolios for Student Teachers—a Pilot Program

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Abstract

In the fall and spring of 2002-2003 eight student teachers each semester volunteered to participate in a pilot program of e-portfolio development to meet licensing standards for the state of Indiana. The University of Indianapolis Center for Instructional Technologies developed a framework for the portfolio using the template feature of DreamWeaver. Students converted elements of a traditional paper portfolio into a browser-based, interactive, hypertextual format that was later burned onto a CD. Students reflected more on their teaching and included samples of lesson plans, assessments, and student work. Richer work samples included movies, sound files, scanned material, hyperlinks to the school web site, and other offsite resources to make the portfolio more personal. Several student surveys indicated the pilot students believed they had learned more and had a more positive experience than their peers in a control group developing a traditional portfolio. Sample portfolios will be demonstrated and discussed in the session.

History of the U of I Portfolio Project

The University of Indianapolis has developed a semester-long student teaching experience for all teacher education candidates. Each candidate is placed into two eight-week experiences with a Cooperating Teacher in the field and Supervising Teacher from the university. During the first placement each candidate completes a high-stakes paper portfolio based on the ten INTASC (Interstate New Teacher Assessment and Support Consortium) Principles and Indiana Content Area standards.

INTASC Principles:

- 1: Knowledge of Subject Matter
- 2: Knowledge of Human Development & Learning
- 3: Adapting Instruction for Individual Needs
- 4: Multiple Instructional Strategies
- 5: Classroom Motivation and Management
- 6: Communication Skills
- 7: Instructional Planning Skills
- 8: Assessment of Student Learning

9: Professional Commitment and Responsibility

10: Partnerships

Major sections of the portfolio include a table indicating where in the document each INTASC principle is demonstrated and whether it is satisfactorily completed, a Culture and Climate of School and Community, Students with Special Needs and Services, Sequence of Five Lesson Plans including reflections and analysis of student learning, and Documentation of Professional Involvement. Copies of student work (tests, papers etc.) are usually included. Most sections have subsections with requirements described in detail in the U of I Student Teaching Handbook. Also, one of the five lessons is videotaped, and the unedited tape is presented with the portfolio and is evaluated by the reviewers. The process has been approved by the Indiana Professional Standards Board as part of the university's Unit Assessment System.

Candidates are guided through the paper portfolio process in a series of student teaching seminars led by the director of student teaching and others. Additionally, university student teaching supervisors meet with individual student teachers and in open sessions to answer questions and guide the portfolio process. Samples of previously successful portfolio models are presented for examination (with candidate's name removed).

When portfolios are given to the Director of Student Teaching, she distributes them to both a teacher in the field and a university professor for review according to the strict INTASC and Indiana content area standards. If both reviewers rate the portfolio as "satisfactory," the process is complete. If both reviewers rate it as "unsatisfactory," the candidate must complete a second portfolio during the second placement (eight weeks). In the event of a split decision, a third reviewer is selected.

Historically, the process has produced a high level of anxiety among student teaching candidates. It has also produced masses of documents that are stored permanently by the Department of Teacher Education. In order to reduce the paper torrent, to make the portfolio more reflective, and to improve technology skills of the candidates (consistent with NCATE standards), the department decided to undertake a pilot digital portfolio program during the 2002-2003 school year.

To that end, a professor in the department was given three hours of released time during the fall semester and one hour during the spring to coordinate the digital pilot, administer and evaluate surveys, and to maintain a detailed log of the pilot experience. Discussions with the U of I Center for Instructional Technologies (CIT) indicated that unit was interested in participating in the pilot in order to use it as a potential model for other digital portfolio efforts at the university. The Instructional Designer within the CIT became a willing partner in the process and became the primary trainer, technical support person, and template developer. Discussions resulted in choosing DreamWeaver as the software solution for the portfolio software. It came most close to meeting the goals and requirements for the pilot study listed below.

