

Faculty Perceptions of Electronic Portfolios in a Teacher Education Program

[Christian Penny](#) and [John Kinslow](#)
West Chester University

Abstract

The purpose of this qualitative study was to explore the experiences of selected teacher education faculty members engaged in electronic portfolio development. The research questions driving this study were (a) What are the faculty members experiencing as they adopt eFolios? (b) How do these professors understand and make sense of the role eFolios play in teacher education? A phenomenological case study research design framed and guided the study. Six overlapping themes emerged from this study. Interpretation of the teacher's voices revealed assertions that attempt to make sense of their collective experience. Implications of these five assertions are discussed.

We seem to be beginning a new wave of technology development in higher education. Freeing student work from paper and making it organized, searchable, and transportable opens enormous possibilities for re-thinking whole curricula: the evaluation of faculty, assessment of programs, certification of student work, how accreditation works. In short, ePortfolios might be the biggest thing in technology innovation on campus. Electronic portfolios have a greater potential to alter higher education at its very core than any other technology application we've known thus far (Batson, 2002).

The purpose of this qualitative study is to explore the experiences of select teacher education faculty members engaged in electronic portfolio (eFolio) development at Central University of Pennsylvania. This research provides a basis for analyzing how professors understand the role of electronic portfolios in teacher education.

This study took place at Central University, one the largest providers of new teachers in the Commonwealth of Pennsylvania, during the spring of 2005. Central University suffers from many of the same problems that plague U.S. public institutions of higher education: funding and time are in short supply while faculty members teach a full 12-credit, four-course load every semester. The goal of this study is to capture and portray selected professors' experiences during a time of change when each department within the College of Education was in the process of implementing some type of electronic portfolio. An attempt was made to flesh out and give life to the themes and concepts that emerged and explain this adoption process from the perspective of teacher educators.

Background

Over the last two decades, teacher preparation programs have worked with portfolio development, initially with materials and artifacts housed in paper binders. These somewhat cumbersome collections are often implemented to meet state, association, or national standards, usually with a focus on helping candidates get a job and offering a means for them to highlight their professional potential. Teacher portfolios, in current literature, are often divided into three categories: assessment portfolios, employment portfolios, and learning portfolios. The latter category offers teacher candidates opportunities for reflective growth over time as they collect professional evidence and work toward their own self-improvement as practitioners.

Although portfolios in the past have been used widely in the arts, their adoption in teacher preparation programs is relatively new. Electronic portfolio development has been encouraged by accreditation agencies, is less cumbersome than paper, and often consists of learner-created products in varied media that reflect the processes of learning and development over time. Portfolios have been seen as particularly well suited for teacher preparation as a mechanism for integrating learning and assessment that displays learner performance and mastery. Milman and Kilbane (2005) described advantages of electronic portfolios, such as the exploration and increased knowledge of technology applications. In their work they also highlight an important process of self-reflection that may be engaged when portfolio creation is a part of the ongoing professional development of teachers.

The effective adoption of portfolios, for any institution, is connected to their purpose, value, and faculty/student motivation, as well as their cost in terms of time and money. Addressing these considerations in a 2004 conference presentation, Dr. Helen Barrett posed some relevant questions that could drive current portfolio research:

What is the value-added of publishing a portfolio in an electronic format? ...Is it worth the extra effort to publish these documents in some type of electronic format (CD-ROM, Web server, video tape, DVD, etc.)? What are the benefits that outweigh the extra effort? We know from the literature on change that the benefits of an innovation must exceed the cost of adoption, or it just won't happen.

Barrett then suggested,

A model can be developed for balancing both the needs of accountability and deep learning, using three different systems that electronically talk to each other: A digital archive of learners' work; A learner-centered electronic portfolio "using the learner's authentic voice"; An institution-centered database to collect faculty-generated assessment data based on tasks and rubrics.

Dr. Barrett expressed a hope that “greater learner ownership and control over the contents, purpose, and process of portfolio development, will lead to more intrinsic motivation to use the portfolio to support lifelong learning” (Barrett, 2004).

Central University is not alone in its interest in using portfolios in its teacher education program. According to one report (Salzman, Denner, & Harris 2002), almost 90% of teacher preparation programs use portfolios to make decisions regarding teacher candidates. The proceedings of the 2002 Conference of the Society for the Information Technology in Teacher Education lists more than 40 presentations under the topic of electronic portfolios; the 2003 conference shows over 50 sessions under the revised topic of Assessment and eFolios.

