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### From Zero to Over 2,500 Eportfolios in Six Years: The Eastern Kentucky University Experience

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**From Zero to Over 2,500 Eportfolios in Six Years:  
The Eastern Kentucky University Experience**

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**Abstract**

In 2000, Eastern Kentucky University (EKU) was awarded a Preparing Tomorrows Teachers to Use Technology (PT3) Implementation grant. One of the major goals of the grant was to create an electronic/multimedia portfolio (eportfolio) assessment system through which future teachers would document their proficiencies and amass strategies to enhance their future teaching. Between the fall of 2000 and the summer of 2003 an eportfolio development team, consisting of faculty from the College of Education and the College of Arts and Sciences, a college student, a public school teacher, and a technology expert, developed and implemented an eportfolio to be used by all teacher education candidates in the College of Education. Through systematic piloting and review, the obstacles and challenges of developing an eportfolio were met and a professional product was incorporated into the teacher education program in the College of Education. As of spring 2006, over 2,500 College of Education student eportfolios are online.

**Introduction**

In June of 2000, the College of Education at Eastern Kentucky University (EKU) was one of several institutions throughout the United States to receive a Preparing Tomorrow's Teachers to Use Technology (PT3) implementation grant. EKU was awarded a little over \$1.1 million for a three year period to address three major goals: (a) creating "clusters" of Education and Arts and Sciences faculty, as well as pre- and in-service teachers, to work together to integrate content, pedagogy and technology through the redesign of technology-rich general education and educational foundations courses for future teachers; (b) establishing "service units" to coordinate and disseminate outcomes; and (c) creating an electronic/multimedia portfolio assessment system through which future teachers will document their proficiencies and amass strategies to enhance their future teaching. [See the grant abstract here.](#)

The implementation of an electronic record with all candidates considering education as a major is a very large undertaking. This paper describes the planning, research, piloting and implementation of a new eportfolio process at Eastern Kentucky University. At the time of this publication there are over 2,500 web-based teacher education eportfolios online which can be

viewed at <http://www.coetech.eku.edu/DataCollection/Searchep.asp>. Many of these have been evaluated by teams of faculty. Some have been completed and used as part of the pre-service teacher's job search process.

## Planning and Development

### *Fall 2000, We Have a Grant—Now What?*

In August 2000, a [two-day introduction and organization workshop](#) was held for all the participants of the ECU PT3 grant. During that meeting nine clusters (teams) were formed to address various goals of the grant. The eportfolio development team was one of the [nine clusters formed](#) at this workshop. [The team](#) was composed of five members, and later increased to seven members, all individually selected by the deans of the College of Education and the College of Arts and Sciences for their expertise and interest in the area of education, technology, and teacher education portfolios. The team scheduled biweekly meetings beginning in January 2001, with the very ambitious goal of planning, developing and implementing an electronic teacher education portfolio by the fall term of 2001.

### *Spring 2001, Planning and Development Begins in Earnest*

For the first three months the team worked to conceptualize and define the major purpose of the eportfolio and to research what other institutions were doing with eportfolios. After attending conferences, having conversations with others nationally involved in developing eportfolios and looking at commercially available products, the eportfolio team settled on some basic principles to guide the actual development of the ECU teacher education portfolio. The team decided the eportfolio should be:

1. **locally developed** instead of a commercial product in order to provide maximum flexibility for future modification, expansion, and personalization. The team felt it was very fortunate to have the local technical expertise required to capture the ideas and develop the technical product.
2. **easy to use**, requiring only basic technical skills on the part of the user. The team made it an overriding goal to ensure technology was not the focus of the eportfolio, but the student products contained within the eportfolio were the focus. The team did not want students to feel as though they needed to be computer experts to develop their eportfolio.
3. **web-based** and at the same time allow the student the option of having it network-based or disk-based if they choose not to put their eportfolio on the web. It should be noted that to date, all students have elected to use the web-based option.
4. **standards based**. The eportfolio would be based on the [Kentucky New Teacher Standards](#), much the same as the existing paper portfolio that was currently being used by teacher education students in the College of Education.
5. **introduced early** in the teacher education program and completed (continuously updated) throughout the program. The team did not want to create a separate eportfolio course nor did they want students to wait until the end of their program to begin

developing the eportfolio. Students should develop the eportfolio throughout their program and it should be assessed from the time a student enters the teacher education program until they exited the program.