Goals for the digital portfolio project included:

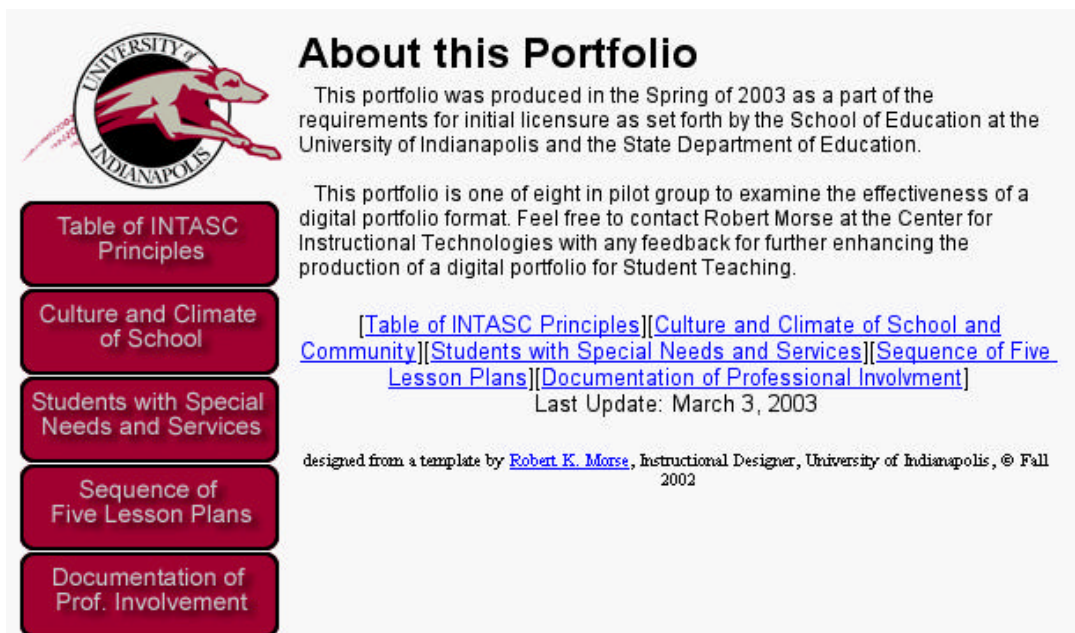
1. Refine reflection on the results of student teaching (student outcomes) by identifying stu-

dent teacher actions and student achievement associated with INTASC standards.

2. Introduce hardware and software to student teachers with the goal that they will model the process to others and become more proficient in using the technologies and assessments with their students.
3. Develop procedures and training materials to continue development of digital portfolios.
4. Assess the feasibility of creating digital student teaching portfolios and refine goals and procedures.

Other requirements of the pilot were that the portfolio be: reasonably simple for candidates to complete given the short eight-week time frame, user-friendly for reviewers, and accessible both in Windows and Mac OS. A related goal was to allow candidates to volunteer to digitize portions of the video of their lesson to link to portions of the digital portfolio. This was not intended to substitute for the 45 minute VHS format video which would also be submitted, but to enhance reflection on their teaching by having them relate selected video clips to INTASC standards and goals.

During the summer of 2002, the Instructional Designer prepared an HTML portfolio template using DreamWeaver 4 software by Macromedia. The template contained placeholders for all required elements of the traditional portfolio and attractive graphic links among all of the major sections. Student teachers would be required to add their own text and scanned graphic content and construct HTML links for their own content within the template.



The image shows a sample page from an HTML portfolio template. On the left side, there is a vertical navigation menu with five red buttons containing white text: "Table of INTASC Principles", "Culture and Climate of School", "Students with Special Needs and Services", "Sequence of Five Lesson Plans", and "Documentation of Prof. Involvement". To the right of the menu is the main content area. At the top left of this area is the University of Indianapolis logo, which features a red and white running horse inside a circular seal with the text "UNIVERSITY OF INDIANAPOLIS". To the right of the logo is the heading "About this Portfolio" in bold black text. Below the heading is a paragraph of text: "This portfolio was produced in the Spring of 2003 as a part of the requirements for initial licensure as set forth by the School of Education at the University of Indianapolis and the State Department of Education." Below this paragraph is another paragraph: "This portfolio is one of eight in pilot group to examine the effectiveness of a digital portfolio format. Feel free to contact Robert Morse at the Center for Instructional Technologies with any feedback for further enhancing the production of a digital portfolio for Student Teaching." Below the second paragraph are five blue hyperlinks: "[[Table of INTASC Principles](#)][[Culture and Climate of School and Community](#)][[Students with Special Needs and Services](#)][[Sequence of Five Lesson Plans](#)][[Documentation of Professional Involvement](#)]", followed by the text "Last Update: March 3, 2003". At the bottom of the main content area is a small line of text: "designed from a template by [Robert K. Morse](#), Instructional Designer, University of Indianapolis, © Fall 2002".

Sample Page from Template

All pilot participants were volunteers (eight in the fall semester, six in the spring). They signed an informal contract with the pilot leaders agreeing that their work might be shared with others, that all requirements for the digital portfolio were the same as for standard portfolios, and that they would participate in surveys of the project. Additionally they agreed they understood that in all likelihood the digital pilot would require more time than the traditional portfolio, and that they could resign from the pilot group at any time and submit whatever they could on paper with the understanding and support of the department. A list of their names, phone numbers and e-mail address was shared with all participants to maximize communication.

