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FACULTY TRAINING IN
DEVELOPING AN E-PORTFOLIO
SYSTEM

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FACULTY TRAINING IN DEVELOPING AN E-PORTFOLIO SYSTEM
FOR FORMATIVE AND SUMMATIVE ASSESSMENT

by

Cindy Harvel

A DISSERTATION

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Philosophy

Major: Educational Studies (Internet Based Education)

Under the Supervision of James King & Allen Steckelberg

Lincoln, Nebraska

August, 2008

FACULTY TRAINING IN DEVELOPING AN E-PORTFOLIO SYSTEM FOR FORMATIVE AND SUMMATIVE ASSESSMENT

Cindy Harvel

University of Nebraska, 2008

Advisors: James King and Allen Steckelberg

In fall semester 2007, research was performed at Mount Vernon Nazarene University (MVNU) to determine which means of training for the Chalk and Wire e-Portfolio system was most satisfying to faculty and cooperating teachers. A fifteen question survey was given to 171 assessors. Fourteen questions gathered quantitative data, one qualitative. Four cross tabulations completed with a chi square test for independence showed that faculty and cooperating teachers ratings of their success using Chalk and Wire was independent of: (a) comfort level with computers, (b) age of assessor, (c) assessors' satisfaction with student assistant, and (d) assessors' rating of administrators' helpfulness. Cramer's V indicated small effect sizes. Qualitative data from the faculty survey question, from the student assistant team survey, and from six interviews revealed the following emerging themes: (a) e-Portfolio implementation is a formative process, (b) all constituents desire clear, easily accessible instructions, conveyed in a simple, user-friendly design, with mapped directions in syllabi for artifact location, available in hardcopy as well as on-line instructions in a variety of multi-media formats, (c) time is a valuable commodity, (d) users appreciate the benefits of e-Portfolios such as portability, ease of use, formative and summative reflection, and experience with cutting edge technology, (e) advice for improvement included the desire for verification when work has been completed, continuation of educational credit when applicable, and the desire for intermittent use in every class, (f) problems surfaced included an unawareness of available help and a consensus that the software changeover was stressful, and (g) trainees desired trainers to be confident, knowledgeable, relaxed, willing to give one-on-

one help, available when needed, kind, patient, encouraging, persistent, and flexible.

Recommendations for future research include investigations in best practices regarding length of training times, increasing awareness of available help, and training cooperating teachers.

DEDICATION

This volume is dedicated to our two new grandchildren, soon to be born.

“The best is yet to be...”

Robert Browning

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Chapter 1

INTRODUCTION

Background

In fall semester, 2005, Mount Vernon Nazarene University (MVNU) sent a team of education faculty to Tulsa, Oklahoma, to participate in a workshop to better understand and compare e-Portfolio systems as a means of assessment. Based on prior comparisons between companies such as Blackboard, Chalk and Wire eP1, True Outcomes, and Task Stream (See Appendix A), the university accepted Chalk and Wire to collect and assess data, and provide students in the education department with a means to display both formative and summative examples of their work through their college career. MVNU's first version of the electronic portfolio, "eP1 was designed to capture authentic student work product and the associated assessment data in an easy to use web-based tool (Tutorials for Chalk & Wire, 2007)." By using the reporting engine tool available to Chalk and Wire users, called Desktop Reporter, the institution could then aggregate and disaggregate data by easily using the filters available. Through these filters, data could be pulled up by a variety of methods, such as by campus, program, major, student, or standard coupled with more specific filters such as mean, standard deviation, or performance level.

For the past three consecutive years, advances in both the e-portfolio system itself and in MVNU's training procedures have been refined to aid students and faculty in the use of the electronic portfolio as a means to display, assess, and reflect upon student work and faculty performance. Based on suggestions from other representatives from like colleges and universities already implementing an electronic portfolio, this small, private

Midwestern university purchased the Oral Roberts University handbook, and set about implementing the eP1 system and tailoring that system to meet the needs of the university. The MVNU team, consisting of the dean and department head of the school of education, the university assessment coordinator, and four faculty decided which demographic questions would be used to organize data. School of Education administrators developed the conceptual framework: Compassion, Competence and Commitment (See Appendix B), and placed “hooks” under each category where students would place designated work. The Chalk and Wire administrators initially developed two portfolios that students would use to display artifacts. The “Showcase Portfolio” (a portfolio that displayed classroom work such as lesson and unit plans) gave evidence that students were teachers of compassion, competence, and commitment. A “Field Experience and Student Teaching Portfolio” held Candidate Profiles (a self-assessed rubric of the teaching experience coupled with a narrative aligned around the PRAXIS domains of content knowledge, environment, teaching, and professionalism) with reflections and assessments from three individuals: the student, the supervising teacher (the observing MVNU faculty member), and the cooperating teacher (the K-12 classroom teacher). A third portfolio was later developed called the “Professional Portfolio” to house self-selected artifacts to give evidence to proficiency in various aspects of education for an end of program assessment. These portfolios (see Figure 1) are sent to faculty to assess criteria by criteria, with both numerical score and comments.

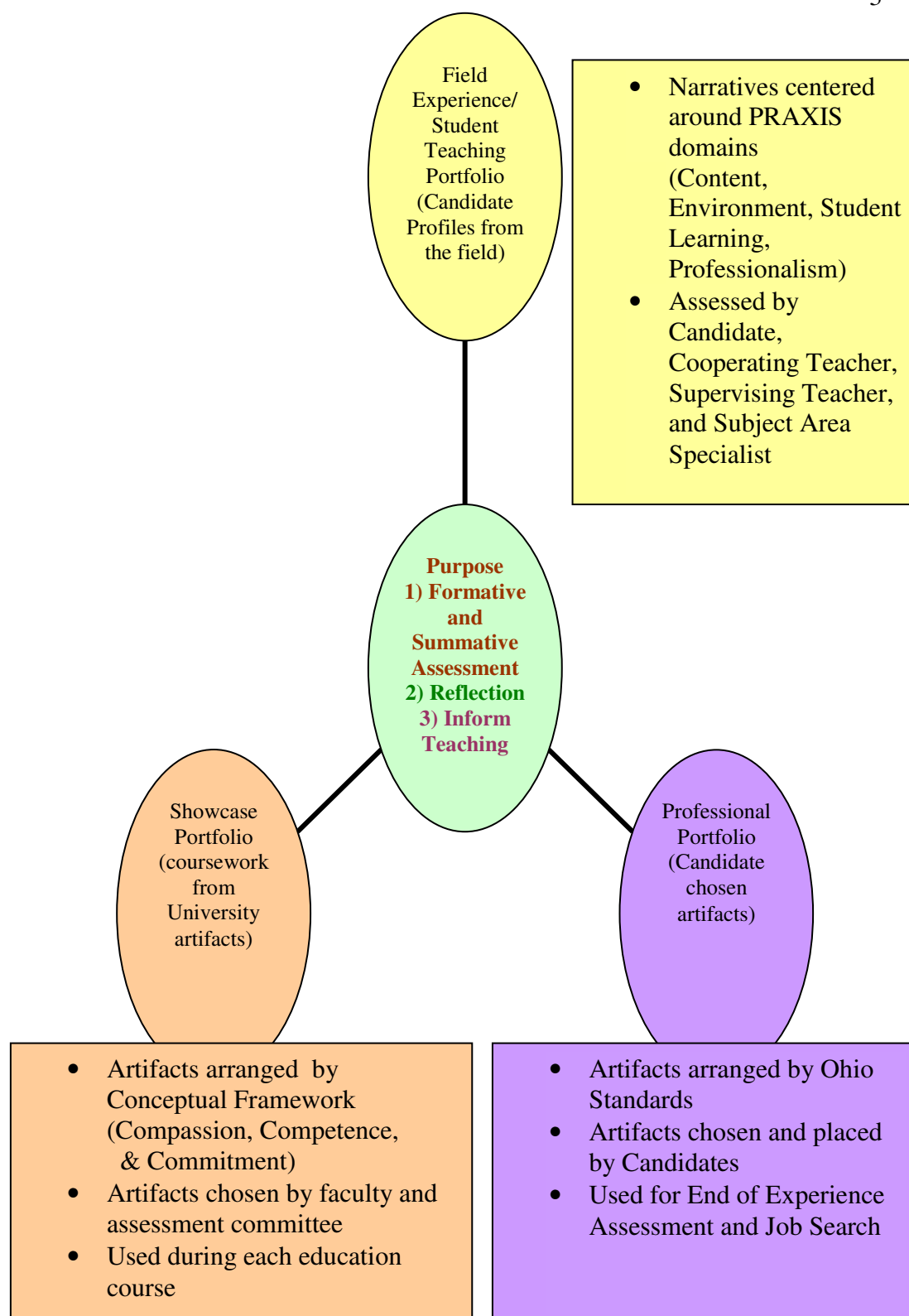


Figure 1. Model for e-Portfolios at MVNU developed during research

Context of the Problem

As the use of the e-portfolio system has expanded in the education department, the need for better ways of training has also grown. Each semester, more artifacts have been added for assessment, more faculty and cooperating teachers are assessing those artifacts. In 2005, four faculty assessed four artifacts; in 2008, 34 faculty and 1,434 cooperating teachers assessed 665 students turning in 122 different artifacts on the Showcase Portfolio alone. The need for efficient, satisfying training has exponentially grown. Faculty training in managing the e-Portfolio system has included a variety of means to gain a positive result. Which of those means was the most effective, the most widely used? How can faculty training be made more efficient and the utilization of e-Portfolios more satisfying for faculty?

Purpose of the Study

Now that the all-important foundation for collecting and assessing data was laid, administration set about finding the most efficient and satisfying way to train both faculty and students in the use of this new technology of e-Portfolio. Meyer and Latham (2008) point out that 90% of all teacher education programs use some type of portfolio system; the majority are electronic. This electronic system would be valuable, both in terms of data management and accessibility, but a steep learning curve lay ahead, probably more for faculty than students. Students, faculty, and cooperating teachers would all need to be trained in the use of the system. Wetzel and Strudler (2005) suggest a variety of recommendations for training and implementation of electronic portfolios used for assessment. These include strong leadership, faculty support which is accessible and user friendly, clarity of purpose, and incremental implementation. The primary purpose of this

study is to explore which e-Portfolio training methods are most satisfactory to both faculty and cooperating teachers.

Research Questions

This particular study focused on uncovering strategies of e-Portfolio training that will satisfy teachers in this cumulative, on-going process. How to best teach teachers? Various methods were researched, explored, and utilized to train faculty in several areas of this new platform to display student work.

The questions explored included

1. Which format of e-Portfolio instruction will be the most utilized, administrative led workshops or one-on-one help from student assistants?
2. Which format of e-Portfolio instruction will be the most satisfying to faculty and cooperating teachers, hard copy or multi-media?
3. Will there be portfolio preferences in format between college instructors and cooperating teachers between hard-copy and electronic?
4. Will there be participant frustration during training? If there is, what suggestions do respondents have to lower frustration?
5. Will university faculty and cooperating teachers resist instruction from undergraduate students?
6. Will there be a connection between prior computer comfort and satisfaction during training?

Definition of Terms

Artifacts- any assignment turned in by a student to be assessed. These may include papers, scanned documents, or a variety of multi-media documents to give evidence to meeting a particular standard.

Assessment – Grading done with the tool of a particular rubric, whereby an artifact submitted by a student is evaluated. Great care is taken in developing rubrics, and attaching each criteria of the rubric to particular standards.

Cooperating Teacher – K through 12 teacher in a local school mentoring education students in field placements and student teaching.

Electronic Portfolio – an electronic version of a portfolio, housing student work in the form of artifacts, which may be in a variety of formats, including Word documents, portable document format (pdf), Power Points, video, audio, and other multi-media. These artifacts, tied to standards, and assessed by faculty and cooperating teachers, will be used for formative and summative reflection in the journey to becoming an educator. Self-chosen artifacts may be collected and displayed in a Professional Portfolio for display to future perspective employers. In addition to student use, faculty and cooperating teachers will also be able to reflect upon their own pedagogy as they consider strengths and weaknesses while assessing students. By aggregating and disaggregating data, the various programs in education can also analyze areas of strength and weakness on a larger department level scale.

Field Experience and Student Teaching Portfolio – The portfolio housing work completed off-campus in field and student teaching experiences. These artifacts are rubrics which students use to assess themselves (the same rubrics used by cooperating

teachers, supervising teachers, and subject area specialists) and are followed by prompted narratives of the particular experience.

Professional Portfolio – Portfolio begun in the freshman year and concluded at the culmination of student teaching. This portfolio uses the Ohio Standards as a table of contents. Students self-select artifacts each year to place on the professional portfolio. The portfolio is assessed twice during their educational careers: once at the sophomore level by a particular faculty member, the second time by two outside sources at the culmination of their student teaching.

Satisfaction – In this study, satisfaction will specifically relate to feelings of contentment, gratification, and accomplishment derived from self-efficacy in response to successful learning.

Showcase Portfolio – The particular portfolio housing work done in each education course in the university. This portfolio uses the Conceptual Framework (Compassion, Competence, and Commitment) as a table of contents. One or more artifacts are assigned to each class in predetermined places on the table of contents. Each artifact shows the (a) date, (b) context in which the artifact was written, (c) reflection showing both perceived areas of strength and needed growth, and (d) reasons why this artifact gives evidence to this particular standard.

Standards – various categories by which the specific criteria in rubrics are tied to as artifacts are assessed. The standards are a powerful tool by which to aggregate and disaggregate data. MVNU has chosen the (a) Interstate New Teacher Assessment and Support Consortium (INTASC), (b) The Ohio Standards for Educators, (c) a Conceptual

Framework (3 Cs – Compassion, Competence, and Commitment), and (d) gates (levels to proceed in the various stages of teacher education).

Subject-Area Specialist – faculty from the student’s specific major in the university who visits and evaluates the performance of student teachers at least twice during their student teaching placement.

Supervising Teacher – education faculty or adjunct professor from the university who visits and evaluates the performance of education students while in field placements and student teaching.