The eportfolio team presented its work, including draft eportfolio templates, at each of the PT3 grant [team meetings](#) and feedback received during those meetings had a significant impact on the final set of guiding principles (listed above) as well as the content, format, organization and development of the EKU eportfolio template.

The resulting eportfolio was a web-based eportfolio, built using the “what you see is what you get” (WYSIWUG) editing features of Microsoft FrontPage. The eportfolio was organized around a [homepage](#) which included basic introductory information about the student and the student’s own introduction to the eportfolio as well as a [table of contents page](#). From the homepage a link was provided to the table of contents page which, in turn, included links to all other pages in the eportfolio.

By the end of the spring 2001 term, and after many revisions of the initial template, the eportfolio team believed it had a professional quality, easy to use eportfolio template to introduce during the fall term.

### **Implementation and Evaluation**

#### *Summer 2001, Pre-Implementation*

The EKU eportfolio was designed, implemented and revised based on feedback from a series of evaluations from content and technical experts, students, education faculty, school-based practitioners and the review of existing eportfolios at other institutions. Because the web-based eportfolio would affect so many students and faculty each semester, the understanding and assessment of all involved was critical to its long term use and value.

Once a basic set of templates was completed, during the summer of 2001 senior level students were paid a small stipend to take material from their binder (hardcopy) portfolio and place it into the eportfolio through copy and paste editing, scanning and other means. Upon completion of this process each of these students was presented with a series of evaluation questions to answer through personal interview and on paper. Conclusions from these discussions and surveys led to recommendations for much more detailed student instructions for developing the eportfolio than had been previously provided.

Before implementation in the fall, the eportfolio was shared with College of Education faculty at the initial college meeting in August 2001. Faculty members were invited to make suggestions and raise concerns. Among the concerns identified were how students would be able to present their completed eportfolios to groups of faculty during the required interviews. These sessions resulted in the development of a set of faculty instructions to go with the student instructions.

### *Fall 2001, Initial Implementation*

In October, 2001, the first training sessions for the EDF 203 introductory education classes composed of around 300 students were conducted. These students were introduced to the eportfolio using the College of Education Technology laboratory (computer lab). Two training sessions were held for each class. The first session included an overview of the eportfolio by PT3 eportfolio team members and students selected an initial template (style) for their eportfolio from a set of 10 templates. During this training, all students wishing to do so signed a waiver form allowing their eportfolio to be published on the web. No hands-on training was provided in the first session. In the second session, each student entered their introductory items (name, address, major, etc.) as well as previously completed assignments from class (eportfolio introduction, student resume, professional development plan and philosophy of education) as instructed by a member of the eportfolio team.

Some of the problems encountered during the first semester of implementation included concerns from faculty who did not understand how to use the eportfolio template; students who had absolutely minimal computer skills; and technical difficulties with computers, such as computer crashes, during the instruction. The classes were also frequently too large for the main computer lab and the eportfolio team instructors were forced to divide the class into two parts, with a second eportfolio team instructor in an adjoining room.

EDF 203 students were not always sufficiently prepared for the training which resulted in students not getting the full benefit of the instruction. As a result, students needed to come back to the lab after they completed their class assignments and enter them in their eportfolio with the help of a computer lab assistant—most often a student worker. During the first semester, these assistants rarely understood how to help the students and a great deal of frustration was expressed by students in their evaluation of the eportfolio at the end of the course. Several follow-up training sessions were scheduled by the technology center (outside of regularly scheduled class times); however, these training sessions were poorly attended by students. Finally, students complained that there was no student instruction manual available for their use after the training.