Clearly, National Council for Accreditation of Teacher Education (NCATE, 1997) standards and their requirement that candidates be prepared to teach with technology in 21st-century classrooms have motivated much of this activity, and the federal Preparing Tomorrow’s Teachers to Use Technology (PT3) program has helped support it. A search of the PT3 Web site found that more than 50% of the PT3 projects used the term *portfolio* in project descriptions (Barrett & Knezek, 2003).

In a follow-up to a study involving six teacher preparation institutions across the United States, Wetzel and Strudler (2005) stated, “One of the strongest recommendations was that adopters be able to articulate a clear purpose for the electronic portfolios for all stakeholders.” Despite the ubiquitous interest in portfolios among teacher preparation programs, consensus has not yet been achieved about the focus or purpose for portfolios and the best process for implementation.

Central University is just beginning to explore the full potential of electronic portfolios. Some work has been carried out over the past few years in several classes at Central University in the Teacher Education program.

A significant issue has surfaced recently in the portfolio discussion at Central University. In preparing for an NCATE visit for re-accreditation in spring 2006, the administration determined that a commercially available courseware would be used to collect required unit assessment data. In this case, the portfolio became “an institution-centered assessment and an accountability system, a markedly different purpose than the portfolios which, until this time, have been a student-centered tool for lifelong learning and professional development” (Barrett, 2004). In a comprehensive study, Strudler and Wetzel (2005), showed data suggesting “that the approaches to leadership and governance are key variables in how the initiation of electronic portfolios were received by faculty and ultimately implemented.” Because discussions and implementation are still in an early stage at Central University, the way these somewhat competing portfolio purposes of assessment, learning, or employment will be resolved is uncertain. However, the degree to which this effort is directed by administration from the “top-down” or by faculty members and students from the “bottom-up” will likely have an impact on its success.

This study is significant in part because it attempts to enliven and enlighten the discussion of electronic portfolios in teacher education. More specifically, assertions gleaned from this study will allow others engaged in discussions of portfolio adoption to understand individual faculty members’ experiences in this process and assist them in their own discernment.

Research Design

The central research questions driving this study were as follows:

1. What are the faculty members experiencing as they adopt electronic portfolios?
2. How do these professors understand and make sense of the role eFolios play in teacher education?

These questions sought to understand the phenomenon of electronic portfolios from faculty members' perspectives and were investigated through a qualitative research design consisting of in-depth interviews.

Qualitative methods are ideally suited to the task of describing and understanding educational change and program implementation. Patton (1990) wrote that an effective way to study program implementation is to gather detailed, descriptive information about what is occurring in the program. Since program implementation is characterized by a process of adaptation to local conditions, needs, and interests, the methods used must be open ended, discovery oriented, and capable of describing developmental processes and program changes. Meister (1997) stated that failure to monitor and describe the nature of implementation can render useless standardized, quantitative measures.

This study is rooted in phenomenological inquiry and describes the meaning of lived experience for five professors. To achieve this goal, methods were carefully selected that captured and described how the teacher educators experienced and understood the phenomenon of electronic portfolios—how they perceived them, described them, felt about them, made sense of them, and talked about them with others (as recommended by Patton, 2002).

In qualitative inquiry, the researcher is the instrument. Patton (2002) noted that the credibility of the study rests to a great extent on the skill, competence, and dedication of the person doing fieldwork, as well as the events taking place in that person's life.

While taking into account external audiences, the authors must also acknowledge that we were the primary intended audience for this study. Our involvement and experiences at Central University are a source of motivation for this research, as are our interests in school change and technology within education. As teachers of educational technology courses at Central University we have a vested interest in electronic portfolios and eventual outcomes for preservice teachers, faculty members, and administrators.

This personal knowledge and interest in the phenomenon under investigation could be seen both as a strength and a possible concern. One could argue that our experiences within the institution could bias our perceptions. On the contrary, our work within Central University helped inform this study and allowed us to move closer to the phenomenon of change from the faculty members' perspective.

Qualitative inquiry typically focuses in depth on a relatively small number of cases or participants (Patton, 1990). When selecting participants for a phenomenological study such as this, all of the participants must experience the phenomenon (Creswell, 1998). Thus, within this research purposeful sampling was used to select cases whose study would illuminate the research questions (as in Patton, 1990).