Assumptions

In this study, an assumption is made that both cooperating teachers and supervising teachers were honest in their self-assessment and in responding to the survey instrument. In the interviews, care was taken to explore reasons behind choices as faculty, cooperating teachers, and students answered questions.

Delimitations

This study is delimited to a small mid-western private college. The data collected accumulate from the School of Education and in particular Undergraduate, Professional Educators License (PEL) and Curriculum and Instruction (C & I) programs. The data gathered have been collected in a format suitable for the National Council for Accreditation of Teacher Education (NCATE) visit.

Limitations

Assessors were required to complete the demographic survey before they could assess student work. Aggravation toward completing a survey could have negatively influenced response. The survey was placed on the site at the end of first semester in

December, when cooperating teachers (if they were first-timers) may have been less familiar with the system. These same teachers who have the students for a half day methods field in the fall will, for the most part, have these students once again in the spring. This gives them an extra semester to become more familiar with Chalk and Wire. The timing of the survey was prompted by an upcoming NCATE visit in April. The consultant suggested extracting data for assessor satisfaction with the Chalk and Wire portion of the assessment system.

In addition, the proctor of the survey was one of two administrators of the Chalk and Wire system, possibly influencing responses because of prior association. The Trainee may have wanted to please Administrators.

Another large influence came in the fall of 2007, when eP1 was updated to an eP2 version. Cooperating teachers, faculty, and students who had been trained on the eP1 system were in the process of learning a new system. Over time positive feedback from both faculty and students has assured administrators that the eP2 version is far superior in many aspects. During the time of the survey, however, many students, faculty, and cooperating teachers were finding their way around the new system for the first time, thus, coloring their responses.

Reliability measures for the instrument such as Cronbach's Alpha could not be used since the final survey differed significantly both in question content and subjects used (personal communication with Nebraska Evaluation and Research Center, July 23, 2008).

Significance

It is hoped that this study will facilitate better implementation for training of faculty and cooperating teachers in the use of electronic portfolios. The e-Portfolio boom described by Batson (2000) is allowing student work to shift from paper to electronics, allowing captured work to become better organized, searchable, and transportable. Electronic portfolios will alter how universities and accrediting agencies approach assessment. This powerful new tool will shape the look and feel of future pedagogy. Kimball (2005) warns that new tools without proper use can still generate faulty product. An e-Portfolio does not make a better educator anymore than a typewriter makes a better writer. Without careful consideration and deep reflection, an e-Portfolio can simply become an old tool with “new bells and whistles.” Wilhelm, Puckett, Beisser, Wishart, Merideth, and Sivakumaran (2006) point out that much compromise is needed in the implementation of electronic portfolios and that these very compromises may force faculty into a fast paced steep learning curve that goes well beyond their comfort level. Since Studler and Wetzel (2005) conclude that faculty governance and buy-in is a key factor in the satisfaction of an e-portfolio program by all stakeholders, assessor happiness is critical to the success and usability of the e-portfolio program. It is anticipated the results and discussion of this study will be useful in finding efficient and desirable methods of training university faculty and cooperating teachers to feel comfortable in assessing education students as they progress through the levels toward becoming educators.

Electronic Portfolio systems are changing the way students capture work and teachers assess work. New techniques for gathering, analyzing, and documenting data

are spring-boarding from this new electronic tool. Expectations for university accreditation are changing in the wake of e-Portfolio development. Proper training for faculty and cooperating teachers to utilize this tool in the assessment process and for their own pedagogical growth is crucial for their comfort level in this new learning curve. This study seeks to find ways to train that are satisfying to both faculty and K-12 teacher.

Chapter two will take a closer look at the definition of e-Portfolio in educational literature, examining both its contents and its uses. An exploration of the move from paper to electronic portfolios will be followed by an examination of faculty training in e-Portfolio systems to date.

Chapter 2

LITERATURE REVIEW

Introduction

Faculty training for e-Portfolio systems goes beyond a simple “how to” manual to work a particular technology. Wetzel and Strudler (2005) studied six institutions using an electronic portfolio system. They developed a variety of recommendations from accomplished users who had experienced electronic portfolio systems program-wide for two or more years; however, a common theme surfaced in all six institutions. Several recommendations emerged to include both a top down and a bottom up approach in training. A university e-Portfolio system needs strong Dean-level support in addition to a well-informed broad base of stakeholders. These stakeholders should include faculty, students, technology persons, as well as K-12 personnel. Planning and training should go hand-in-hand, so that there is greater buy-in to the system as a whole. One of the strongest recommendations from the Wetzel and Strudler study is to train everyone in all aspects of e-Portfolio use. Adopters should go beyond seeing the portfolio as a briefcase to house artifacts and see the bigger picture of data analysis, reflection, program improvement, and evidence for accreditation.

Since training includes detailed aspects of the e-Portfolio system, each of these characteristics of e-Portfolio will be considered in the literature review along with specifics concerning actual training. The review will begin with the definition of e-Portfolios, and proceed to characterize e-Portfolios by their contents and uses. Reasoning behind using an electronic version of a portfolio over a paper version will be followed by specific faculty training examples drawn from the literature, along with barriers and

incentives to that training. Finally, a discussion of Bandura's approach to link self-efficacy with satisfaction completes the look at the literature.

Definition of e-Portfolio

Thomas, Lamson, and King (2001) define portfolios as a tool used for teacher candidates for authentic and dynamic assessment, supported by documentation which encourages learning, growth and development in teaching practices. Many other researchers have used similar definitions for the e-Portfolio (Barton & Collins, 1994; Krause, 1996; Stowell, Rios, McDaniel, & Kelly, 1993). Thomas et al. (2001) expand the definition of e-Portfolios to include "a collection of evidence and/or artifacts and reflective statements that demonstrate intellectual and professional development in relation to competency-based education program outcomes in a multimedia format" (p.4). Hubbard (2005) quotes a representative from Avenet, the company which developed the online e-Portfolio system for the Minnesota State Colleges and Universities system (MnSCU), to say that he considers the e-Portfolio to be "the fastest growing technology tool in the field of education, training and human capital management" (p.1). Jarvinen and Kohonen (1995) call the e-Portfolio an "autobiography of growth," a picture of the formative growth of the author over time. De Rijdt, Tiquet, Dochy, and Devolder (2006) add that the e-Portfolio reflects not only individual growth, but also institutional growth and quality. They note that the portfolio is "a purposeful collection of evidence, consisting of descriptions, documents and examples of what is good teaching for the teacher" (p. 3). Helen Barrett (1999), who heavily influenced the design and methodology of electronic portfolio use, views electronic portfolios more of a process instead of an actual product. She sees each portfolio as being a "concrete representation

of critical thinking, reflection used to set goals for ongoing professional development” (p.1).

Contents of e-Portfolios

Thomas et al. (2001) list certain types of evidence that can be contained in a teaching portfolio. These may include (a) personal artifacts, such as awards, resumes, transcripts, (b) lesson plans and/or units, (c) strategies used for instruction, assessment, and classroom management, (d) video clips of work with children, (e) samples of children's work, (f) assignments from university courses, (g) documentation of civic, community, and professional participation, and (h) reflective narratives concerning the contents. Batson (2002) adds proposals, simulations, experiments, and ongoing research to the list of possibilities.

Uses for e-Portfolios

Critical Thinking. In their use of e-Portfolios in the avenue of Visual Arts and Design, Sturrock and Earley (2007) relay how students use their portfolios as places to manage visual art and design projects, researching, relating knowledge, and becoming committed to ongoing professional development and critical thinking, as they learn to collect, display, articulate, evaluate and communicate their ideas in this technical platform. Other researchers have observed that in developing e-Portfolios, students have opportunity to exercise critical thinking skills (Barrett, 2000; Kimball, 2005; Riggs & Sandlin, 2000; Thomas, Lamson & King, 2001).

Peer Review. In addition to offering the portfolio for faculty assessment, many companies have *share* features that allow students to participate in peer review, especially during such assignments as class presentations and student teaching lesson

plans. One particular feature most e-Portfolio systems offer is ability a student or assessor (university faculty or K-12 cooperating teacher) has to share a portfolio for peer consideration. Portfolio authors may send their work to peers or even other faculty. By checking a small box on the home page of their portfolio for *Comments*, when the portfolio is sent to share, responses come back to the sender in the form of an automatic e-mail. Students utilize this function, sometimes at the suggestion of faculty, but often on their own, to obtain a peer opinion before a formal assessment is made on their portfolios. Students may use this feature to practice their presentation or lesson with the comfort of a friend or trusted faculty member before turning in for a grade (Sturrock & Earley, 2007).

Reflection. One of the most valuable uses e-Portfolios have is the incorporation into the template for reflection and self-assessment. As research affirms, the creation of a portfolio provides an avenue that exhibits an invitation for the writer to look back on his or her own learning, to take the wheel, so to speak, and become the driver of that learning. By being able to easily access artifacts over the course of an educational career, a student may read, analyze, adjust strategies, subject work to peer and faculty review, and re-analyze to become a better instructor. To be able to map and look forward to what lies ahead, to academically consider the route covered, enables the student to take an active role in learning. Portfolios allow the authors to become responsible and invested in their own education (Jarvinen & Kohonen, 1995; Krause, 1996; Ross, 1996; Smith & Tilemma, 2001; Sturrock & Early, 2007; Thomas et al., 2001). Electronic portfolios serve as excellent holding places for student reflections because of their ability to be viewed by faculty, students, administration, future employers, and to whomever the student chooses

to share that particular portfolio (De Rijdt et al., 2006; Jarvinen & Kohonen, 1995; Riggs & Sandlin, 2000; Smith, 2001).

Thomas et al., (2001) suggest the reflective narrative should contain the reason an artifact was paired with a particular instructional learning outcome, specify exactly which outcomes are mastered and then give evidence to how and why that artifact evidences the outcomes. Sturrock and Early (2007) add that the author should also chronicle the problem solving and critical thinking utilized during the process. Smith and Tillema (2001) describe this as revealing the discrepancies in one's development. Riggs and Sandlin (2000) suggest this realization of limitations has the possibility of promoting the pursuit to strengthen weak areas in teaching pedagogy. Barrett (2000) lists a variety of strategies faculty can suggest for student reflection (a) review reflections and elaborate on both the meaning of the reflection and the reason for using the artifact in the portfolio, (b) refer to standards in your reflective statements, (c) pair artifacts with appropriate standards, and (d) use these formative reflections, along with feedback from peers and assessors, to develop appropriate learning goals for the future. Wilhelm, Puckett, Beisser, Wishart, and Merideth (2006) suggest that students can archive specific projects and then “repurpose them” to suit the needs of other audiences and new presentations. This allows the students to grow by building on prior knowledge.

Assessment. Electronic portfolios can be utilized by students and faculty to analyze and assess student work. The greatest attraction of e-portfolios to faculty is the ability to collect, manage, grade, recall, reflect, and comment on work turned in by students (Batson, 2002). By sometimes providing templates for students to match artifacts with particular standards and at other times allowing students to design their own

table of contents, faculty can give varying amounts of latitude for student choice.

Portfolios tend to offer a better holistic picture of student understanding, since they hold more than one piece of evidence, rather than the traditional one time assessment such as a test, paper, or project. Because they can hold a variety of artifacts, students may express competency through a multitude of learning styles. This ability of the student to have a choice in the types of documents to submit, to select what standard(s) are evidenced in those documents, and to explain the reasons those documents support those standards helps students to better reflect upon and become the architects of their own learning (De Rijdt et al., 2006; Jarvinen & Kohonen, 1995; Smith & Tillema, 2001; Sturrock & Earley, 2007; Thomas et al., 2001).

Classroom Data Management. During formative and summative assessment, faculty, both individually and as a department, have the ability to track and analyze student data for patterns. Data can be affirming in areas where teaching has proven successful, concepts were grasped, and artifacts reflect understanding. Data may prove useful in reflecting upon common gaps in understanding, remediating instruction to fill those gaps, and structuring rubrics and checklists which insure missing pedagogical techniques will improve. Batson (2002) quotes a strategist at MIT as describing the swift growth in academic data handling as still in its "tribal discussion phase" (p. 4). Educators are still processing what they want to see with the use of the data management tools; administrators, by their feedback to e-Portfolio companies are shaping how the very data management tools are implemented.

Formative Work Display. A formative electronic portfolio is used to examine growth in a student's educational career displaying artifacts that chronicle the student's

maturation from freshman to graduation (Riggs & Sandlin, 2000; Sturrock & Earley, 2007; Thomas et al., 2001). This type of portfolio is often kept not only to display student growth but to give evidence to the effectiveness of the educational institution.

Summative Work Display. In addition to displaying formative growth as the student progresses in her academic career, electronic portfolios can also be used to showcase the best of student work (Riggs & Sandlin, 2000). Faculty and administration may develop a choice piece from each educational experience to highlight the culminative work to represent each educational course taken. Some universities have only certain courses which are represented in the portfolio; other schools capture the best piece from each academic course. Choice, also, may be given to the students to select showcase pieces either by class, educational standard, or genre of artifact.

Platform for Inter-rater Reliability. Student teachers can assess themselves, turn in that work as an artifact, then have both supervising and cooperating teachers assess for inter-rater reliability. When multiple assessors score each criterion, areas of vigor or need surface. This comparison of scored criteria better shows patterns of student strength and weakness, as opposed to artifacts graded by only one assessor. This type of portfolio is often used as an exit requirement by schools of education (Lorenzo & Ittelson, 2005)

Student Marketability. An electronic portfolio is a platform for student resumes and showcase pieces to be available for perusal on a worldwide scale, as well as to be used for continual career tracking (Batson, 2002). In Wilhelm's et al. (2006) study using three universities, surveys from students indicated e-Portfolios were valuable for job seeking. Further study is needed, though, to determine if most principals and

superintendents in reality still prefer paper-based portfolios as opposed to electronic versions during the hiring process.

Showcase for Faculty Achievements. Administration and faculty can use e-Portfolios during yearly interviews and goal setting. A professional portfolio can be a concise, continually changing and growing holding place for both personal use and accreditation reviews (De Rijdt et al., 2006).