### *Spring 2002, Lessons Learned*

In January 2002, the required student mentoring project was added to the list of eportfolio assignments. As a result of the feedback and experiences of students, faculty, and trainers, during the interim between fall and spring semesters, a complete student eportfolio manual was developed which described and defined each element of the eportfolio and gave systematic step by step instructions for how to establish and update the eportfolio. The reaction of the students to this manual was very favorable. During this second term, some faculty still failed to support the implementation of the eportfolio and training sessions. After much discussion about how to address this issue, faculty training workshops were planned for the beginning of the fall, 2002 semester. It was also suggested that the EDF 203 faculty create their own eportfolio using the templates built by the eportfolio team in order to help them become more familiar with the process. Training sessions were also conducted to guide faculty through this process.

*Summer 2002, Updates and Expansion*

The next phase of the eportfolio began in summer of 2002 after the first year of implementation. Feedback from surveys and interviews with faculty and students led to a number of improvement opportunities for the eportfolio team to consider. As a result of this feedback it became clear that in addition to technology glitches and support issues, other key features related to the content of the eportfolio had not been adequately addressed. Top among those issues were a focus on reflection (which is a primary purpose for any portfolio) and teacher education candidate dispositions, which was a key element of the College of Education [conceptual framework](#). With this information in mind, the eportfolio team further refined the eportfolio, adding a section for [three dispositions assignments](#) from the students' earliest education course: (a) The Human Relations Incident; (b) My Favorite Teacher; and (c) Reflecting on Personal Dispositions. A link was also included on each of the standards pages that direct users to a page where students enter an [individual reflection for each entry](#) they include in support of the Kentucky New Teacher Standards. With those revisions completed, a significantly expanded [student manual](#) was made available along with an updated [faculty manual](#).

Another difficulty was addressed when the team removed an evaluation form that required faculty signatures from the eportfolio, replacing it with a simple form containing checkboxes. This was a result of faculty expressing concern about the students scanning the form, which contained signatures from faculty and students. A printed documents folder (hardcopy folder) was developed that contained the revised student manual along with other essential documents and was provided to each student in the fall 2002 semester. The student manual was also placed on the web, and links to the manual were placed in the revised eportfolio templates. At this point, the eportfolio team also decided to develop an additional manual for faculty advisors and instructors to help address some of the problems discovered over the course of the first two semesters.

*Fall 2002, Second Year of Implementation*

During the fall semester of 2002, the training sessions conducted by the eportfolio team continued. The new manuals, templates, and procedures were introduced and implemented. Because of the knowledge gained by the eportfolio team's experience, the improved quality of the support documents, and the growth in knowledge and abilities of the faculty and computer lab attendants, more of the instruction was being conducted by the course instructors and less by the eportfolio team. However, to continue to evaluate the process, students and instructors continued to be surveyed. In addition, more faculty were involved in reviewing the use of the eportfolio as work from other classes was included in the templates and student eportfolios were being evaluated as part of admission to teacher education, student teaching, and program exit at the end of student teaching. Senior level students and faculty were surveyed, random eportfolios were analyzed, and open discussions were held. Problems identified included the need for more access and support off campus and from home. Procedures to improve these areas were developed and included in the revised eportfolio manual.

By the end of fall 2002 term, the eportfolio student manual was again considered a great asset by the students. However, the faculty advisor/instructor manual was less well received. A consistent difficulty in the implementation of the eportfolio was the challenge of gaining full participation from the teaching faculty, as well as some negative perceptions of a few faculty members responsible for evaluating the student eportfolio.

### *Spring, Summer & Fall 2003, Transition of "Ownership"*

During the spring semester of 2003, minor changes were made to the eportfolio as well as to the manuals (both student and faculty). The eportfolio team assisted in training sessions during this semester, relying on faculty for the majority of the instruction. During the summer of 2003, due to additional standards in two of the programs, new eportfolio templates were developed for use in Library Science and Interdisciplinary Early Childhood Education (IECE). The eportfolio team was disbanded in August of 2003 and the responsibility for introducing the eportfolio and providing the initial training was transferred to the EDF 203 instructors, with assistance from the College of Education educational technology department.