A schedule of support sessions was distributed. In general, the sessions were held on alternate Monday afternoons, chosen to alternate with the usual Student Teaching Seminars that are approximately every other week. During the fall semester, additional time was available on a voluntary basis during the hour just before the regular seminar. This was a time when university supervisors traditionally met with their candidates, and it did not prove to be convenient for the participants. It was eliminated during the second semester. (Although it seemed like a fine idea to eliminate this, the spring semester candidates indicated more strongly in their final surveys that more support time would have been helpful.)

A Title II grant provided funds for the purchase of Zip disks (1 per participant) and CD-RW discs (minimum of 3 per candidate) for the pilot.

Held commonly among those involved in planning the pilot program was a concern that reviewers for digital portfolios might be difficult to find. We feared they would ask us just to print off a copy for them to read. Those concerns proved to be only partly correct. There was some reluctance on the part of reviewers to take a digital portfolio. In some cases only a little encouragement persuaded a reviewer to work with a digital document.

We actively sought comments from reviewers concerning ease of use or problems encountered. Though we had no formal instrument to collect this information, an amount of feedback came to us. In the fall, comments were generally favorable, though one reader strongly suggested that without traditional page numbers it was very difficult to refer to any specific location in the portfolio when commenting. In the spring experience, we suggested candidates put a small number in parenthesis at the end of every paragraph on every web page. Apparently, this combination of page name, from the heading, and paragraph number satisfied this concern. After all portfolios had been reviewed, a member of the Teacher Education Department volunteered the comment that the digital portfolio she had reviewed was excellent and very easy to follow.

When students were ready to download the template, they directed their web browsers to a specified location on the CIT website. Students retrieved a file in .zip format and used Winzip to uncompress the files to a folder on their Zip disks labeled *EdPortfolio*. Students were given quick tip sheets explaining the basics of Dreamweaver, project management tips, and an overview of the template and how it was to be used. At the end of the eight weeks, students brought their Zip disk to the Center for Instructional Technologies where the *EdPortfolio* folder was added to a set of instructions and downloadable plug-ins for reviewing the portfolios.

A menu was created in Flash MX to provide the reviewer with the option of viewing the portfolio or browsing the CD to find a plug-in support page. Quicktime Player, Acrobat Reader, and the suite of Microsoft Office readers were provided to reviewers. A one-page sheet of instructions was provided to each reviewer. This instruction guide outlined the steps to take in opening the portfolio or browsing the CD for additional support.

We were gratified that all digital pilot participants passed the portfolio review process. Though we realized they might not, we had no real plan of how to proceed for a second portfolio process. We speculated that had a digital pilot candidate failed the first attempt, they might well decide to create a more traditional paper portfolio the second time around. Fortunately, we did not face that situation.

Final Survey

A survey was administered to all pilot participants and to an equal number of randomly chosen non-participating student teachers asking essentially comparable questions concerning the success of the portfolio experience as a whole. The digital group questions were pointed at the *digital* portfolio preparation process, while the control group questions referred simply to the portfolio preparation process. A summary of the significant results include the following:

When asked, “How comfortable were you creating your portfolio, 100 percent of the digital pilot participants selected “comfortable,” while 70 percent of the control selected “comfortable,” with 30 percent selecting “uncomfortable.” Note: not one candidate selected “very comfortable.”) Digital respondents volunteered the comments that they felt rushed, needed more work sessions, and were comfortable, but stressed more about the content than the process.

On an item asking whether they received adequate support and assistance preparing the portfolio, 50 percent of the digital participants selected “very adequate,” with 50 percent of them selecting “adequate.” Of the control group, 60 percent selected “very adequate,” and 40 percent selected “adequate.”

The digital group felt the computer labs provided were “very adequate” (30 percent) or “adequate” (70 percent). Anecdotal comments from the pilot group indicated some did most of the work on their home computer. Some of the students acquired a 30-day examination copy of DreamWeaver and installed it on their home computers.

Interestingly, when asked to respond to, “The digital portfolio experience has been beneficial to me, 100 percent of the digital group selected “agree,” the strongest possible choice, while 40 percent of the control group selected “agree,” 40 percent selected “unsure,” and 10 percent indicated, “disagree.” One candidate who has secured a teaching position for next year indicated her new principal was extremely impressed that she had completed a digital portfolio.