Patton (2002) provided 15 separate purposeful sampling strategies, plus a 16th approach identified as combination or mixed purposeful sampling. The underlying principle is that

information-rich cases are selected. The strategy must also fit the purpose of the study, the research questions, and the constraints being faced. With this in mind, we recognize that no perfect sampling strategy exists, but having considered the alternatives, we chose critical case sampling.

Critical cases are those particularly important in the scheme of things. Patton (2002) stated that a clue to the existence of a critical case is a key informant observation to the effect that “if that group is having problems, then we can be sure that all the groups are having problems” (p. 236). Although Patton warned against making broad generalizations from the study of one or a few critical cases, logical generalizations can often be made.

The most significant critical element of this case is the involvement of the faculty members in the portfolio process. The sample was not representative of the entire Central University Teacher Education faculty, nor was it intended to be. The goal was to understand the experiences and perceptions of selected professors who were immersed in the eFolio adoption process.

Five faculty members were formally invited to participate in the study. Of the five faculty members we met with and invited to participate, all of them agreed to be part of the study. Having five willing participants was significant in establishing trust during the study. Meaningful human research without the full understanding and cooperation of participants is impossible (Lincoln & Guba, 1985).

The best way to know what others are experiencing is to find methods of data collection that allow for devising procedures and strategies that consider experiences from the participants’ perspectives. In an attempt to understand the lived experience of being a faculty member during this change process, we chose interviews as the research instrument. We were interested in learning what it means for faculty members to be engaged in the portfolio process, how they understood electronic portfolios, and what underlying themes emerged from their experiences. Schultz (1967) called this information “subjective understanding,” and it is best uncovered through in-depth interviewing.

One model of in-depth phenomenological interviewing, advocated by Seidman (1998), involves a series of three separate interviews with each participant. For the purpose of this study we adapted Seidman’s model and conducted one longer 90-minute interview with each participant, but each interview had three parts. Each interview consisted of open-ended questions typed on an interview protocol (see [appendix](#)). An interview protocol is a predetermined sheet on which information learned during the interview is recorded. The use of an interview protocol allowed the researchers to organize questions and take field notes during the interview about the responses of the interviewee (Creswell, 1998).

The first part of the interview established the context of the participants’ experiences and focused on their life history. The participants were asked to reflect upon their past teaching experiences. The second part of the interview encouraged the participants to reconstruct the details of their present experiences as faculty members immersed in the eFolio adoption process. The purpose of the final section of the interview was for participants to reflect on the meaning of their experience.

Seidman (1998) wrote,

Making sense or meaning-making requires that the participants look at how the factors in their lives interacted to bring them to the present situation. It also requires that they look at their present experience in detail and within the context in which it occurs. (p. 12)

Interviewing the participants was both exciting and stimulating. As Patton (2002) wrote, interviewing provides the researcher an opportunity to enter another person's world for a short period of time. The thoughts and experiences of the faculty members were intriguing, and we were genuinely interested in what they had to share. Through this lengthy process of analysis, the data were broken down, conceptualized, and put back together in an attempt to provide a construction of the experience from the participants' perspective (as described by Lincoln & Guba, 1985).

Data analysis in qualitative research, according to Bogdan and Biklen (1992) is

The process of systematically searching and rearranging the interview transcripts, field notes, and other materials that you accumulate to increase your understanding of them and enable you to present what you have discovered to others. Analysis involves working with data, organizing them, searching for patterns, discovering what is important and what is to be learned, and deciding what and how to tell others (p. 157).

Consistent with this definition we engaged in the prolonged and iterative process of data analysis. Patton (2002) wrote that qualitative data analysis transforms the data into findings. Although no formula exists for this transformation and methods for data analysis are unique for each researcher, it is imperative that researchers "do your very best with your full intellect to fully represent the data and communicate what the data reveal (p. 433). Given the purpose of this study we completed the following phases for data analysis. The first phase of the analysis was the preliminary reading of interview transcripts, observational notes, and documents. The subsequent data analysis followed the constant comparison method provided by Glaser and Strauss (1967) and the operational refinements cited in Lincoln and Guba (1985).

We have endeavored to allow each of these faculty members' experiences to emerge from their own words and from the comparisons between them. There are always more insights to be gleaned, more about a story that could be told. The overarching goal was to capture as accurately as possible both the structure and meaning of the lived experience.