### **The EKU Eportfolio Compared to Others**

In the process of developing and implementing the EKU eportfolio, the eportfolio team compared its experiences with those reported by others at institutions throughout the nation. These experiences ranged from use of eportfolios in P-12 schools and higher education institutions. The following is a synopsis of some of the major findings compared to the EKU eportfolio process.

Reflecting on preservice teachers' work has become a major focus of the EKU eportfolio. Major changes were incorporated over the course of development of this tool to highlight the focus on reflection. In 1996, Tancock & Ford also focused on reflection through the use of a commercially available electronic portfolio program to examine the use of technology in education, for which the focus of their project was reflection by the preservice teacher upon their activities with students. Five preservice teachers volunteered to participate in this study. Each preservice teacher was involved in assisting a student in either a corrective reading course or a content literacy course. The preservice teachers were strongly encouraged to use the electronic portfolio as a logical place for reflection.

Barrett (1997) indicates that the elements which should be included in any portfolio, tradition or electronic, should include learner goals; guidelines for selection of materials; work samples; teacher feedback; student self-reflection; rubrics based on standards for evaluating work; and examples of good work for students to use as examples for them to strive toward. The EKU eportfolio includes all of the above except exemplars or examples of good work. The current strategy at EKU is to provide samples in the student manual and encourage faculty to direct students to view [outstanding exemplars](#) on the student website.

Barrett (1998) also discusses the planning process when developing electronic portfolios. Issues that should be addressed according to her experiences include: purpose of the eportfolio, which should include student growth and progress over time; storage of the eportfolio during development, or how the preservice teacher will be able to access and edit the working

eportfolio; final publication of the eportfolio, or how it will be presented to the audience(s) it has been produced for; security and confidentiality of the preservice teacher's work in the eportfolio; and finally, whether the eportfolio design allows for collection of assessment data automatically. In the course of developing the ECU eportfolio, the team consulted Dr. Barrett on her use of eportfolios for preservice teachers. The issues raised in this article by Dr. Barrett were key in development of the ECU eportfolio. Notably, the format used was not one that allows for automatic collection of assessment data. However, ECU has created its own database that allows access to the more than 2,500 eportfolios that have so far been developed or are in the process of being developed by ECU College of Education preservice teachers. Each eportfolio is reviewed by faculty using a standard rubric and set of criteria.

Lankes (1998) examined portfolios as a "new wave in assessment". Students are assessed based on their accomplishments and not merely on exam scores. Portfolios can contain not only students' work, but also their teachers' evaluations, rubrics, and student reflection upon their work. Interestingly, Lankes suggests the use of eportfolios by the teacher to evaluate incoming students' abilities and plan their courses to better fit the needs of their students. A primary purpose of the ECU eportfolio was to maintain an ongoing record of student progress.

Kariuki & Turner (2001) used a project-based approach to induce preservice teachers to use technology. Laptops were provided to fifteen preservice teachers, who then used them to assist an elementary student to produce an electronic portfolio. Their findings suggest that using such a "non-threatening approach" allowed the preservice teachers to relax and focus on the project and not on the process. The ECU eportfolio team used a similar approach, by making the focus the addition of items into predeveloped template pages in the eportfolio. The preservice teachers would therefore focus on the production of the finished product, and not the underlying structure of the eportfolio.

Kankaanranta (2001) examined the use of technology by early childhood teachers, using information and communication technologies in instruction. In this study, it was found that increased usage of technology leading to the production of electronic or web-based portfolios increased teachers' enthusiasm as well as competence. The major conclusion of this study was the need for a great deal of teacher support in the use of information and communication technology in the schools. By training preservice teachers to develop and use an eportfolio, the ECU eportfolio team has enhanced new teachers' abilities to work with technology, and, indeed, to assist teachers already working in the field with their technological abilities.

Milone (2001) reported on several different schools at the middle school level that are using electronic portfolios to increase students' enthusiasm for the learning process. One group at the Van Cortlandt Middle School in Croton-on-Hudson, NY, found that students who were considered average or below-average in their work were capable of producing remarkably good electronic portfolios. A teacher at Horizon Community Middle School in Aurora, CO, found that students were less stressed and more enthusiastic about the production of an electronic portfolio and therefore produced excellent pieces of work. Our goal was to introduce an electronic portfolio that would allow students to present their work in an exciting new format. This format would be designed in a way that could stimulate the interest of those students who have average or below-average technology skills.