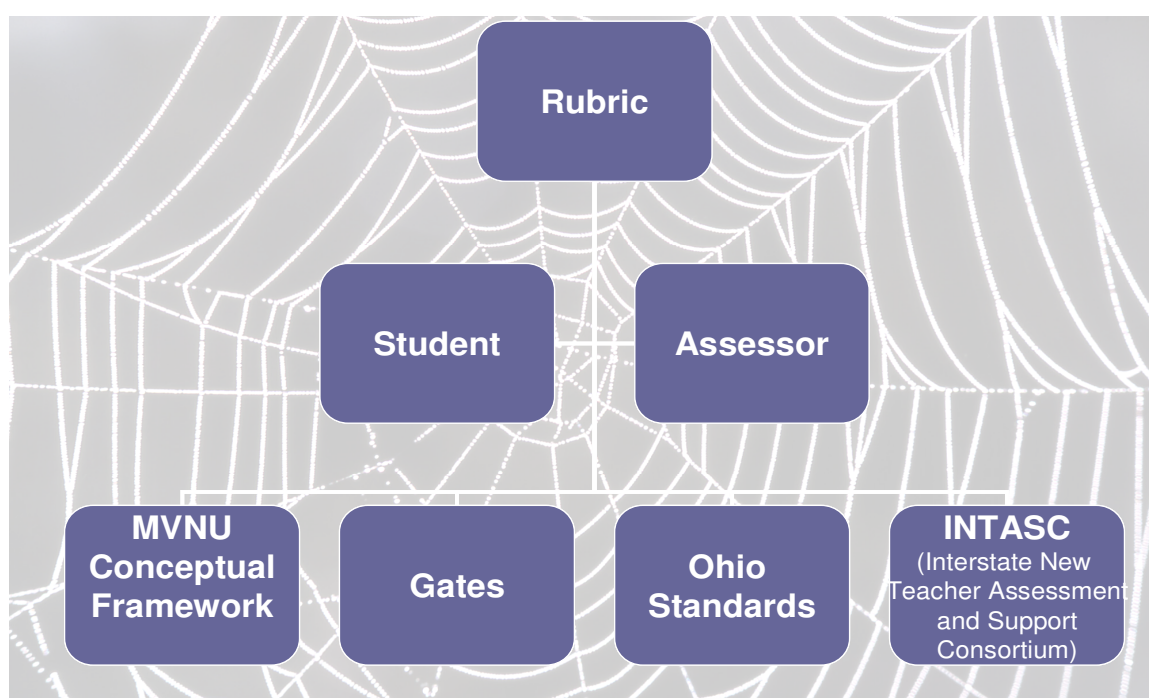


Figure 2. Model of data linkage behind the MVNU e-Portfolio system

A Developmental Biography. Where once e-Portfolios were thought to be only a tool for higher education, their holistic assessment features and portability and making them into “life-folios.” The student biography may begin in the grade school program, progress through areas of higher education, and then continue as a platform for lifelong learning (Barrett, 2000). LIfIA (2005) maintains that the portfolio should be seen in the stages of its migration, like a living organism that moves from school to work and business.

Database for Aggregating and Disaggregating Data. One of the factors that make e-Portfolios valuable for administration is their ability to channel data through various filters for such academic data gathering uses as accrediting teacher education programs and aligning the e-Portfolio with competencies, benchmarks, and standards (Riggs & Sandlin, 2000; Zeichner & Wray, 2000).

Alumni Relationships. Once a student has graduated, universities often find it worth the cost to continue paying for a student's e-Portfolio site at a discounted or complimentary continuation of the e-Portfolio account. This partnership enables alumnus to offer positive packages in exchange for continuing support for the university (Batson, 2002).

Progression from Paper to e-Portfolios

The Tangible Teaching Portfolio. In the scope of education, portfolio building started in the early 1980s at the University of Stanford as Lee Shulman and his educational peers sought ways to encourage more authentic assessment (1988). Since those rather recent beginnings, the use of e-Portfolios in higher education has burgeoned substantially. De Rijdt et al. (2006) review the changes that have taken place in learning, especially those during the last decade. The trend to develop more authentic assessment, the growth of cooperative learning, and the boom in technology have set the stage for the monitoring of teaching, not only with candidates, but with faculty as well in a more holistic, evolutionary manner. Portfolios have the ability to capture and showcase what a candidate wishes their supervising teacher to observe that may not be easily seen in a formal review in the classroom. Lally's (2000) definition of a teaching portfolio as a collection of documents and reflections about a teacher's competence has expanded from

its original paper and binder method to include audio, video, and other multi-media artifacts that add more authentic assessment. Citing a personal example from a student teaching candidate, Zeichner and Wray (2000) record, "Completing the school-site portfolio...was, quite simply, the single most powerful professional development experience of my career. Never before have I thought so deeply about what I do with children and why I do it" (p. 613).

Benefits of an Electronic Portfolio as Opposed to a Hard-copy Portfolio. Thomas et al. (2001) point out that storing candidates' portfolios electronically provides greater ease in accessibility for faculty to specific portfolios. Less physical space is needed for storing compared to their paper counterpart. Sturrock and Early (2007) report that greater experimentation is possible in creating artifacts as students have the option of using multi-media. Although students have been able to capture multi-media in the past, through the use of various technical repositories such as compact disks and flash-drives, the e-portfolio allows these artifacts to be linked to assessment, and thus to standards, for more robust and easily accessible data management.

Sturrock and Early (2007) also suggest that while the old paper portfolios would be packed away never to be seen again, the e-Portfolio allows for quick and easy access to work done much earlier by the student. With easy access, peer review and faculty review of formative growth can be discussed and reflected upon with much less time and energy. Both student and teacher can more easily see the development occurring during academic and personal growth.

Riggs and Sandlin (2000) write of how the portfolio can engage teachers in analyzing and re-evaluating their performance. Using the portfolio as a reflective tool

can continue as the teacher grows from candidate to novice to mature and experienced teacher. Just like the word processor encourages more frequent lesson plan changes as opposed to white out and retype using the old fashioned typewriter, an electronic portfolio lends to chronicling changes in pedagogy, philosophy, and actual lesson and unit plans in a more efficient manner (Wetzel & Strudler, 2005).

Zeichner and Wray (2000) record that the substantive knowledge base of teacher candidates grows as the portfolio comes into fruition from three sources (a) the actual process used when constructing a portfolio, (b) the sharing of ideas that come in the process of mentorship with their cooperating and supervising teachers, as well as peers, and (c) feedback from peers, instructors, and future employer interviews that occur upon portfolio completion. The benefit of that portfolio being electronic, helps sharing to happen in a quicker, more efficient manner. If the candidate is a flexible, reflective learner with a teachable spirit, remediation can happen in a more timely fashion.

Negative Aspects of the e-Portfolio. Although e-Portfolios have many positive benefits, the systems are not without their difficulties. Kimball (2005, p.440) warns that the ease of gathering statistical information may accelerate administrations' appetite for data, causing faculty and e-Portfolio administrators time and work. Jafari (2004) cites faculty resistance as another difficulty encountered by universities in implementing e-Portfolio systems. Zeichner and Wray (2000), in their focus of using e-Portfolios for pre-service teacher education programs cite that frequently e-Portfolio presentations by student teachers sometimes deteriorated into "show and tell" sessions, relying on multi-media glitz rather than sound pedagogy to drive instruction and reflection. Batson (2002) warns of the exponential growth of e-Portfolio use resulting in storage and security

problems. De Rijdt et al. (2006), in their explorative study of portfolios in higher education, report that negatively evaluated portfolios can result in reduced motivation. Thomas et al. (2001) in their study at Central Missouri State University, listed faculty concerns in the use of e-Portfolios: (a) technical proficiency, (b) effective evaluation, (c) time required for assessment, (d) appropriateness of artifacts to outcomes, (e) proper evaluation of reflective narratives, and (f) developing confidence in the retrieval of artifacts and the electronic format itself.

Even though the e-Portfolio systems offer many benefits to teacher education programs, there are many difficulties to overcome. This study hopes to increase the literature investigating the benefits and struggles of electronic portfolios.

Deciding the Choices Available to Students

Learner Control refers to the capability of the student to make choices in options such as choosing extra links to access, to control pacing of a lesson, to access a course map to overview a lesson and to refer to during a lesson, and navigational options to go forward, backward, skip, and escape at any point in the lesson. Clark and Mayer (2003) see learner control as a strategy to only use under what they consider favorable circumstances “(a) when the learner has prior knowledge, (b) when the subject is more advanced training, (c) when the learners have good metacognitive skills, and (d) when the course has low complexity” (p 235). These findings suggest that portfolio choice should expand only as the candidate has advanced in skill and practice, perhaps for their junior and senior years.

Other educators insist on structure so that the portfolio is more than just an indiscriminate collection of assignments but instead, clearly indicates reflection, coupling

of artifacts toward specific standards, and evidence of formative and summative learning (Thomas et al., 2001). Campbell (2001) assures us that a portfolio is not just a scrapbook of college work, but an organized, focused, goal-driven chronicling of the student's professional growth and achieved competence in the journey to evolve from student to professional.

Students distinguish between portfolios by assigning each a special title. Lally (2000) encourages the use of individual portfolios for future employment and personal development. Often, students do not take ownership of their portfolio until they find they can develop their own table of contents for their own personal portfolio. When a student becomes more invested into the e-Portfolio concept, he or she often improves in required portfolios with a mandatory template. When a student must choose what standard on which to place the artifact and then defend why that artifact gives evidence to that standard, the student begins to develop pedagogical awareness. A foundation is laid that will hopefully transmit to future lesson planning, intentionally making sure their teaching meets and demonstrates particular educational standards.

Faculty Training Examples

Training efforts require a foundation, a conceptual structure upon which to build. Following is a conceptual model from Oral Roberts University, and two examples of training implementation from Texas Woman's University and Kennesaw State University.

Jerry Eschleman (2006) of Oral Roberts University gives six steps to implementation and training in e-Portfolio systems: (a) develop the assessment system by meshing institutional with state and other viable standards and develop a conceptual

framework incorporating the unit's philosophy and the institutional mission. When retrieving data later for faculty reflection, program remediation, and university accreditation purposes, this "linking" is strategic, (b) dialogue with faculty to aim for faculty buy-in, (c) compare faculty comments with the university mission and statement of purpose to allow for institutional distinctives, which will guide, clarify, and refine the process of developing the e-Portfolio system, (d) study standards (national, state, testing, university) in lieu of course syllabi, (e) integrate the specific standards to show linkage, and (f) search for or develop artifacts that will give evidence to students meeting those standards.

As Texas Woman's University (TWU) began developing an electronic portfolio system, they created several accounts so that faculty could practice with the system. Their implementation of a question and answer discussion board within the e-Portfolio platform helped with feedback from faculty and assistants (Bold, 2006).

Kennesaw State University adopted an e-Portfolio system as a holistic measurement for its Early Childhood Masters of Education Program. Kennesaw concluded that factors that determined a good portfolio included: "...comprehensive designing, technological knowledge and skills, strategic preparation, and systematic evidence collection..." (Ouyang and Andrews, 2004, p 6)

Texas Woman's University, Kennesaw State University, and Oral Roberts University found that a gradual implementation of e-Portfolios for students and faculty, and easy access to technological help were crucial. The major question each university left for future research was how to best ensure faculty buy-in for a good start in ensuring e-Portfolio success. Meyer and Latham (2008), in their investigation of teacher education

programs at four universities that used a common e-Portfolio provider, found when analyzing responses to their seven question survey, a higher percentage of faculty and program administrators mentioned challenges in their use of e-Portfolios as opposed to students. Whereas 5% of student responses mentioned challenges, 42% of faculty responses and 52% of program administrators verbalized difficulties. Meyer and Latham emphasize resistance to faculty training can be contagious and attribute lack of faculty buy-in to inadequate time, misunderstandings of the tool, and an unclear picture of how e-Portfolios tie in to university assessment.

Faculty training needs to include how to create the portfolio, how to choose artifacts to place into the portfolio, how to teach students to write a substantive reflective piece for each artifact submitted, how to save the portfolio to either an outside system and/or the university server, how to assess the student portfolios that have been designated for grades, how to analyze class data to reflect upon pedagogy, how to improve pedagogy and design rubrics for better results (Thomas et al.,2001).

Sturrock and Early (2007) in their e-Portfolio project case study report suggest training include flexible support teams, paper and electronic user guides for easy quick referencing, small group and one-on-one tutorial services, and an opportunity for continual student and faculty feedback for reevaluation of training procedures.

Chappell and Schermerhorn (2008), in their study involving 1600 undergraduate students at Ohio University, suggest five rules while training: (a) make the e-Portfolio mandatory for both submission and assessment, (b) require even those with weak computer skills to use the e-Portfolio rather than allow paper copies for some, (c) let users, at some point, choose their own material for submission, (d) give due dates and

timely feedback, and (e) train a few faculty and students to test the limits of the system and provide examples for those that follow.

Wetzel and Strudler (2005), based on a study involving semi-structured interviews of teacher education faculty, university administrators, teacher candidates, recent graduates, and technology support providers, suggest implementing the e-Portfolio system in manageable steps. Their implementation strategy includes (a) training a coordinator who will be easy to access for all faculty, (b) be consistent in training all constituents, (c) have training on a portfolio system, whether or not the institution chooses to go electric, and (d) implement and train slowly, in a step by step method. In the Wetzel and Strudler (2005) study, all six institutions (California Lutheran University, Eastern Kentucky University, Indiana University of Pennsylvania, Johns Hopkins University, University of Rhode Island and University of Iowa) took two to three years to complete the portfolio training and implementation process.

In a study done by Wilhelm et al., (2006), Arizona State University's West Campus, Drake University in Iowa, and the University of Tennessee at Knoxville each contributed narrative case descriptions of the e-Portfolios. These universities determined that training takes on new character between the implementation stages and future stages. When e-Portfolio systems are first introduced, large training sessions with faculty instruction worked best, as compared to small group and individualized instruction. Faculty encouraged and helped each other as they learned. After a year or more, faculty was in different stages of understanding and implementation. Follow up with individualized training proved more efficient than whole group instruction.