Participants

The five professors within this study are full-time, tenured faculty members at Central University. Pseudonyms are used to protect the identity of each participant. Professor Kerry has been with the institution for 4 years and teaches in the Music Education Department. Her experience with portfolios is extensive. "Music Education has been doing portfolios forever....We use them with our students [and] I keep my own electronic portfolios."

Dr. Martin has been using portfolios as an "exit requirement" in the educational technology courses she has taught during her 6 years at the University.

As a member of the Early Childhood program, Dr. McIntyre has worked at the university since 1970, and has “been using LiveText for a year and a half.” Dr. McIntyre has helped candidates create employment portfolios in the past as well.

Dr. Cash is also a faculty member in the department of Early Childhood. This is Dr. Cash’s 13th year at Central University, and she has “very limited experience with portfolios.”

The fifth faculty member, Dr. Long, has been teaching in the Department of Elementary Education since 1989. Dr. Long used paper-based portfolios “in an integrated curriculum course” she taught for 5 years, but has not taught that particular course for the past 3 years. Most recently she was involved in a pilot program to use electronic portfolios with elementary education teacher candidates.

Presentation of Findings

Six overlapping themes emerged from this study as these five teacher educators experienced electronic portfolio adoption. Through interviews, faculty members addressed their understanding of eFolios and the role these tools should play in teacher education. The experiences these professors shared seemed to follow a continuum or process of change, including their consideration of eFolio purpose, implementation, value, and reflection. Throughout the course of the research study, other issues and concerns came to light. The common threads in these recurrent six themes remained constant and seem to bear some similarity to patterns of change discussed by other researchers, including Fullan (1999), Wetzell and Strudler (2005), and Gibson and Barrett (2003). These themes will be presented individually, but should not be considered mutually exclusive. Sample quotes from interviews are included in these findings.

Support for Professional Development

A prominent point emerging from several interviews was the need for time and support to implement a new innovation or change in a larger teacher education program. The faculty members interviewed in this study all received some form of support from one of two PT3 grants acquired by Central University. This grant support allowed all faculty members to attend new professional development opportunities. Three of these five had course-release time or a mini-grant or both to support consideration of new technologies and assessment tools such as eFolios.

The Department of Elementary Education “started a pilot of an eFolio with PT3 support using TaskStream,” Dr. Long explained, although “it didn’t go well – I don’t think this was the right tool for us.”

Professor Kerry shared how her department got started using electronic portfolios:

The first PT3 grant year...it popped into my brain, and I said we ought to be investigating electronic portfolios. And so, through my first PT3 grant with [a colleague] we put together a proposal to begin electronic portfolio development here in music.

As a member of the Central University PT3 grant-writing team and professor of Educational Technologies, Dr. Martin has worked closely with the technology integration projects on campus.

We discussed portfolios ... and it seemed to evolve from a basic instinct that students should see and reflect on their accomplishments with technology. As part of the U.S. Department of Education PT3 Program we heard about [electronic] portfolios more and more at conferences.... Helen Barrett [visited] our University and present[ed] to faculty her research and methods on portfolios.... Since [then] I started using ePortfolios and have attended conferences on eFolios.... I have presented at workshops ... ePortfolios will always be part of any coursework I teach.

New Assessment Tools and Faculty Members' Acceptance

These five Central University professors work to stay abreast of current research and practice in teacher education. They are active in professional organizations and are interested in their own effectiveness as professionals with the responsibility of teacher preparation. As an NCATE accredited institution, Central University is required to implement an assessment system to aid in the documentation and reporting process. Interviews indicate that choosing new software systems designed to meet these needs and gaining buy-in from professors are important concerns.

Dr. Martin said, "As the university began to ready for the NCATE review, the use of portfolios became more important." Dr. Martin also mentioned that NCATE accreditation is not the only driving force. "Every in-service teacher in Pennsylvania is being asked to have a portfolio and national licensing requires it. Most professional associations are requiring practitioners to have a portfolio."

In her interview Professor Kerry added, "The NCATE piece...I think that's what drives our national association standards. We're going to meet our program requirements in technology for our association and for NCATE, and that's why I've constructed the technology emphasis portion of methods."

Dr. Cash stated,

I think our work [with portfolios] has been instigated by the fact that we started using LiveText. I'm not sure I would have been as enthusiastic if we were putting together three-ring paper binders that were 17 pounds a piece. The fact that LiveText makes it so easy to assemble a portfolio really intrigued us and that's something that as a program that we wanted to do for NCATE and assessment purposes.... In NCATE's words ... I see portfolios as an assessment tool for how well we are preparing candidates ... what we do well, and this is what we need to work on.