This is an aspect of the EKU eportfolio that has not yet been fully explored by instructors throughout the student's career; i.e., those professors in the courses above the introductory course in which the eportfolio is introduced. These professors could, conceivably, overlook the students' eportfolios before the beginning of the course and outline a plan to address weaknesses of the students.

In a study done by Bartlett (2002) at the University of Hawaii, a group of 26 preservice teachers were used as a test group for the use of electronic portfolios. This study found that the eportfolio was viewed positively by the students (7.51 on a 10.0 scale). Students also stated that the eportfolio gave them the opportunity to learn about educational technology and new ways to organize and present data. While not on as ambitious a scale as the implementation of the eportfolio at EKU, this study showed similar responses to those generated at EKU. As stated by Bartlett (2002), "creating electronic portfolios also increases students' comfort with technology".

Wright and Stallworth (2002) used a test group of 25 students to examine the production of electronic portfolios for two of the methods blocks in education. The study integrated database use, word processing, presentation software, digital camera use, website development, and digital editing for student technology development. Individuals in the study indicated that, while they were for the most part concerned about the process, they were committed to learning how to use the technologies. Interestingly, at least one student involved in the project indicated that electronic portfolios gave them "an opportunity to express why I should be a teacher." Issues this study raised were the increased amount of time necessary for the students to work in the computer labs, and the need for additional workshops to assist students in their project. EKU students frequently report that the eportfolio gives them a change to state their philosophy and it reflects what they have learned up to this point in their program.

### **Discussion/Conclusions**

One of the major reasons for the PT3 grant and for the eportfolio was to increase the technology skills of students and their use of these skills in all classes across their programs. To begin to see how effective the implementation of the eportfolio was on facilitating this increase in technology skills, a checklist of the different types of technology used in the eportfolio was added to the eportfolio reviews during interviews. A study of the impact revealed that other than the use of web development tools the technology displayed in the eportfolios was not significantly more varied or in depth than in the binder portfolios that were being phased out. The portfolio team concluded that the focus on building the technology skills of students would require embedding this training in existing courses and that more involvement and commitment of program faculty was needed. This would have to be handled at the department level.

The eportfolio will continue to be used in all professional education programs at Eastern Kentucky University. Some consideration is being given to using other formats such as Word documents stored directly on the student's web server. The Educational Leadership Department is currently experimenting with a modified version of the open source learning management system (Moodle) to serve as an eportfolio portal for its graduate education students. Initial results indicate this system may be superior to the FrontPage eportfolio and may eventually replace the College of Education undergraduate eportfolio discussed in this paper.

Regardless of the format used, a major concern remains as to how to best ensure a positive start to the eportfolio development process by students during their initial semester of creating their eportfolio. Research on the most effective strategies for doing this is needed. Several studies are underway to assess what factors most contribute to an effective eportfolio implementation approach.

The EKU eportfolio process has been extremely successful with over 2,500 students who have developed, or are in the process of developing an attractive and functional eportfolio that has been used to guide the assessment of their progress toward meeting state performance standards. Several hundred students have graduated and completed their eportfolio and have used it as part of their job search process and as a foundation of their professional career portfolio.

PT3 featured the EKU eportfolio on its Stories & Strategies website during the early implementation phase. EKU was also selected to participate in a national broadcast through the CATALISE program from Western Illinois University. The selection for that broadcast was due to the recognition of the success as well as the breath and size of the eportfolio implementation at EKU.

Eastern Kentucky University's eportfolio system can serve as a fully functioning example of a process that others can emulate and learn from. The lessons learned could help others be successful and perhaps avoid some of the problems EKU encountered during its development and implementation.