Barriers to Training

The Kennesaw, Ouyand and Andrews' (2004) study found the greatest roadblocks in faculty training were: lack of understanding of computing literacy, file management skills, multimedia digitalizing skills, and incompatibility of software and Internet browser. Sturrock and Earley (2007), in their implementation of an e-Portfolio system at NMIT in New Zealand, found that faculty had difficulty when having little "engagement with electronic resources" (pg 2). When not using the e-Portfolio system each semester, faculty forgot procedures. Sturrock and Early (2007) also recorded difficulties with both faculty and students logging in, as well as with uploading their content into the e-portfolio, and sometimes being timed-out on slower home computers.

Among faculty barriers listed by Thomas et al. (2001) were (a) level of technical proficiency held by the assessor, (b) the ability to create an electronic portfolio in order to help students with the process, (c) the lack of time, the ability to choose appropriate artifacts that match standards, poor writing ability for giving feedback for the reflective narratives, (d) confidence in the electronic format and retrieval of artifacts, narratives, and portfolios, confidence in how to effectively and fairly evaluate, (e) discernment in determining the appropriateness of articles to outcomes, and (f) the evaluation quality of reflections. Sturrock and Early (2007) also recorded faculty changeover to be problematic. The lack of or incompleteness of user guides can also be a source of frustration for faculty. Grading online artifacts, determining the appropriateness of the artifact to the standard on which it is placed, and evaluating the quality and suitability of the artifact are all pedagogical skills requiring training and practice.

Thomas et al., (2001) mention a variety of worries faculty listed as difficulties in assessing the electronic portfolio. Among them were (a) level of technical proficiency, (b) the subjective difficulties of grading a portfolio, (c) time required for grading, determining appropriateness of artifacts, (d) evaluating the quality and suitability of a reflective narrative, and (e) becoming confident in using an electronic format itself.

Wilhelm, et al. (2006) pointed out that since an electronic portfolio contract usually exists between a particular company and the student or faculty member, the university does not have access to passwords on the secure sites. This can be problematic since university constituents are programmed to call the university help desk when a password is forgotten. Even though the initial screen in the program has a hot link to recover passwords by sending to the user's e-mail, this is often impossible with the current changes in e-mail systems.

Incentives For Faculty Training

A variety of incentives can be used to help faculty be positively motivated while being trained to be trainers. Offering release time, formal recognition, monetary rewards, educational gifts, product rewards, and even giving faculty valuable access to technology they may not otherwise receive are all helpful in making training time a positive experience (Carnegie, 2002). Hughey and Mussnug (1997) remind us that education and training are two different paradigms. Knowing about a skill and being able to do a skill are two different concepts. Being able to leave a training session with not only the knowledge but with practiced skill is a fundamental incentive to participation. For example, a faculty member knowing at the end of four sessions, they will have their own professional portfolio is strong motivation. To be able to use their own portfolio as a

model in training their students can be a powerful reward for faculty who are practical, lifelong learners. Jafari (2004) suggests that a full blown faculty development and incentive program helps faculty to discover the long term benefits of an e-Portfolio system, fostering not only faculty, but student buy-in. Wetzel and Strudler (2005), in their examination of accomplished users of e-portfolio systems, wrote that many informants from their study recommended strongly that training be consistent and ongoing. They emphasized that fostering faculty support meant developing a technology infrastructure that was dependable and clear. Training should extend beyond the “how to” of building and assessing portfolios. Training should encompass a clear picture of the purpose of the electronic portfolio for all stakeholders. A clear understanding of the purpose of e-Portfolios give faculty strong knowledge that will help them to own the program and feel confident in utilizing the e-portfolios’ many features. The inner incentive of thorough understanding can be the most positive reward faculty can receive.

Satisfaction from Success

The importance of feelings of successfulness during training is crucial to faculty accepting e-Portfolio systems. Wetzel and Strudler (2006) found that faculty governance and inclusion can foster satisfaction with the e-Portfolio program. Feelings of satisfaction, according to Bandura (1986) derive from a sense of self-efficacy. Bandura maintained complex behavior was acquired through behavior, the environment, and internal events that affect perceptions and actions. In e-Portfolio training, administrators need to be attentive to all three of those aspects to help faculty feel successful and thus satisfied with progress in learning the e-Portfolio system. The administrator must give trainees opportunities for repetitive trials so behavioral habits can become settled in long

term memory. This training needs to happen in a user-friendly, non-threatening environment. Internal structure must be such that a smooth follow-through occurs between instruction and action.

Summary of the Literature

Even though e-Portfolios are new, much literature is already being accumulated. Flexibility of uses for students, faculty, and administration is being explored and reported. Descriptive studies involving student choice, best practices in presentation, the use of incentives for faculty buy-in, and case studies examining student reflection and growth are all contributing to the literature. Although some studies include portions concerning faculty training, substantive research needs to be done examining specifics of that training, moving beyond case studies to collecting quantitative as well as deeper qualitative data. What time frames work best for training? Which materials work best in training for e-Portfolio? Since e-Portfolios are only used once a semester or less, how is it best to keep training fresh? What contributes to satisfaction in training supervising and cooperating teachers of pre-service teachers? Will faculty accept instruction from students with technology expertise?

Electronic portfolio systems are changing the face of education. Training in these new systems is a must for faculty buy-in and satisfaction. Chapter 3 will outline the methodology used in examining faculty training in e-Portfolio at Mount Vernon Nazarene University.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY**Introduction**

This study aimed to discern what makes faculty and cooperating teachers feel successful and thus satisfied with their training in e-Portfolio systems. In this chapter, research questions will be posed, followed by a description of the population and sample used. Procedures used in this study will be presented, as well as a description of the measurement instrument, including the validity and reliability of the instrument. Data collection and analysis methods will be discussed.

Research Question

The primary research question of this study is, “How can faculty training become more efficient and the utilization of e-Portfolios more satisfying for faculty?” Sub-questions include:

1. Which format of e-Portfolio instruction will be the most utilized, administrative led workshops or one-on-one help from student assistants?
2. Which format of e-Portfolio instruction will be the most satisfying to faculty and cooperating teachers, hard copy or multi-media?
3. Will there be portfolio preferences in format between college instructors and cooperating teachers between hard-copy and electronic?
4. Will there be participant frustration during training? If there is, what suggestions do respondents have to lower frustration?
5. Will university faculty and cooperating teachers resist instruction from undergraduate students?

6. Will there be a connection between prior computer comfort and satisfaction during training?

These research questions were posed using an initial on-line survey, analyzed both quantitatively and qualitatively and followed by interviews. These interviews were then transcribed and analyzed.

Population and Sample

The population from this study included MVNU faculty (N=34) who were e-Portfolio assessors in the teaching program. MVNU has 17 full-time primarily undergraduate faculty on the main campus, and 17 full-time primarily graduate faculty that move from main campus to satellite campuses in Sharonville (2 hrs away-Cincinnati), Gahanna (1/2 hour away), Newark (1/2 hour away), Mansfield (1/2 hour away), and Lima (2 1/2 hours away). MVNU also has many adjuncts (N=139), some of which serve in the Professional Educator's Licensure (PEL) program (the adult and graduate licensure program). The Curriculum and Instruction program serves teachers who wish to complete their master's work. MVNU had 665 (25.83%) education students last year out of a total of 2575 students in all campuses. Some faculty serve only undergraduate students, some serve graduate students, while others serve both populations. In addition to MVNU faculty, since 2006, 1434 cooperating teachers have served as assessors in local school systems in the region. The survey was conducted at the end of the fall semester closest to the primary training times available to both faculty and cooperating teachers. Fall training times (n=48 for fall 2007 workshop) are better attended than spring trainings (n=23 for spring 2008 workshop).

Procedures

The assessor survey was placed on Chalk and Wire, the e-Portfolio assessment system and allowed to run for one week before it was archived. Any faculty member or cooperating teacher going on-line to assess a student was given the fifteen question survey. The survey was designed with a Likert type scale, ranging from “very poor”, “poor”, “average”, “good”, “excellent”, and “non-applicable.”

A permission letter for the research was signed by the Dean of Education (see Appendix C) and the proposal for research was presented to the Institutional Review Board of the university (see Appendix D).

Measurement Instrument

Chalk and Wire Demographic Survey was used to gather data. This system allows the accumulation of answers, as well as the ability to cross tab one answer against another. For example, a check can be made of how many who answer “excellent” on rating themselves as feeling comfortable at using Chalk and Wire to assess students also answer “excellent” on their comfort level with computers in general.

After all data were collected, the Chi-squared statistic was used to check for significance levels between cross-tabulated data. Cramer’s V was used to account for effect size.

Validity and Reliability

Quantitative Data. According to Sagor (1992), the idea of validity will be answered by the question, “Do these data really measure or represent what the designers say they do?” (p. 30) A six question pilot survey given in fall, 2005 was used to refine questions, adjust mechanics for ease of reading, and explore for gaps the questions

showed. Based on the pilot, a new six question survey was made. After being subject to peer review; it was lengthened to ten questions. Upon submitting the survey to the school dean, four demographic questions were added. These extra questions allowed the survey to be used for the National Council for Teacher Accreditation (NCATE) visit to MVNU.

Several elements may have influenced the validity and reliability of the data collected. The final survey question enables the taker of the survey to submit a suggestion for training improvement. Even though the question asked respondents to answer “none” if no advice was given, some may have tried to just skip the question, which the system did not allow. Based on several e-mails received from previous surveys, this may have caused frustration to the survey taker and influenced responses. Some respondents had only limited use of the e-Portfolio system as first time users when logging on to take the survey. First time cooperating teachers would have little experience with the system.

Gravetter and Wallnau (2004) write that when a sample size is increased, reliability increases. They maintain that an $n=100$ is a safe number to consider reliable. During the week the survey was on-line, 169 assessors contributed to the survey.

Qualitative Data. Subjects were selected for variety of ability. Of the students, care was taken to choose both an upper classman with experience, along with a novice to the system. Variety was also sought in choosing assessors, intentionally selecting experienced, as well as inexperienced, computer savvy along with the newly initiated. All participants were coded to ensure anonymity.

Data Collection

Quantitative Data. Data were collected through a survey administered through the Chalk and Wire e-Portfolio Assessment System. The survey (see Appendix E) appeared automatically to assessors as they logged in to grade student work. The survey data was not only utilized to improve training in online assessment, but was also used in determining assessor satisfaction for NCATE review for the School of Education for the university.

Qualitative Data. In addition to data collected from the survey through Chalk and Wire, two faculty, two cooperating teachers, and two students were interviewed using the same survey, allowing open-ended dialogue to accompany the answering of each question. Permission to use the aggregated data from these interviews was given by each of the subjects (see appendices G,H, and I). These interviews were captured with the use of Camtasia software. The survey appeared on the screen along with a chart, made after coding key elements from the pilot survey. Best and Kahn (1993) maintain that utilizing components such as organizational charts and graphs, can aid in efficiently capturing input in both quantitative and qualitative data gathering. Comments from faculty (see Figure 3) and students were transcribed into a Word document and coded for emerging patterns. A team interview was also held with the Chalk and Wire student assistant team, using the student developed survey (see Appendix I) to which each semester's student assistant team has contributed. The results from this interview were also coded for analysis. For all qualitative coding, both instructors and student names were substituted with letters for anonymity.

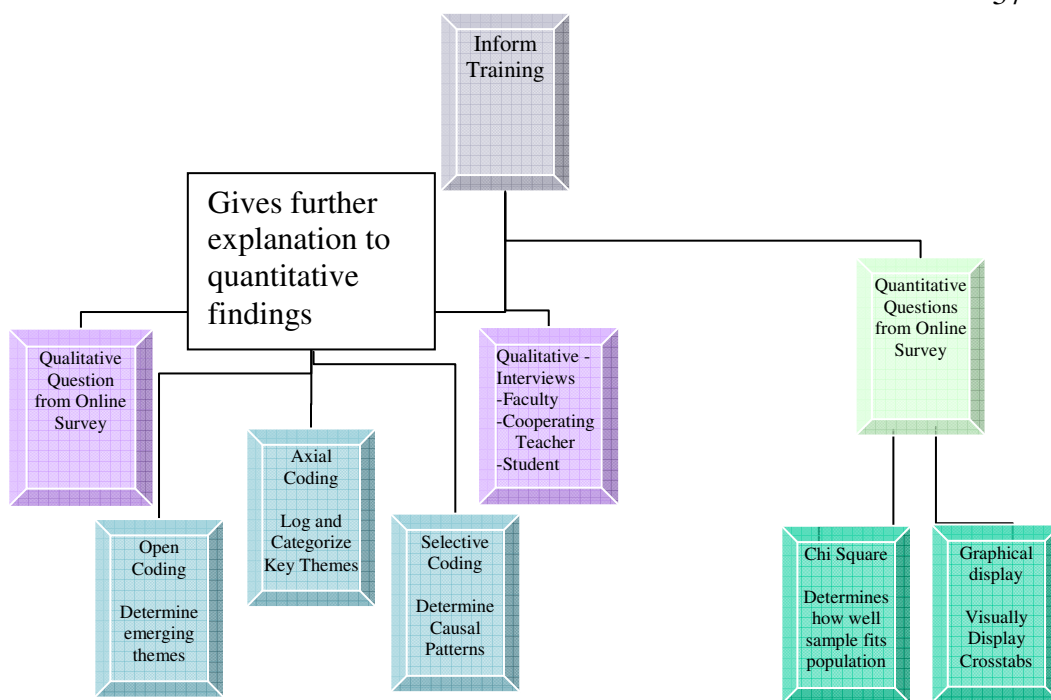


Figure 3. Model of research design

Plan for Data Analysis

Data was captured from the Chalk and Wire system, entered into an Excel program and graphed by question. A Chi-squared test was used to analyze cross tabs. The Chi-square test was chosen by the researcher because the survey maps frequency distributions. Gavetter and Wallnau (2004) suggest a non-parametric test, such as Chi square to capture data that consists of frequencies rather than numerical scores. The samples gathered informed the researcher to better train the entire population of cooperating teachers and faculty. In addition to quantitative data, the last question was coded by response as a qualitative measure. The tools in Appendices D and E were used to plot answers as individuals were interviewed using Camtasia video and audio tracks. Faculty and students were asked in person to participate in the survey. E-mails were sent to remind participants of the survey time. The interviews occurred in the privacy of the

researcher's office to help each interviewee to be comfortable and undistracted. A brief explanation of what would occur and how to use the microphone for the software preceded the interview. The researcher read the survey questions from the screen aloud. The Camtasia software captured not only the typed response, but the additional dialogue and informal comments from the respondent. Each interview lasted approximately one half hour. Those participating were rewarded with a small gift certificate from the local ice cream store, which they were unaware of when taking the survey.