The Early Childhood Program has identified a number of assignments to be completed by teacher candidates for program assessment. Dr. McIntyre explained, "The way we envision it, there will be two baskets, one is the assessment portfolio basket, which we use with them and require. Then we really want them to create another second portfolio – the term we're using is professional portfolio."

Dr. Long stated, "Currently students are documenting their work, and starting next semester there will be a required reflection piece. This might be done in LiveText – we're trying that program now for NCATE assessment." Although Dr. Long said that she had experienced some frustration with using LiveText for assessment, she mentioned that, "[the associate dean] and I have actually had good conversations about LiveText. In fact, I am probably more positive about LiveText than a lot of people."

Faculty Members Acknowledge eFolio Value for Students

These Central University faculty members understand the value for students that an eFolio process can provide, including opportunities for reflection that will help candidates to grow as professionals and an enhanced, digital resume that may eventually help them to be competitive in their search for employment.

According to Dr. Cash, using portfolios is beneficial to teacher candidates. "For students [it is a] developmental process that we hope will happen ... they'll be able to see for themselves how they have changed and grown over the four years that they're here."

Professor Kerry shared similar ideas:

Ultimately it's all about student learning. It's all about helping them to become better teachers. I've seen portfolios in my work at Central as one more tool to help raise students' conscious understanding of what they know, what they don't know, and what they need to know – what they need to improve.... We are using portfolios now, to help students to represent their growth.

Dr. Martin spoke about her work with TaskStream:

The students create projects or respond to reflection assignments during the entire term. Near the end of the semester they download their entire portfolio onto a CD. They also publish their Portfolio to the Web.... Students have told me they are proud of their work and have come to rely on the fact they can access their work from any computer connected to the Internet.

Dr. McIntyre mentioned the sense of direction, purpose and growth over time that portfolios could provide:

We're starting to talk about teachers as leaders when they're 18 years old and just got out of high school.... You start to form them as professionals with ideas about themselves and, recognizing that they're nascent at this point, you build in opportunities along the way.... The portfolio is a way of saying to them, "This is where you're going to be in four years, and these are the steps." All of that reifies things for students that can be really abstract when they're 18. That's what I think the portfolio does [for students].

Dr. Cash also mentioned potential end results:

What we hope will happen is that students will put together that programmatic portfolio for us with all their work. But then take pieces from that and other work that they've done and create their own professional portfolios that they can then either burn to CDs or just give to principals, hiring committees, or give access to as a visitor on LiveText ... kind of a showcase document for students of their own work to kind of again show to potential people who would be hiring them, what they've learned and they're able to do.

Recognizing eFolio Value for Faculty Members

These Central University professors seemed to be familiar with the benefits of portfolios for their own professional growth. Ongoing assessment of their students' strengths and

weaknesses allowed them to reflect on their own practice and continue to grow and improve.

Dr. McIntyre spoke about how portfolio use benefited her own teaching:

I think it helps me think about how to be more transparent to teacher candidates in terms of where we're going and how things happen. Any time you rip your teaching apart and have to put it back together, you see new things. And you know for somebody like me who's been teaching for a long time, those are hard but really good things to do. It makes me more self-critical, it makes me probably more creative about how to make this happen.

Professor Kerry stated,

It's a good assessment piece for me because I can look at what the students have produced and I can see strengths and weaknesses, and what needs to be changed and modified in order to be more effective in my teaching. For me to look at what they've accomplished and what they understand and what they really can do.... And now what can I do to improve my delivery? What is it that needs addressed? Is it the content? Is it the mechanics? What do I need to do differently? So, it has that impact.

Dr. Martin talked about a technical advantage available through the TaskStream system that helps her teaching:

Because of back-end reporting I can run reports that document how many students reached competency levels for each of modules I created. I can run reports of how many times students accessed TaskStream and when. This helps to identify students who "participate," have trouble, keep up with assignments and also allows me to see strengths and weakness in the course. I can go back and improve my teaching strategies in the classroom based on these reports.

Value of Students' Facility with Technology

These faculty members at Central University have considered the differences between the use of generic tools and the use of customized systems (as described in Gibson & Barrett, 2003). The opportunity for developing student comfort as technology-savvy practitioners seems to be part of the debate. However, whether students create their own portfolios using a Web editor, or use a packaged information technology customized system, candidates' exposure to the use of new technologies for portfolios should pay dividends in terms of their own preparation for teaching in an information age.