## References

- Barrett, H. (1997). *Collaborative planning for electronic portfolios: Asking strategic questions*. [Online]. Retrieved January 15, 2004 from the World Wide Web: <http://www.transition.alaska.edu/portfolios/planning.html> Note: Link is no longer available on the web.
- Barrett, H. (1998). Strategic questions: what to consider when planning for electronic portfolios. *Learning and Leading with Technology*, 26(2), 6.
- Bartlett, A. (2002). Preparing preservice teachers to implement performance assessment and technology through electronic portfolios. *Action in Teacher Education* 24(1), 90.
- Denner, P.R., Salzman, S.A., & Newsome, J.D. (2001). Selecting the qualified: A standards-based teacher education admission process. *Journal of Personnel Evaluation in Education*, 15(3), 165.
- Fulton, K. (1998). Learning in a digital age: The skills students need for technological fluency. *T.H.E. Journal Online*. Retrieved April 10, 2006 from the World Wide Web: <http://www.thejournal.com/magazine/vault/A2016.cfm>
- Kankaanranta, M. (2001). Constructing digital portfolios: teachers evolving capabilities in the use of information and communications technology. *Teacher Development* 5(2), 259.

- Kariuki, M., & Turner, S. (2001). Creating electronic portfolios using laptops: A learning experience for preservice teachers, elementary school pupils, and elementary school teachers. *Journal of Technology and Teacher Education*, 9(4), 567.
- Lankes, A.M.D. (1998, April). Portfolios: A new wave in assessment. *T.H.E. Journal*, 25, 18.
- Milone, M. (2001). Electronic portfolios: Who's doing them and how? *Technology of Learning*, 28.
- Tancock, S.M., & Ford, K. L. (1996). Facilitating reflective thinking: Technology-based portfolios in teacher education. *Journal of Technology and Teacher Education*, 4(3/4), 281.
- Wright, V.H., & B. J. Stallworth. (2002). Challenges of electronic portfolios: Student perceptions and experiences. *Journal of Technology and Teacher Education*, 10(2), 49.
- August 10 & 11 Workshop (2000). Retrieved April 10, 2006, from [http://www.education.eku.edu/pt3/Aug00\\_workshop.htm](http://www.education.eku.edu/pt3/Aug00_workshop.htm)
- Portfolio Development Team, PT3 Grant Website. (n.d.). Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website: <http://www.education.eku.edu/pt3/portfolio/default.htm>
- Kentucky Professional Standards Board. New Teacher Standards for Preparation and Certification. (n.d.) Retrieved April 10, 2006 from Kentucky Professional Standards Board website <http://www.kyepsb.net/teacherprep/newteachstandards.asp>
- Grant Abstract, PT3 Grant Website. (n.d.). Retrieved April 10, 2006, from Eastern Kentucky University, College of Education website: <http://www.education.eku.edu/pt3/abstract.htm>
- Grant Members, PT3 Grant Website. (n.d.). Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website: [http://www.education.eku.edu/pt3/grant\\_members.htm](http://www.education.eku.edu/pt3/grant_members.htm)
- Portfolio Development Team Cluster Meeting Schedule; PT3 Grant Website (n.d.). Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website: [http://www.education.eku.edu/pt3/portfolio/cluster\\_meeting\\_schedule.htm](http://www.education.eku.edu/pt3/portfolio/cluster_meeting_schedule.htm)
- Workshops; PT3 Grant Website (n.d.). Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website: <http://www.education.eku.edu/pt3/workshops.htm>
- Teacher Education Student Electronic Portfolio Student Manual: Version 2-Beginning Fall 2002. (n.d.) Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website: <http://www.education.eku.edu/technology/manual-revised.pdf>

Conceptual Framework. (n.d). Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website:

[http://www.education.eku.edu/coe\\_ncate/conceptual\\_framework.htm](http://www.education.eku.edu/coe_ncate/conceptual_framework.htm)

EKU Faculty Manual for the Professional Education Electronic Portfolio (Revised Summer 2003). (n.d.) Retrieved April 10, 2006 from Eastern Kentucky University, College of Education website:

<http://www.education.eku.edu/technology/Faculty%20Manual-RevisedSummer03.rtf>