Qualitative material from both the last question of the on-line survey and from the interviews was color coded for analysis and reflection. Open coding was used to find general patterns and emerging themes. Axial coding was then utilized to mark and sort major categories by particular color. Selective coding followed, attempting to find causal relationships between training and satisfaction. Chalk and Wire Student Assistant Team comments were collected using the tool in Appendix I and were also coded and responses aggregated.

With this blend of quantitative and qualitative analysis the researcher hoped to find the most satisfying methods of training faculty and cooperating teachers in the use of electronic portfolio systems. Through analyzing quantitative data and reexamining with qualitative feedback, the researcher hoped to inform not only MVNU, but similar universities of the most satisfying means of training in this new pedagogical tool.

Chapter four will be devoted to presenting the results of this study, and will be followed by discussion and recommendations for future study in training assessors to utilize electronic portfolios.

Chapter 4

RESULTS

Introduction

Results of this study will be reported in both a quantitative and qualitative manner. Quantitative data were analyzed using an Excel spreadsheet, using the Chi-square test for independence. Quantitative data were gathered from an on-line survey taken at the end of fall semester 2007. Qualitative data came from an open-ended question in the survey (n=171), a small survey given in a student assistant team meeting (n=5) and interviews with faculty (n=2), cooperating teachers (n=2) and students (n=2).

Setting

A small Midwestern university, Mount Vernon Nazarene University (MVNU) is a co-educational liberal arts campus with a 2007-8 student population of 2675 students, 52.52% (n=1405) of which are undergraduates, 24.86% (n=665) in the school of education and a faculty of 277, of which 49.82% (n=138) are full time and 50.18% (n=139) are part time or adjunct. With a main campus in Mount Vernon, Ohio, MVNU also has eight other branch campuses serving both undergraduate and graduate students. The focus of this study took place in the School of Education.

Population and Sample

Of the 171 assessors who began the survey, 3.51% (n=6) only completed part of the questions, and 96.49% (n=165) completed each question. Of those questioned, 29.24% (n=50) identified themselves as male, 64.33% (n=110) female, and 6.4% (n=11) chose not to be identified by gender or did not answer the question. Of the population, 13.45% (n=23) of the assessors fell between the ages of 21 and 30, 27.49% (n=47)

between the ages of 31 and 40, 18.13% (n=31) between the ages of 41 and 50, 21.05% (n=36) between the ages of 51 and 60, 11.11% (n=19) identified themselves as over 60, and 8.77% (n=15) choose not to be identified by age. Of the participants 1.17% (n=2) of the assessors were African-American, 0.58% (n=1) was Asian Pacific, 88.89% (n=152) were Caucasian, and 9.36% (n=16) chose not to be identified by ethnicity. Of the assessors 91 identified themselves as cooperating teachers, 12 as supervising teachers, 18 as MVNU faculty, 7 as subject area specialists, 9 as Professional Educators License (PEL) faculty, 1 as undergraduate faculty, 2 as Curriculum and Instruction (C & I) faculty. Assessors were allowed to label themselves in more than one category, since many teach in more than one capacity.

Quantitative Results from Survey Questions

Success with Chalk and Wire. Of those completing this question (n=171), 33.33% rated themselves as "good" in their success with Chalk and Wire to assess student work, 4.09% rated themselves "very poor", 7.02% "poor", 22.31% "average", and 11.70% "excellent". The remaining 21.05% found the question "non-applicable".

Perception of Classroom Students Comfort Level with Chalk and Wire. Of those completing the question (n=169), 27.81% rated their classroom students to be "good" in their comfort and handling of Chalk and Wire, 2.37% rated students to be "very poor", 5.33% "poor", 18.34% "average", and 6.51% "excellent." The remaining 39.64% found the question "non-applicable." (See Figure 4.1) The "non-applicable" category will be high for every question that involves the university classroom, since 91 of the respondents were cooperating teachers.

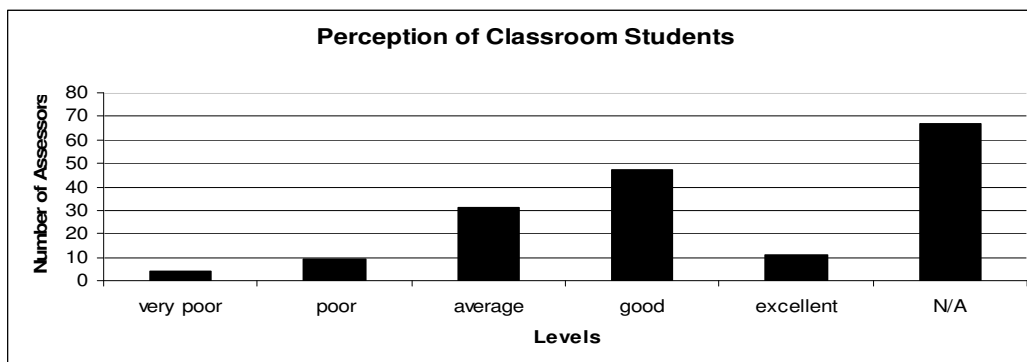


Figure 4. Perception of classroom students comfort level with Chalk and Wire

Rating of Student Assistant. Of those completing the question (n=169), 36.09% rated their Chalk and Wire student assistant as "good" in their helpfulness and aiding with understanding of Chalk and Wire, 0% rated student assistants to be "very poor", 1.18% "poor", 20.12% "average", and 28.40% "excellent." The remaining 14.20% found the question "non-applicable."

Rating of Chalk and Wire Administrator. Of those completing the question (n=165), 27.27% rated the administrator's helpfulness during workshops as being "good", 1.82% rated the Administrator's help as "very poor", 1.21% "poor", 26.67% "average", and 25.45% "excellent." The remaining 17.58% rated the question "non-applicable."

Rating of Assistant's Help in Developing a Professional Portfolio. Of those completing the question (n=167), 9.58% rated the assistant's help in developing a professional portfolio to be "good", 0.00% to be "very poor", 0.60% rated assistant help for professional portfolios as "poor", 5.99%, "average", and 7.78% "excellent." Another 45.51% rated the question "non-applicable", 10.18% "did not use their assistant", and 20.36% "did not make a professional portfolio." (Many cooperating teachers did not make a professional portfolio.)

Comfort Level With Technology. Of those answering the question (n=167), 43.71% rated their comfort level with computer technology in general to be “good”, 0% “very poor”, 6.59% “poor”, 20.36% “average”, and 19.16% “excellent.” The remaining 10.18% found the question “non-applicable.”

Work Left Ungraded. Of those answering the question (n=168), 53.57% did not leave student work ungraded, 3.57% did leave work ungraded and 4.17% left work ungraded occasionally. The remaining 38.69% found the question “non-applicable.”

Reasons for Non-graded Work. Of those who answered the question (n=145), 4.14% left work undone because there was "not enough time," 4.14% because students accidentally had submitted to a wrong rubric, 1.38% did not feel the need to duplicate work already graded on paper, 1.38% were sent work that was submitted to a wrong instructor, 0.69% did not see the "big picture" in needing to use Chalk and Wire, 0.69% left duplicate submissions un-graded and were unsure of deleting, and 89.59% felt the question to be non-applicable. (Cooperating teachers must score on Chalk and Wire.)

Value of e-Portfolio. This question allowed more than one response. Of all the responses (n=199), 15.08% felt the main reason for having an electronic portfolio was to keep students and university on the cutting edge of implementing technology development into their educational experience and 8.54% felt an electronic portfolio was valuable because students would be able to reflect on their formative work during their university experience. Another 8.54% thought the electronic portfolio was valuable to collect data for NCATE, and 8.04% found it valuable for students to be able to send their work to anyone in the world immediately. Another 8.04% felt the electronic portfolio gave students yet another experience in handling technology, and 7.54% did not find the

electronic portfolio valuable. Another 5.53% valued the ability for students to be able to reflect on their formative work during their university experience, and 38.69% found the question non-applicable.

Hardcopy vs. e-Portfolio Preferences. Participants were allowed to select more than one response. Of all the responses (n=179) 20.67% preferred hardcopy portfolios because they could handle to view them, 6.7% preferred electronic to save paper and space, 7.26% preferred electronic because of portability, 5.03% preferred hardcopy since handling technology added a stress factor in grading, 15.08% preferred electronic because students could access documents quickly from past years to reflect and compare their growth rather than trying to hunt down loose papers stored in closeted boxes, and 45.25% found the question non-applicable. (Many cooperating teachers have not seen the comparison between hard-copy portfolios and e-Portfolios.)

Chi-square Analysis of Cross Tabs

The Chi-square test for independence was used to test whether or not there was a relationship between two sets of variables. The cross tab feature of the Chalk and Wire e-Portfolio system was used. The sample selected was from the survey given on the Chalk and Wire system. Frequency distributions were displayed in a matrix and the Chi-square test for independence performed on each set of data. Because the Chi-square statistic can be distorted when cell sizes are less than n=5 (Gravetter and Wallnau, 2004), cells were collapsed to two categories average or below (very poor, poor, average), and above average (good and excellent). The non-applicable category was eliminated (personal communication with Nebraska Evaluation and Research Center, July 23, 2008). Data were listed after collapsing the matrix. Chi-square and Cramer's V data have been

rounded to the nearest hundredth when reporting, but not in the original tabulation.

Gravetter and Wallnau (2004) recommend that the outcome of the Chi-square test for independence be accompanied by an effect size. Cramer's V is a correlational statistic for measuring the effect size, the degree of association between two dichotomous variables, in this case organized into a matrix of frequencies in the Chi-test for independence. Cramer's V was performed to find effect size.

Success using Chalk and Wire Cross Tabulated with Comfort Level with Computers. The Chi-square test for independence was conducted to find if perception of success using Chalk and Wire was dependent upon comfort level with computers. The obtained Chi-square value $\chi^2(1, n=198)=0.85, p=0.05$ was not significant. Cramer's V =0.06, indicated a very small effect size. These results indicate that perception of success using Chalk and Wire was independent of perception of comfort level with computers.

Success using e-portfolio	Comfort level with computer technology					N/A #=n
	very poor	poor	average	good	excellent	
very poor	0	0	5	3	2	1
poor	0	4	4	9	2	2
average	0	5	13	30	11	2
good	0	6	17	37	19	8
excellent	0	3	6	12	10	2
N/A	0	2	10	19	13	13

Table 4.1 Assessor perceptions of e-Portfolio success cross tabulated with computer comfort

Success Using Chalk and Wire Cross Tabulated with Age of Assessor. A Chi-square test for independence was conducted to assess whether a perception of success using Chalk and Wire was dependent upon the age of the assessor, either faculty or cooperating teacher. The results revealed a $\chi^2(1, n=166)=0.42, p=0.05$, showing no significance. Cramer's $V=0.03$, indicated a very small effect size. These results indicate that perception of success using Chalk and Wire is independent of the age of the assessor.

Age of Assessor						
Success Using e-portfolio	17-20	21-30	31-40	41-50	51-60	N/A #=n
very poor	1	6	3	0	0	0
poor	3	8	3	4	0	1
average	5	28	8	5	0	2
good	3	38	10	9	1	0
excellent	5	13	7	6	0	1
N/A	4	20	8	10	0	2

Table 4.2 Assessor perceptions of e-Portfolio success cross tabulated with assessor age

Success Using Chalk and Wire Cross Tabulated with Perception of Student

Assistant Helpfulness. The Chi-square test for independence was conducted to gauge whether success using Chalk and Wire is dependent upon the perception of student assistant helpfulness. The obtained Chi-square value $\chi^2(1, n=185)=0.18$, $p=0.05$ was not significant. Cramer's $V=0.01$, indicating a very small effect size. These results indicate that success using Chalk and Wire is independent of the perception of student assistant helpfulness.

Rate your student assistant this year in their helpfulness in aiding you with your understanding of e-portfolio assessment

Success with e-portfolio	very poor	poor	average	good	excellent	N/A #=n
very poor	0	0	0	0	0	0
poor	0	1	0	1	1	0
average	2	4	13	18	4	16
good	3	6	25	33	10	21
excellent	2	6	17	26	13	10
N/A	4	3	9	11	2	10

Table 4.3 Assessor perceptions of e-Portfolio success cross tabulated with student assistant helpfulness

Success using Chalk and Wire Cross Tabulated with Perception of Administrator Helpfulness. The Chi-square test for independence was conducted to ascertain if perception of success using Chalk and Wire is dependent upon the perception of administrator helpfulness. The obtained Chi-square $\chi^2(1, n=176)=3.82$, $p=0.05$ was not significant. Cramer's $V=0.29$, indicating a small effect size. These results indicate that success using Chalk and Wire is independent of the perception of administrator helpfulness.

Administrators' helpfulness during workshops?

Success using e-portfolio	very poor	poor	average	good	excellent	N/A #=n
very poor	0	0	1	2	0	2
poor	0	1	1	1	0	1
average	1	6	22	18	7	20
good	4	4	13	29	11	10
excellent	1	5	17	22	10	14
N/A	5	4	9	16	5	11

Table 4.4 Assessor perceptions of e-Portfolio success cross tabulated with student administrator helpfulness

Qualitative Survey Question Results

The on-line survey contained 14 Likert style questions and one open ended question, simply marked “suggestions.” Open coding was used to divide answers into four categories. Axial coding provided generic themes:

Neutral. Responders could simply write the word “none” to make the survey end and not contribute any suggestions. Of the participants 89 (52.05%) responded with some neutral word or phrase. The majority of those simply wrote the word, “none.”