Having students develop an understanding of how to create their own Web pages is important to Dr. Kerry:

I teach my students using Netscape [Composer]... to put in hyperlinks.... [to] put music up and video clips if they have them. So we go through the mechanics of doing that while teaching [students] how to integrate technology.... I'm interested in seeing how LiveText can be used, especially when I'm looking down the road in developing an integrated portfolio project.

Dr. Kerry directs her students to free online hosting services for portfolio storage. She explained,

I do that [because] I want them to be independent. They're juniors, seniors. When they leave I want them to be able to have total control of [their electronic portfolio] and access to it and be able to continue to use it. And I'm seeing that in the student teachers that are out. They've developed a sense of confidence because they haven't been dependent on me to do their posting, to serve them in that way ... not that I would even know how to do that. [Laughs.] So let's teach them to be independent, that's a great thing.... I think they're more [likely] to come back and develop and use [their portfolio].

Dr. Martin stated,

For a short time I served on a committee that compared TaskStream and LiveText. Surveys were taken and presentations were made. The University adopted LiveText as the system to be used by some of the faculty members in 2004 and 2005.

Dr. Martin continued to use TaskStream:

I have negotiated with a publishing company to buy texts at a reduced cost, so the burden of buying TaskStream is not too much for students.... Every student in my class creates an electronic portfolio using TaskStream.... Using this system has saved endless hours spent on FTP-ing ... and it is reliable.... One of the greatest benefits to using TaskStream is TaskStream's professional support for my students from 8AM-7PM every day of the week ... also 24-7 support with quick feedback to e-mail.

The Early Childhood program has decided to use LiveText as a tool for program assessment and also for student portfolios. Dr. McIntyre explained,

This is the first semester where I have not been willing to take [an] assignment in another format [other than through LiveText]. But now that it's something that has been adopted for education programs I don't think I'm doing them any favor not insisting that [assignments] come this way.... [With LiveText] right now the one cost the students have is that up front 80 dollars. Which is a jolt.... That catches their attention.... When we orient our first year students in the summer, one of the things I really want to encourage ... is to share with students and parents that first year student supplies are going to be expensive because you're going to have your book costs and your one time LiveText cost and then we'll have fewer people caught off guard by it.

Dr. Long and the Elementary Education Department piloted TaskStream as part of the same administrative initiative in which Early Childhood was involved. "It didn't go well. I don't think this was the right tool for us. We went with TaskStream based on [Dr. Martin's] recommendation."

Faculty Members' Concerns

The faculty members interviewed shared some common concerns with the adoption of an eFolio system at Central University. These concerns included having time to consider the right options for students based on the purpose of these portfolios, whether this would be

a coordinated effort that would be successful, and whether the benefits to students would balance the cost of a customized system.

Dr. Cash said,

We have tended to kind of just jump in and do things whole hog rather than easing into them. So it will be interesting to see how this whole process works with the entire Early Childhood program.... It's a new thing that we are adding and we are not replacing anything.... There are some things that we do that sound great in theory but then you get drowned by the work that's attached to that great assignment.... So it will be interesting to see if doing these portfolios...if we drown in the amount of the work that they might produce for us. Or whether we will see them as being totally beneficial. I'm hoping that it's the latter, and I'm hoping that it'll be seen as being good.

Dr. McIntyre stated,

We are all interested in portfolios. We have all been to the workshops and thought about how it would be neat to do. But with these big programs and as busy as they make us, we never really got to the point of figuring out how we are going to do it.

Having used paper-based portfolios in the past Dr. Long mentioned that the use of an electronic format will take some time and thought:

One of my concerns with LiveText is that there won't be room for student choice and creativity. I'm not sure that is inherent, just that it would take a lot of thinking to make fluid and flexible assignments and, in our need to get on line, it will be much easier to make things more linear and less divergent. I don't think this is necessarily a LiveText problem, but tends to happen when people are working with things that are difficult and quite new to them.

Dr. Long added,

I don't think our faculty are having trouble with the basics. They're just not ready to move into the other features.... Faculty are currently overwhelmed [so] selling this to the faculty is the harder part.... One faculty member has refused LiveText training. Another can't use a keyboard because of physical disability.... One of our adjunct faculty has spent countless hours on the phone with LiveText and working with our Technology Director to get LiveText to work.... Students are upset about the \$80 fee and having to use [LiveText]. All students are starting in their sophomore year with LiveText ... 200-250 [Elementary Education] students.... Nice deal for LiveText!