The issue of whether having volunteers for the pilot group may have skewed any results seems to have been answered by the item, “If you had it to do over again, would you participate in the digital pilot group?” 90 percent of the digital participants (self selected) indicated “agree,” the strongest possible choice. However, one respondent added, “Absolutely. But I might not have

thought so at 3:50 p.m. when it was still burning, but looking back, it is a great final product.” The question for the control group was, “If you had been invited to do so, would have you participated in the digital portfolio?” Fifty percent of the control group indicated “unsure,” while 50 percent chose “disagree.” The issue of whether duplicating the pilot with all student teachers may be feasible is clouded. Apparently something needs to change before it will appeal to all candidates.

We wanted to know whether participants believed the digital process enhanced reflection on the experience. The item “Using the digital portfolio allowed me to reflect on how various parts of my student teaching experience related,” 60 percent of the digital group indicated “agree,” the strongest choice, with 20 percent choosing “unsure,” and 20 percent selecting “disagree.” The word “digital” was removed from the control group item. 40 percent of them believed the portfolio enhanced reflection, while 50 percent were unsure, and 10 percent selected “disagree.”

Pilot participants were asked to respond to: “The digital portfolio process is a good one and adds to the quality of the student teaching experience.” 100 percent of them responded, “agree,” the strongest possible choice. The control group item read, “The portfolio process is a good one and adds to the quality of the student teaching experience.” Thirty percent agreed, 40 percent were unsure, and 30 percent selected, “disagree.”

Comments from the digital group:

Open-ended comments were requested from the digital pilot group. A summary of their responses follows.

It is not as simple as copy/paste from a Word document. It would be easier if we all had DreamWeaver at home.

I do not have a computer at home. Working at school was time-consuming.

Don't ask us to miss portfolio help sessions to do the digital instruction. Plan it at another time.

I'm not sure how successful this would be if the whole group were required to complete the digital format, because it requires a certain amount of motivation and a TON of perseverance and time.

I got more out of the digital work sessions than out of the seminars. I think it would be beneficial to add digital movies to show teaching “in progress” and to show INTASC standards.

Set deadlines/expectations for each meeting, so that people will stay on track.

I really liked the way the other e-portfolio members helped each other. I think there was a lot of support from within the group. I also thought the e-portfolio was more work than the traditional one, but the end product was worth the work.

Tell student teachers about the digital group the semester before. This will provide them time to familiarize themselves with the program being used. (Have) multiple work sessions each week, to avoid conflicts with student teacher help sessions. Provide an online FAQ section, which would serve to answer some of the most common problems.

Do some advance training on the software before student teaching begins.

More staffing and support is need through the process.

Recommendations:

Strengths of the pilot include the perception among many participants that the digital portfolio enhances reflection on the student teaching experience, encourages the development of new and useful technical skills, and may have potential to include digital video clips to reflect clearly the relation of teacher behavior to INTASC and content area standards. Potential public school administrators are often impressed with the ability of a candidate to manage technology in a meaningful way in an educational setting. There was an evident feeling of accomplishment and satisfaction among all candidates *after the portfolio was completed successfully!*

Limitations include the level of anxiety that exists among student teachers at the University of Indianapolis and the additional time commitment that was noted by several participants. Training and technical support continue to be problems. Instruction in the use of the DreamWeaver software took many hours. Survey comments from participants indicate even more support was needed. Eventually participants must provide their own Zip disks and CD-RW discs.

The maximum number of student teachers expected in one semester at the University of Indianapolis is approximately 60. There is no computer lab on campus of sufficient size to allow all candidates to work at the same time. The number of scanners, digital video cameras, video editing equipment and CD burners must also be adjusted to meet the requirements of a full-scale digital portfolio effort.

One of the goals of this project was to improve student reflection. It was our hope that the video editing process to obtain short “30-second” clips of one’s teaching would help some students become more reflective about how their actual teaching met or failed to meet INTASC standards. Given the restraints of the project and the availability of equipment, it was decided that students would record their videos on Analog VHS and digitize “selected” portions and convert these portions to short Quicktime Movies that could be inserted within their portfolio.

Very few students digitized any video. Those who did digitize video seemed to digitize video indiscriminately. One University Supervisor did however take the time to help his student teachers by creating a few short movies that they could use in their portfolio. Given the short production time in creating these portfolios few students saw the video as an integral part of their reflections. The few students who did have digital video examples remarked on the benefits they saw to the rest of the portfolio process and how much they would encourage others to add video to their portfolios.