Positives. Of the participants 8 (0.05%) positive comments included appreciation for training, complimentary remarks about student and administrative help, and mention of approval of specific features. “The diagrams on the papers were very helpful.” “Help line is available.” A few jotted down aspects of the system positively viewed like “Data analysis, disaggregation,” and “updating professional portfolios.”

Negatives. Of the participants 8 (0.05%) negative comments balanced out the positives. Nearly all negative comments were from cooperating teachers who did not come to the training sessions which were strongly encouraged, but not mandatory. “I have had no training. I am a cooperating teacher.” “This is generally a poor system. I did not have any training.” Other negatives included, “It was time consuming for a cooperating teacher.” “Difficult to use.” “System did not allow me to use all that apply.” “Do away with C/W.”

Advice. Of the participants 17 (0.10%) comments contained advice for improvement, 6 of those 17 pertained to training. “All CTS should go through training.” One suggested, “On-site training.” Two others asked for refreshers when changes occurred in the system stating, “Overview refresher of C & W when changes occur.” Various suggestions were given for further learning. “Help with my professional portfolio.” One asked for assistance from her field student, “Encourage students to help cooperating teachers.” Two of those offered suggestions for mechanical changes. “Number the questions.” “Make the instructions...accurate.” Two referred to a desire for hard copy. “I would prefer a hard copy to assess students.” “Provide hard copy with screen page.” Two suggested technical repair, “Fix computer glitches.”

Qualitative Analysis of Interviews

Subjects. Two faculty, two cooperating teachers and two students were interviewed and answers captured on Camtasia video and audio. Subjects were chosen to give a variety to the sample.

Faculty member A has served in a number of settings including a public school for 2 years, home tutor for 3 years, team taught at an eastern university for 4 years,

faculty abroad in a graduate school in the Philippines for 11 years, and in Europe for 3 years. She not only needed to learn Chalk and Wire but computer skills in general.

Faculty B served in the public school system at the Middle School level for 30 years, and has served at a university level for 2 years. She is moderately skilled in computers.

Cooperating Teacher C has been a teacher for 13 years, and feels quite comfortable with computers. Cooperating Teacher D is a second year teacher and also a Master's level student with the university, and utilizes the system as both an assessor and a submitter of artifacts. Two students were chosen, Student E, who is a male transfer sophomore student coming into the program without going through the traditional steps of training on the e-Portfolio, and Student F who is a female senior and has had all training available with the system and underwent the change from eP1 to eP2.

Qualitative Interview Results

Comfort with experience and time. All responders voiced a growing level of comfort with training, experience, and time. All mentioned stress the year of adoption. Students looked to faculty for help, who were themselves just learning. "At the beginning, probably Freshman and Sophomore year, sometimes the teachers didn't know. But...we all figured it out. It was stressful at first; but, we all figured it out (Student E)." "You know, now that we've been through it enough semesters and we're more comfortable with it, I don't see it nearly the problem it was the first go-around (Faculty A)."

Appreciation of respect. Each responder had something to say about their trainee not patronizing them or making them feel unintelligent. One voiced appreciation for respect. "(The trainers) never make any of us feel...a little...inept, or whatever (Faculty

A).” Speaking of the student assistants, “...you don’t have to feel like you’ve got to do everything perfectly (Student E).” Speaking of faculty and students, “Everybody’s pretty patient (Faculty B).” “I think she did offer a chance for questions. ‘Is there anything you guys don’t understand’ ...but, it kind of came across as...’Well, why don’t you get this?’ I think we all kind of felt a little intimidated asking questions, feeling embarrassed. I’m not sure she’s doing it intentionally, but it does come across...I mean you know how some people just sort of have the ...‘Oh, this is easy, (you) should get it’...and then when you don’t, you’re sitting there going, ‘I don’t know what you’re trying to say.’ And you don’t want to speak up, for fear of looking foolish (Student E).”

Stress over unknown elements. Unknown knowledge areas were a source of stress. All interviewed at some point mentioned an area of e-Portfolio systems for which they were unclear. “One thing, as a new person on the block, relatively speaking, even now...when it said the standard, I wasn’t sure exactly which standard we were talking about...are we talking about the competence, communication, or whatever, or are we talking about the Ohio Standard? And since I wasn’t clear on that, some of my students weren’t clear, and that was evident in their reflections (Faculty A).”

Reluctance to utilize someone’s time in education. Even though the one administrator had release time for Chalk and Wire, the other administrator carried Chalk and Wire as part of her staff load, and all student assistants were paid an hourly wage, all interviewed expressed feelings of guilt over time consumption when asking for help. All recognized the value of academic time and were very hesitant to take up student, faculty, or staff time with personal assistance. “I think first of calling you, but I always feel guilty about that because you don’t have time for my little problems (Faculty A)!” “I

actually loved it when they (student assistants) were in the library, because I always knew that they'd be there and I would go just right down and meet them, but that's me. I'm just saying that if you put it back to that, I would be all for that, because I would always think...oh, I'm not taking away from their schedule (Student F)."

Time consuming process. "Well, I will tell you, it takes a long time to do. It takes a long time to sit down and do the actual evaluation type process, but then I'm one to put in comments. I try to comment because I want her to know why I'm scoring it the way I've scored (Cooperating teacher D)." "Well, to come up with meaningful, reflective feedback that is appropriate and helpful...it takes a lot of time. It takes a lot of time (Faculty A)."

Preference for electronic because of portability, ease of use, experience with cutting edge technology. One cooperating teacher expressed frustration that even though finals were placed on Chalk and Wire, midterms were still done using the old "have to press through three copies" format. "Handwritten...I don't know...I don't know. I'm so used to being able to edit my comments in an electronic version, instead of using White-Out. You know, the whole...you know and I really wanted to give a good, nice, polished midterm evaluation...really (Cooperating Teacher C)." "I'm always telling my students, you can send these anywhere in the world with a click (Faculty A)." "...of course, they're kids, they're really good at handling technology (Faculty B)." "Specifically, if I had to go one, I would probably go electronic, just because they're easy. I mean, it is a lot easier to view an electronic thing and take it with you, and you can just have it in your e-mail, and go, well let me show you this...as opposed to, I've got three hundred pages of paper here (Student E)."

Desire for clear instructions on syllabus for artifact location. Both students expressed the desire for professors to place clear instructions on the syllabus in an easy to access manner. “I mean, some of the stuff were three levels deep in buttons that made no sense (Student E).” “One suggestion that would be helpful to students using Chalk and Wire would be if the assignments that need to be placed on Chalk and Wire would be clearly marked in the syllabus. I would have to say that’s probably the most confusing part of it all. I always stress out, cause I want to always make sure I do it...like I want to make sure I always do everything right, cause, you know, I want to get a good grade in all my classes...sometimes teachers will put it in...like they’ll have like the syllabus, but, then they’ll have all the assignments described in another part of the syllabus. Like they’ll have it in the class schedule, but they don’t actually...like they’ll have it in one or the other, but not both, or they won’t have it in the schedule, they’ll just have it in the syllabus somewhere. It’s just making sure that it’s clear would just be ...like I never missed an assignment; but, it’s very stressful for me (Student F).”

Want verification that work has been accomplished (pop up society) “But, maybe after it was submitted and everything was right if a pop-up came up...something... I think that something does pop up now...or maybe an e-mail sent to our account (Student F).”

Hardcopy for security (especially with rubrics). Several interviewed expressed a desire or appreciation for step by step instructions, even though later in the interview, this was coupled with reluctance of reading step by step instructions. Both Cooperating Teachers mentioned appreciating hard copies with screen-shots. “I think the visual helps a lot, because you can actually match up. I think that helps a lot. (Speaking about the

screen- shots), because it really... matches up your screen. Yeah, you can read here, but you're actually seeing it (Cooperating Teacher D)." When discussing which she liked more, online or hardcopy instructions, Cooperating Teacher C responded, "Both. You know, if I knew what to click on, I would just flip, I wouldn't read every word of these instructions, so I kind of...yeah, (I like) ... the screen shots and the verbal directions." "It always made me feel a little more secure to have that hard copy...you know...step by step instructions...and I could always refer back (Faculty A)."

Training important to all. "There was another cooperating teacher, and she wasn't quite as secure and she struggled. But, she...she struggled with it a little bit more than me, yeah." Later in the survey, "But, I think it would be harder if you hadn't taken the training. I think that's what happened to the other lady in the building (Cooperating Teacher D)."

Cooperating teachers liked college credit. "That's definitely a positive. When you're thinking of having credit vs. the money, I mean, it's positive, because everybody needs to recertify or get their license again (Cooperating Teacher D)." "In order to get the graduate credit, is that...do we have to attend the workshop? You know what I mean, at least once? Perfect (Cooperating Teacher C)."

Frequent use desired. Students and faculty mentioned problems with students forgetting how to submit or forgetting how to assess after not doing it for a few months. Both students advised having assignments to turn in each semester at a minimum. "Sometimes, I forget from field to field... (Student F)" "I think the other thing, and I don't know how much control there is over this, but maybe two or three assignments in every education class were to be turned in on Chalk and Wire...I mean, just so in every

class they're using it, just to keep it...I mean...I went all fall semester without touching Chalk and Wire (Student E)."

Faculty grow in knowledge as well as students. E-Portfolio systems, new as they are to educators, are creating a challenge for faculty as they strive to be a step ahead of students. "At the beginning, probably Freshman and Sophomore year, sometimes the teachers didn't know. But...we all figured it out (Student F)." "I'm getting better; but, there's still an awful lot I don't know (Faculty B)." "I had a steep learning curve (Faculty A)."

Unawareness of available materials. Even though printed and video help materials are available on the Blackboard platform, given frequently through e-mail, on one of the main drives of the campus network systems, and always available from administrator offices, nearly everyone interviewed admitted to not looking at some of the available help, even when needed. When asking the Cooperating Teacher D which "helps" she used most, she was puzzled. Asked if she had seen the on-line helps, she responded, "No." (Pointing to hard copies) "I would have to say that was very beneficial. Hardcopy was important." (When asked if her field experience student showed her the Camtasia video help, she responded, "No." "Wait a minute, let me think...online instructions? ...or were they e-mailed to me (Cooperating Teacher C)?" "What's the Camtasia? Oh, O.K., O.K. I guess I should look at that (Student E)." "I know that there are online things, but I just haven't even taken the time, yet, to see how they work (Faculty B)." "Online instruction...I did know that they were there; but, I've never looked at them before. (Looked at the site, briefly.) I need to look in this, for myself! I honestly did not know until we had that meeting a couple weeks ago before Spring break.

I meant to look on that then. This helps me a lot. No, I've never heard a teacher ever tell me about this. No. I have an education major declared, ever since Freshman year, and I never knew that. Um...I never even knew that this SEA (Student Education Association) was supposed to be on my Blackboard for a long time (Student F)."

The researcher reminded the student about two e-mails sent to all students explaining the Blackboard site. When asked if they might have been deleted, "It's possible. The other thing I do with my e-mail...I don't use the school's e-mail. I have it forwarding everything to my normal e-mail account and it's tagged with a little MVNU tag. So, I mean, I can tell where it comes from, but I think that the other problem is that we get so many e-mails from school. I mean, there's daily announcements, which are so often, just a waste, and you don't ever look at them. There's just so many e-mails, so much junk that you get, that you just kind of want to hit SPAM. Mark it. So, I think that's a problem (Student E)."

Simplicity of design. Sometimes, it was evident that materials were not accessed because of confusion of where to find them. "Some people will put them (directions) under assignments, and you're just not ever sure which class you're at where it's under and it just kind of gets confusing (Student E)."

Positive Camtasia experience. All interviewed were briefly showed where to find information on the Blackboard platform used by the university. Cooperating teachers were encouraged to ask their student to access the site for them, since it is password protected. "I think it would have (helped.) Especially since this, it was changed a little bit from where I had originally learned. Yeah. I think that would be very beneficial (Cooperating Teacher D)." When listening to the voiceover explanation, "I think that

would help. I think it's a lot easier... I mean, we're a lazy society. I think it would be easier for most people, and a lot more people would be more willing if they just had to listen and watch instead of...well, here's a hard copy. Flip, flip. Read, flip, type, flip. I just think the Camtasia would be a lot better because of that (Student E).” “Those were good, yeah, they would be definitely helpful. I should explore them more when I have... you know, just on the computer. I should look at that more. I'm sure it would be helpful (Student F).”

Software changeover stressful. “The only thing that happened this year that was kind of frustrating was when Chalk and Wire changed over...um...and then I thought that I had lost an entire portfolio for a little while. I was like, oh my gosh. But, I really took time in the library to read through all that to make sure I was updating everything properly. But, I was like, if something doesn't work out; I don't know how to fix it. But then, Jessica helped me, and then when I went back on Chalk and Wire later, that file that had disappeared was there. So, yeah, that really scared me (Student F).”

Desired Trainer Characteristics. During the interviews, many opinions surfaced describing appreciated qualities of the trainers. Some also expressed traits they would like to see in individuals giving assistance.

Confidence – “I think they need to be able to appear authoritative (Student E).”

Knowledgeable- “I always felt that the student assistant...um...was knowledgeable about Chalk and Wire. Like there was nothing that I asked them that they were like... “Oh, I don't know what to say.” Like they knew what they were talking about and that made me

confident, cause then I knew that I could trust them, and not be, like...oh, I better go to (the Administrator) later. So, that was good (Student F).”

Relaxed-“It’s more relaxed and it’s not real official and formal and you don’t have to feel like you’ve got to do everything perfectly (Student E).”

One on one attention – “The most helpful was when I had one on one direct help from you or a student assistant (Faculty A).”

Times for rapid, quick answers, times for tutoring to own the information-

Both students and assessors had what seemed to be conflicting points of view during the interview, at times expressing they wanted to be just told information, at other times wanting the guide on the side. “The student worker that was helping me, she wanted me to like figure it out, so she wouldn’t like...she wouldn’t tell me. She was like, well, what do you think? I’m like...I don’t know! That’s why I’m coming to you (Student F).” In terms of understanding, which is what it says there... she tended to do things for me, more than explain...you know. But...I would watch her...which is not the best way for me to understand...(Faculty B)”

Proximity during time of need- Everyone interviewed expressed appreciation for quick help when they needed assistance. Speaking of a student worker, “I had just technology issues in general and I’d always look at her and she’d come up and take care of it for me

(Faculty B).” Alluding to the staff administrator, “She just helps me right away. That’s good (Student F).”