This concern for the cost to students for LiveText was also raised by Dr. Kerry.

I think if we have an integrated portfolio development plan that starts in their sophomore or freshman year, and is going to be used through their whole program, than 80 bucks [for LiveText] is a cheap proposition.... But to ask them to come in their last semester methods, before they hit student teaching, and spend 80 bucks on [LiveText] just for assessment! There has to be some [value] for the students, some buy-in.... When [the administration] said to us you have got to get this unit plan assessment on LiveText, we said we're not doing it yet.

We'll do it on paper, we'll take the concepts of that unit plan assessment, we'll aggregate our data by hand, we'll give that to you, but we're not going to ask the students [to pay] \$80 for a semester, maybe two.

Professor Kerry requires her students to create a portfolio in her class, but has concerns about the depth of student reflection.

I have them the last five weeks of the semester.... It's too short! We just go full throttle [and they are] dazed and confused...I don't know how else to do it....They are starting to conceptualize what this electronic portfolio thing might be in the future....Then it's gone [the course ends]...So we are starting to figure out how to connect the dots.

Ultimately, Kerry would like to come up with a...

Process, or model ... to implement electronic portfolio development in music education that will meet the needs of our students in music education but also tie into the whole conceptual framework for teacher education at Central. To meet all those standards ... God knows we don't have time to meet all of them, but to make an attempt.... What does the university need? What do the students need in terms of helping them to realize their full potential over time, and giving them a product that truly demonstrates what they know and can do as teachers.... So I see myself developing a process and a plan that would integrate portfolios into music education and hopefully have implications [for] the School of Education, ultimately.... When you think about it, there is so much going on [at the University]...so many great initiatives. How do you pull it all together? That's the problem.

Implications for Practice

This study contributes to understanding the process of change and technology use in the context of one institution. Through the lived experiences of five selected faculty members and the subsequent analysis of these experiences, we have gained insights into how these teacher educators understand eFolios, their motivation to incorporate them and, how they see this will benefit their own students. The findings of this research will not come as a surprise to those familiar with the extensive literature on change and technology integration. In fact, some of the questions posed by Helen Barrett are addressed through many of the interview responses and recurring themes. A hope is expressed across these interviews that the benefits of eFolio adoption "will outweigh the extra effort" (Barrett, 2004).

Faculty Members' eFolio Adoption Experience

As these professors attempted to work with eFolios they also attended to everyday teaching tasks while balancing service and scholarly responsibilities. The teachers anticipated that they would be spending increasing amounts of time working with the tools needed for the construction of eFolios, plus all of the assessment data. The role of the professors was becoming more complex, while time to accomplish this work remained fixed.

Faculty members value coming together to share ideas, engage in problem solving, undertake joint planning, pool resources and expertise, and explore ways to improve practice. This type of professional learning with colleagues is important, but in a state

school such as Central, opportunities for collaboration and communication are somewhat limited.

Three of the faculty members had been involved with the PT3 grant and received support or incentives such as release time to pursue their work with eFolios. These professors valued opportunities to interact with other teacher educators, shared ideas, and piloted ePortfolio initiatives. Professors who had some form of external support spent more time in their interviews talking about how eFolios benefited students. For faculty members who did not receive grant support, the use of eFolios was driven primarily from the need to report data for NCATE. Without opportunities to meet with colleagues and time to experiment with ePortfolio tools, these professors felt less prepared to move beyond the role of eFolios as a mechanism for collecting assessment data.

Understanding the Role of eFolios

Faculty members were committed to portfolios as a benefit to their students and often expressed a view that the collection of data for accreditation and the collection of meaningful artifacts for a professional portfolio are not one in the same. This gap indicated a lack of shared understanding that could be assisted through time and reflection with colleagues.

Professors saw the use of eFolios contributing to student success and to the College of Education's efforts for NCATE re-accreditation. Although they struggled at times to understand how to balance both the needs of the institution and students, the faculty members were sufficiently convinced that eFolios will play an increasingly important role in teacher education.

The administration is supportive of eFolios, yet a need has reemerged from interviews for a coherent, shared vision among faculty members, students, and programs. Although a conceptual framework was created and adopted for use in the teacher preparation program, this guiding structure was seldom used and difficult to understand, causing professors to try and fit pieces of this puzzle together on their own. Without unit-wide dialogue about the role of eFolios, the same faculty members were left questioning their value.

The issue of clarity is evident in virtually every study of change, from the early implementation studies when Gross and associates (Gross, Giacuinta, & Berstein 1971) found that the majority of teachers were not able to identify the essential features of the innovation to present studies of reform (Fullan, 1999). Wetzal and Strudler (2005) echoed this thought in their own findings, underscoring a clear purpose for eFolios as a critical element for successful implementation. The problem of clarity increases with the complexity of the reform.

Implications for Policy

In terms of policy and planning, this study highlights the importance of the following realities that need to be recognized when engaging a change or improvement effort such as the use of eFolios: (a) faculty members need to understand the initiative and why it is important; (b) faculty members need opportunities to learn and to collaborate with one another; (c) faculty members need adequate resources and support; (d) faculty members need time to change; (e) faculty members measure their success on intrinsic rewards of student achievement. Successful infusion of eFolios in a teacher preparation institution

such as Central University entails more than improving technical skills. Meaning and motivation are all at the heart of the change process.

The study asserts that professors do not have a single shared perspective on eFolio implementation. The complexity of the emergent themes demonstrates the need for future studies to explore perceptions and experiences as they engage in eFolio efforts. The university must develop a plan that will encourage collaboration among faculty members and provide opportunities to increase learning about electronic portfolios, as well as a shared purpose and focus for their use.

The impact eFolios have on student learning will determine their success at Central University. This success will be measured in part through NCATE accreditation review. Attempts at implementing change and integrating eFolios were based on the belief that they would have a positive effect on student learning. This was the most compelling reason for faculty members to persevere despite the additional challenges they faced.

Implications for Further Study

Preference for a particular electronic portfolio platform seems to be based on faculty members' past experience with portfolios. At least in this limited sample, those most experienced are less likely to adopt an administration-recommended tool for the sake of consistency in data collection. This idea of experience with eFolios and the impact of those understandings on the decision making process is an area that could be studied over a longer time period and perhaps with a larger sample.

Conclusion

Change is a double-edged sword. Its relentless pace these days runs us off our feet. Yet when things are unsettled, we can find new ways to move ahead and to create breakthroughs not otherwise possible. If you ask people to brainstorm words to describe change, they come up with a mixture of negative and positive terms—on the one side, fear, anxiety, loss, danger, panic; on the other, exhilaration, risk-taking, excitement, improvements, energizing (Fullan 2001, p. 1)

Although challenging faculty change is certainly key, this study poses more questions than are answered and provides rich avenues for research within this institution and in others interested in eFolio implementation. Faculty members and administrators are now engaging in conversations and activities that should positively impact Central University teacher preparation. The professors interviewed have expressed a hope that technology use might help focus and systematize the portfolio process, satisfy NCATE data gathering needs, and also benefit students. Successful implementation on the part of the faculty will require continued professional development, and this learning must be nurtured and supported.

From the themes it could be concluded that this institution is poised to (a) develop a shared understanding of the benefits of portfolio and eFolio adoption by faculty members and students; (b) identify a coherent vision for portfolio use at Central University, linked to a common structure such as a Conceptual Framework; (c) agree to adopt a shared electronic portfolio system for data collection and as a learning tool to support the development of reflective practice, and finally (d) determine the most effective and efficient way to implement portfolios in a large college of education.

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Authors Note:

Christian Penny
West Chester University
cpenny@wcupa.edu

John Kinslow
West Chester University
jkinslow@wcupa.edu

Appendix

Interview Protocol - Penny/Kinslow eFolios 2005

Following a modified version of the Seidman (1998) structure for qualitative interviews each interview will be scheduled for 90 minutes and divided into three sections.

Part One – Portfolio history

What do you teach?
When did you start teaching at WCU?
What are your past experiences with portfolios?
How did you come to using portfolios?

Part Two – Details of experience with portfolios

How do you use portfolios now?
What tools do you use for portfolio construction (HTML, LiveText, Dreamweaver, etc.)?
Describe the portfolio process for your students.
Describe how you evaluate portfolios.

Part Three – Reflection on meaning

How do you understand portfolios in your work at West Chester University?
Describe the impact portfolios have on student learning and achievement.
Describe the impact portfolios have on your teaching.
Describe the impact portfolios have West Chester University teacher preparation.
Where do you see yourself going with portfolios?