Kindness and Patience- Faculty and students expressed appreciation for training doled out with care. “(Both administrators) are both very helpful and endlessly kind and patient (Faculty B).”

Encouraging- (The trainer is) always an encouragement and that has helped a lot, it really has (Faculty A).”

Persistence – Speaking about student assistants, “They were very helpful; they were very good...and chased me down, which was good. ‘Let’s do it now. I’m free now, how about you (Faculty B)?’”

Student Assistant Team Survey

In addition to data being collected through the Chalk and Wire System, the 5 students comprising the Student Assistant Team who facilitate learning with both faculty and students were given a survey at the year’s end (see Appendix I). Students were asked 8 questions, 5 multiple choice and 3 open ended. The survey was developed by the prior student assistant team and adjusted to meet this survey year’s requirements.

When asked when they helped students the most, 3 felt most help was given impromptu, in a class where they were a participant, 2 felt they offered the most help by appointment. All 5 responded that it took them 15 minutes or less to teach someone to place an artifact on Chalk and Wire. All 5 also responded they felt confident in working with Chalk and Wire.

When asked how the administrator could help them to be more successful, 3 asked to be led into developing their own “really great personal portfolio”, 2 wanted to

learn new aspects of Chalk and Wire and all 5 students reported the most successful setting for helping faculty occurred one on one in an office setting. In the open ended questions, 4 of the 5 described best teaching times working with students and individual faculty and finding success with someone who had previously found the technology stressful. Frustrating experiences included teaching individuals who were resistant to learning as well as one class where everyone was already comfortable with the technology and found the extra help a time waster. Of the 5, 2 found enjoyment helping to prepare both faculty and students for the accreditation visit and presenting during the actual visit.

Summary

Both quantitative and qualitative data have been analyzed to show results of surveys and interviews taken to better understand satisfaction of training in e-Portfolio systems. The next chapter will include a discussion of these results.

Chapter 5

DISCUSSION

Introduction

The purpose of this study was to find which training methods were most satisfying to faculty and cooperating teachers as they learned e-Portfolio systems for assessment of pre-service teachers. The results found from the quantitative survey results, the qualitative interview, and the open ended survey questions will be discussed within the framework of the research questions initially asked. Emerging themes from qualitative elements of the study will then be discussed. A summary and future recommendations for e-Portfolio system training will follow in chapter six.

Focus Question

The primary research question of this study was, “How can faculty training become more efficient and the utilization of e-Portfolios more satisfying for faculty?” Barrett (2000) describes the implementation of an e-Portfolio system as more of a process than a product. The system changes and adjusts to meet the needs of students, faculty, and administration. Unlike simple software, the constituents by their actions and feedback are sculpting the system into what it most needs to be, which in turn requires continual training to keep abreast of the innovations. Training faculty and cooperating teachers to assess pre-service teachers in meaningful and reflective ways using an e-Portfolio platform is a formative process. As faculty sees results from submissions, rubrics are adjusted and refined to pull from students the desired competencies. As Meyer and Latham (2008) clarify, the technology tool is not to be confused with the assessment system. The tool is only to help make that assessment system manageable

and effective. Faculty buy-in to an assessment system itself was found to be a must for implementation to be successful, but as research shows (Wilhelm et al., 2006) implementation of that system takes time and development, and requires a shared vision among all the stakeholders. Bandura (1986) asserts that feelings of efficacy build feelings of satisfaction. Results showed as training progressed in a variety of formats, the majority of cooperating teachers and faculty felt growing success (see Figure 5.1) and satisfaction in their use of e-Portfolio systems. For example, 68.94% (n=91) of those who identified themselves as cooperating teachers and 70.00% (n=14) of self-identified supervising faculty rated themselves average or above in their success using Chalk and Wire.

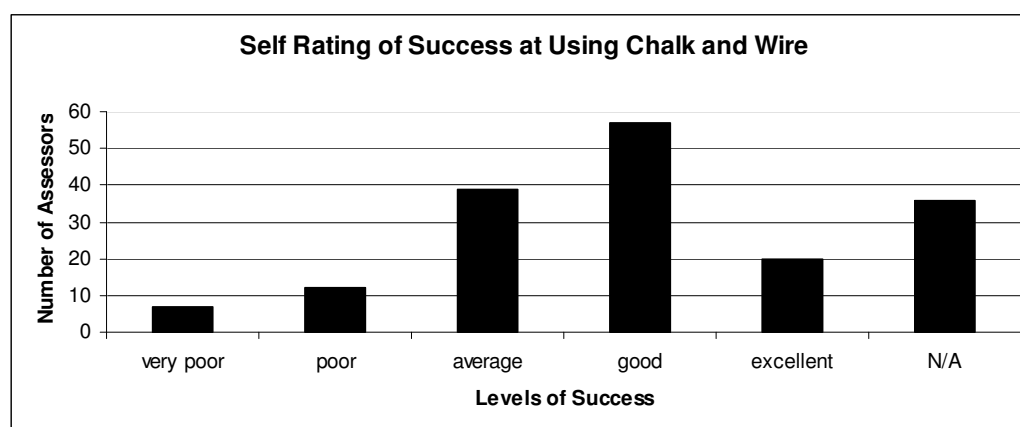


Figure 5.1. Self rating of success at using chalk and wire by assessors

Sub-question 1

1) Which format of instruction will be the most utilized: administrative led workshops or one-on-one help from student assistants?

Workshop vs. one-on-one help. One-on-one help from either the student assistant or the administrator was the preference of assistance in all cases. Concurring with research done with Arizona State University, Drake University, and the University

of Tennessee at Knoxville (Wilhelm et al., 2006), initial training may have worked using large workshops since all were at the novice stage of learning. Once faculty was at various stages of expertise, small group or one-on-one settings proved more efficient and satisfying. Several workshops were held during the course of the semester with much advertising and snacks available to give an inviting atmosphere. There were never more than five faculty in attendance. Only when the planning workshop at the year's end was made mandatory, did the majority of faculty respond. The majority of help was done through calls or e-mails to the student assistants or to the administrators. Each faculty had a particular student assistant they were teamed with at the beginning of the year. That student assistant called and/or e-mailed several times a semester to check if help was needed. Student assistants also helped faculty to develop and update professional portfolios. In the student assistant survey, all five student assistants responded that one-on-one help in a faculty office was their most successful way of working with faculty. Relationships developed which proved valuable to both. One student assistant responded that helping faculty to prepare for NCATE and reduce stress was her best, successful memory of the year. All five student assistants marked "confident" in their self perception of surety in working with the e-Portfolio system. This self-assurance developed through many tutorials, building confidence in both the trainer and the faculty.

Sub-question 2

2) Which format of instruction will be the most satisfying to faculty and cooperating teachers: Hard-copy or multi-media?

Information from interviews showed that although students, faculty, and cooperating teachers showed positive feedback for multi-media instruction, specifically,

the Camtasia Video, hard-copy was the method most used by participants to find information. After data from interviews and surveys were accumulated, tracking on the Blackboard platform was used to triangulate research. Statistical tracking on the Blackboard Platform where the Camtasia Videos were housed showed very little use. For example, although the month of March showed the most activity, there were only eighteen hits from nine faculty; there was a possibility of thirty-six faculty logging on to the system. During that same month, there were only seventeen hits from seven different faculty on a word document on the same Blackboard platform showing the location of artifacts. Of those accessed, days which were obviously used most were Tuesdays and Thursdays, the days on the MVNU campus when education students were most often in field experiences freeing faculty for grading. Those interviewed indicated they liked both hard copy, especially with screen shots, and on-line accessibility to instructions. The mention of appreciation for the screen shots in hardcopy versions came up in several interviews, supporting findings from research at Texas Woman's University (Bold, 2006) which also indicated screen shots were particularly helpful. Most faculty and cooperating teachers indicated they would rather flip pages than flip screens. The technical possibilities of more user friendly split screens in the future may change that preference. Data indicated some assessors could not locate on-line instructions. This was also problematic because of the deletion of e-mail alerts.

Several of those interviewed suggested that clear directions of the location of artifacts be found not only in Chalk and Wire directions, but in the syllabus for each course. Both students and one faculty also mentioned the importance of clearly defined rubrics. Other recommendations included: automatic verification for submissions by

using a pop-up screen, automatic reminders for submissions due, simple and easy ways to navigate design, and multiple options in help materials (on-line PDF, Word documents, Camtasia video, and hardcopy). Jafari (2004) suggests three steps in considering design of e-Portfolio systems which are (a) conceptualize and define the overall system operation, (b) design the software and develop an environment that intelligently affords those requirements, and (c) implement and maintain the project. Specifically, Jafari (2004) recommends an interface that is both attractive and user-friendly that only requires minimal training. Improvement in the design of training materials has been another formative process, growing from the hardcopy instructions used the first year of implementation evolving to the variety of instructions now available. Thomas et al. (2001), in their implementation of e-Portfolio systems at Central Missouri State University, used training materials on their website including a question and answer forum, sample electronic portfolios, and discussion boards. MVNU has also used a variety of approaches to keep information accessible to users. Figure 5.2 shows the breakdown of MVNU training materials.

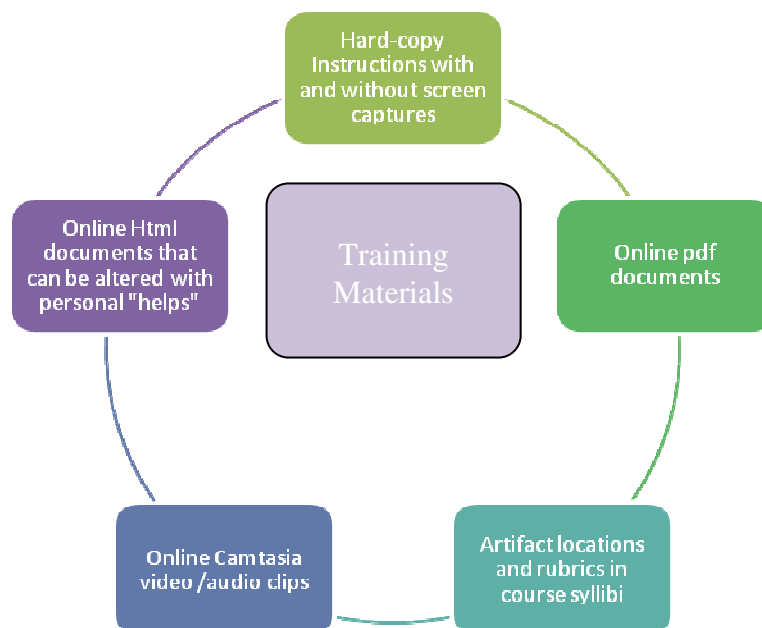


Figure 5.2. MVNU training materials

Sub-question 3

3) Will there be portfolio preferences in format between college instructors and cooperating teachers (hard-copy, electronic)?

In the past, assessors have graded students' senior portfolios with the use of large, bulky scrapbooks. A few years ago, those scrapbooks were supplemented with floppy disks, and then compact disks of the portfolio in an electronic format. Now, at MVNU, the hard-copy portfolio has been entirely replaced by the on-line e-Portfolio. A survey question asked, "How do you compare hardcopy with the electronic version?" This question allowed more than one answer (see Figure 5.3). Out of all responses (n=179), 20.67% (n=37) preferred hardcopy they could handle and view, 5.03% (n=9) preferred hardcopy because adding technology added a stress factor, 6.70% (n=12) preferred electronic that did not waste paper and space, 7.26% (n=13) preferred electronic because

of portability, 15.08% (n=27) preferred electronic, because students can access documents quickly from past years to reflect and compare growth, 45.25% (n= 81) chose non-applicable.

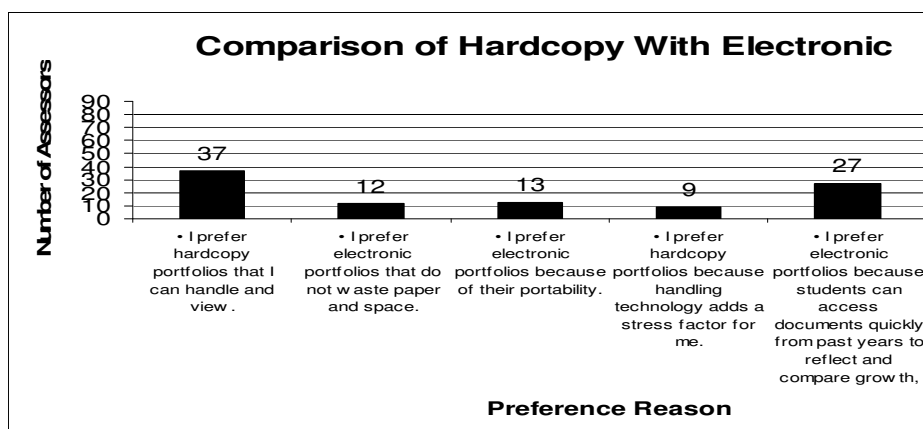


Figure 5.3. Comparison of hardcopy with electronic portfolios preferences among faculty and cooperating teachers

Data were then cross-tabulated with self-identified role. Of all respondents (n=179), those who identified themselves as cooperating teachers (n=91), 30 (32.97%) preferred hardcopy they could handle and view. Of those who identified themselves as being some form of faculty (n=49), 20 (40.82%) preferred hardcopy they could handle and view. Six cooperating teachers (6.59%) and 8 faculty (16.33%) preferred hardcopy because technology added a stress factor. Results revealed 7.69% (n=7) cooperating teachers and 24.49% (n=12) faculty preferred electronic that did not waste paper and space. The data showed 9.89% (n=9) cooperating teachers and 28.57% (n=14) faculty preferred electronic portfolios because of their portability. Data concluded 20.88% (n=19) cooperating teachers and 91.84% (n=45) faculty preferred electronic portfolios because students can access documents quickly from past years to reflect and compare growth.

Interesting that faculty valued this benefit of e-Portfolios much more than cooperating teachers, perhaps because faculty are invested in students over a longer period of time and have the chance to see both formative and summative reflections in student e-Portfolios. Certainly, this is a comparison for further study. In the qualitative interviews, five of the six responders said that in addition to valuing the electronic portfolios, they still valued having some information in hard copy form for job interviews. All responders mentioned every one of the e-Portfolio previously stated reasons as being valuable, with one exclusively preferring electronic. Ironically, the faculty member with the least computer experience valued electronic over hardcopy.

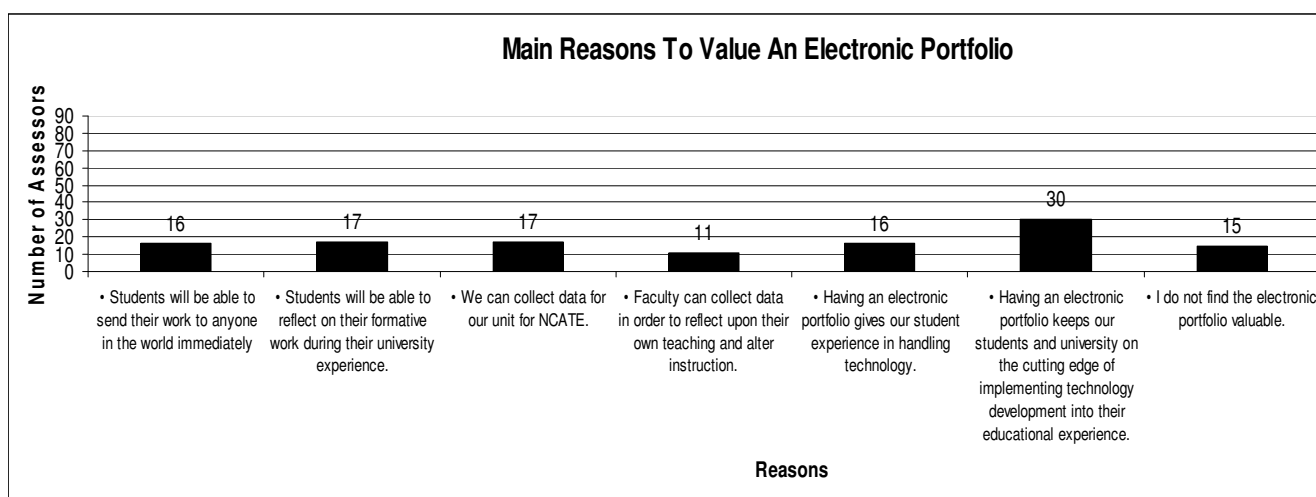


Figure 5.4. Reasons faculty and cooperating teachers value e-Portfolios

In response to valuing portfolios (see Figure 5.4), a survey question was asked which allowed more than one answer. Out of all responses (n=199), in a cross tab view (comparing the role assessors identified themselves with the main reasons they saw e-Portfolios as valuable) the highest answer for both cooperating teachers (n=21) and faculty (n=24) was that they found the e-Portfolio most valuable because “electronic portfolios keep our students and university on the cutting edge of implementing

technology development into their educational experience.” Faculty perhaps recognized that students were changing and that technology was an important component of that change. Even though the verbiage of the question called for a decision (which did you find *most* valuable, electronic or hard-copy), responders still chose both. Qualitative interviews supported this survey anomaly. With the exception of one faculty, those interviewed highly valued the electronic portfolio for many reasons, but also still saw value in keeping a hard copy portfolio as well.

Sub-question 4

4) Will there be frustration during training, and what steps can be taken to lower frustration?

By far, the number one reason for e-mailing or calling administration for help before, during and after training has been the loss of the password. Sturrock and Early (2007) mention this same difficulty in implementation of e-Portfolios through Northern Melbourne Institute of TAFE (NMIT) in New Zealand. Even though Chalk and Wire has a hotlink that will automatically email a password, there were several difficulties that have proved challenging. When a cooperating teacher clicks that hotlink for a forgotten password, frequent changes in cooperating teacher e-mail sent lost passwords into cyberspace. Suggestions have been made to the e-Portfolio platform to require a refreshed e-mail submission once a semester. Since most faculty heavily use university e-mail accounts, this problem has not surfaced with faculty accounts. Also, those who were likely to not use Chalk and Wire until absolutely necessary were the same who did not frequently use their e-mail account or the Blackboard platform.

Mentions of frustration from the interviews and the qualitative question in the on-line survey came from (a) lack of training (although training was voluntary and available to all in a variety of times frames and formats), (b) learning new technology and relearning with upgrades, (c) forgetfulness of previous training with non-use over long periods of time, and (d) the time involved with the expectation of meaningful, reflective feedback. In portfolios where the placement of the artifact was not student chosen, there was a frustration from both students and faculty of knowing the right “hook” to place the artifact. A chart showing hook placements was available in hard-copy, on the Blackboard Platform and given to each faculty member to distribute to classes. Hardcopies were often misplaced, and looking it up on-line seemed to be problematic. “I didn’t even know that was there (Student E).” Further research needs to be done in this age of technology of the most efficient way to communicate on campus to insure important information is actually read.

Of those who described themselves as cooperating teachers (n=110), the majority (n=91) rated themselves as average or above in successfulness on Chalk and Wire. This evidence was a surprise for administration, since training for cooperating teachers only came from one voluntary workshop at the beginning of the student teaching experience, hard-copy instructions, and help from their pre-service student (who had access to all on-line help.) Both cooperating teachers interviewed were very positive about their experience with training. Comments on the on-line survey, of which the majority of respondents described themselves as cooperating teachers (n=110), only showed six negative comments. Thomas et al., (2001) stress that to reduce misunderstanding and

cultivate collaboration, continued communication between cooperating teachers, faculty supervisors, and students is necessary as pre-service teachers develop their e-Portfolios.

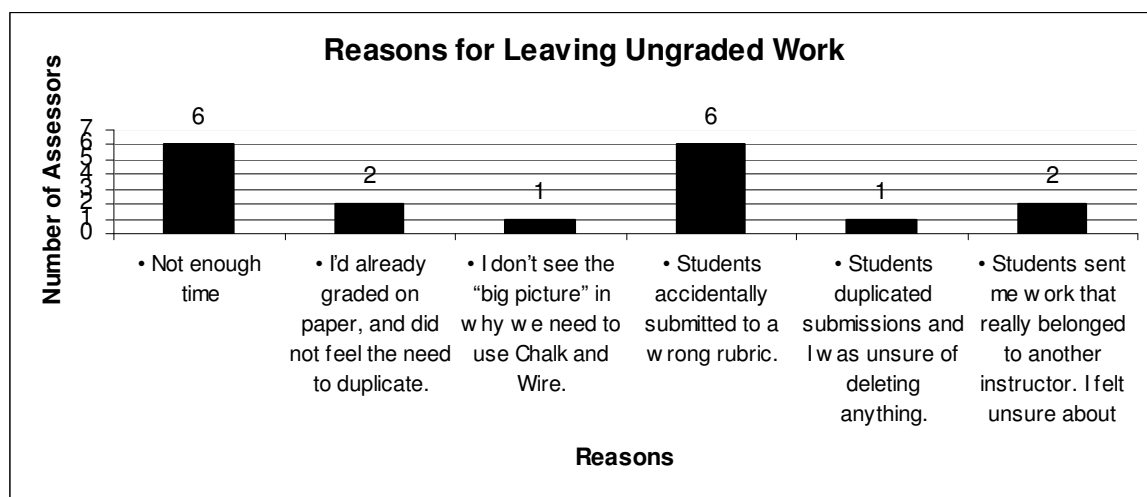


Figure 5.5. Reasons for assessors leaving ungraded work.

Looking at Figure 5.5, of the 169 assessors answering this question, very few left ungraded work. Six of those ungraded posts were submitted to the wrong rubric and resubmitted for an actual grade on the correct one. Two were incorrect submissions actually belonging to another instructor, and another a duplicate submission. Only seven assessors left work ungraded. Further research needs to be done comparing frustration levels with cooperating teachers' lack of compliance with e-Portfolio assessment.

Steps needed to reduce frustration may include (a) an automatic e-mail refresher requirement in order to have the correct e-mail available in the system, (b) a recommendation to have the "hook" available right on the Chalk and Wire System, and (c) having each education course continue to require an artifact for the portfolio to keep faculty and students refreshed in the use of the system, and consider making some faculty training mandatory.

Sub-question 5

5) Will university faculty and cooperating teachers resist instruction from undergraduate students?

When asked to rate their student assistant in their help with Chalk and Wire, the results were very positive. Out of those who found this question applicable (n=145), 109 rated their assistant as either good or excellent. No one rated their student assistant as very poor. Faculty has been very enthusiastic about their student assistants in the short time MVNU has been implementing e-Portfolios. Often, students helped faculty with other technology issues such as scanning, uploading pictures, and assisting with small mechanical changes such as changing from portrait to landscape. No one has refused help from a student assistant, and in varying degrees all faculty have asked for help from their student assistants.

During the software changeover from eP1 to eP2, student assistants were kept busy helping all education students and all education faculty check their portfolios to be sure everything uploaded onto the new system. According to Ouyang and Andrews (2004) in their implementation of e-Portfolio systems at Kennesaw State University, detailed guidance, constructive feedback and continued learning support make training successful. Student assistants at MVNU have helped to personalize learning for faculty and cooperating teachers to keep training detailed, constructive, and ongoing.

Before our NCATE accreditation process, education faculty was required to build a professional portfolio. Student assistants met with faculty to help scan documents, give pointers in uploading documents, and help adjusting pictures, audio, and video clips as evidence in professional growth. In making professional portfolios, of the number to

whom this question was applicable ($n=40$), thirteen found their student assistant excellent in help, sixteen rated their student assistant as good in helping to develop that portfolio, only ten rated their student assistant average, and only one poor (see Figure 5.6).

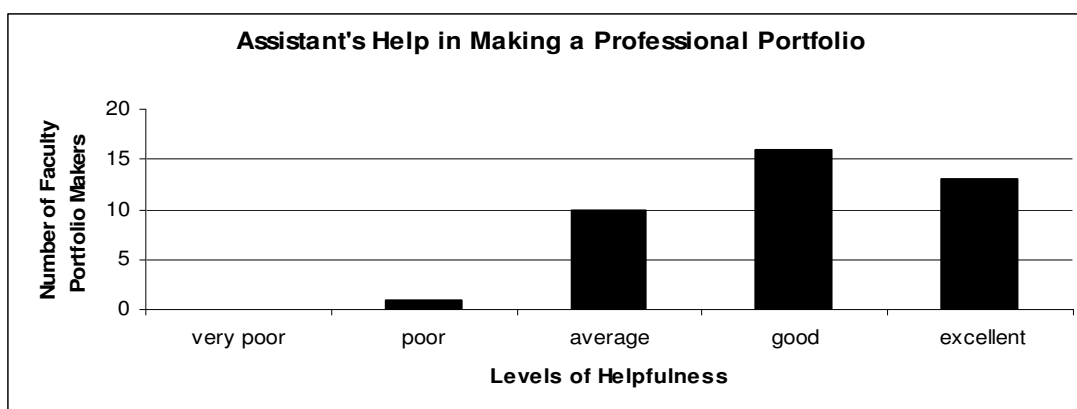


Figure 5.6. Faculty rating of student assistants' help in making professional portfolios

From the qualitative question on the on-line survey and the interviews, most comments were positive of student assistants. Only two comments could be construed as negative. One student commented that a student assistant wanted her to learn the process rather than give easy answers; one faculty commented that a student assistant wanted to do a process for her rather than teach the faculty member to do it herself. Trainees desired trainers to be confident, knowledgeable, relaxed, and willing to give one-on-one help, available when needed. Respondents valued trainers who were kind, patient, encouraging, persistent, and discerning.

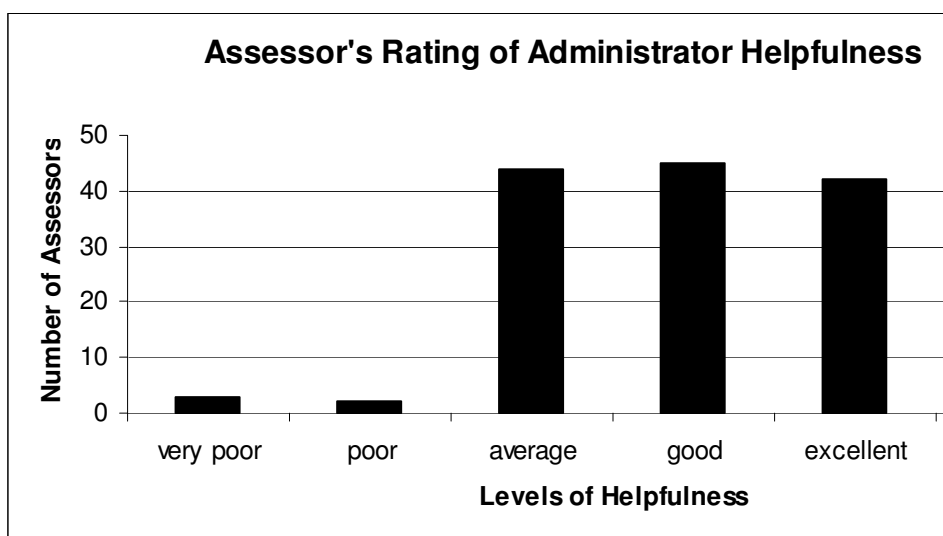


Figure 5.7. Assessors' rating of administrator helpfulness

When comparing assessors' rating of administrator with student assistant helpfulness, results are seen to be quite equitable. Student assistants were an excellent asset to the program, well-received by both faculty and cooperating teachers. Figure 5.8 is the training model developed after considering research findings. This training model adds to the literature by showing the partnership between cooperating teachers, faculty, pre-service students, and the e-Portfolio administrator. Working cooperatively, e-Portfolio administrators train and support all, giving special attention to the student assistant team, who serves both faculty and students. Faculty and students then give assistance to cooperating teachers with a goal of smooth, stress-free assessment. Administrators are available to all to initially teach, but are then on hand as a help-desk to give support by phone, e-mail, and in person.

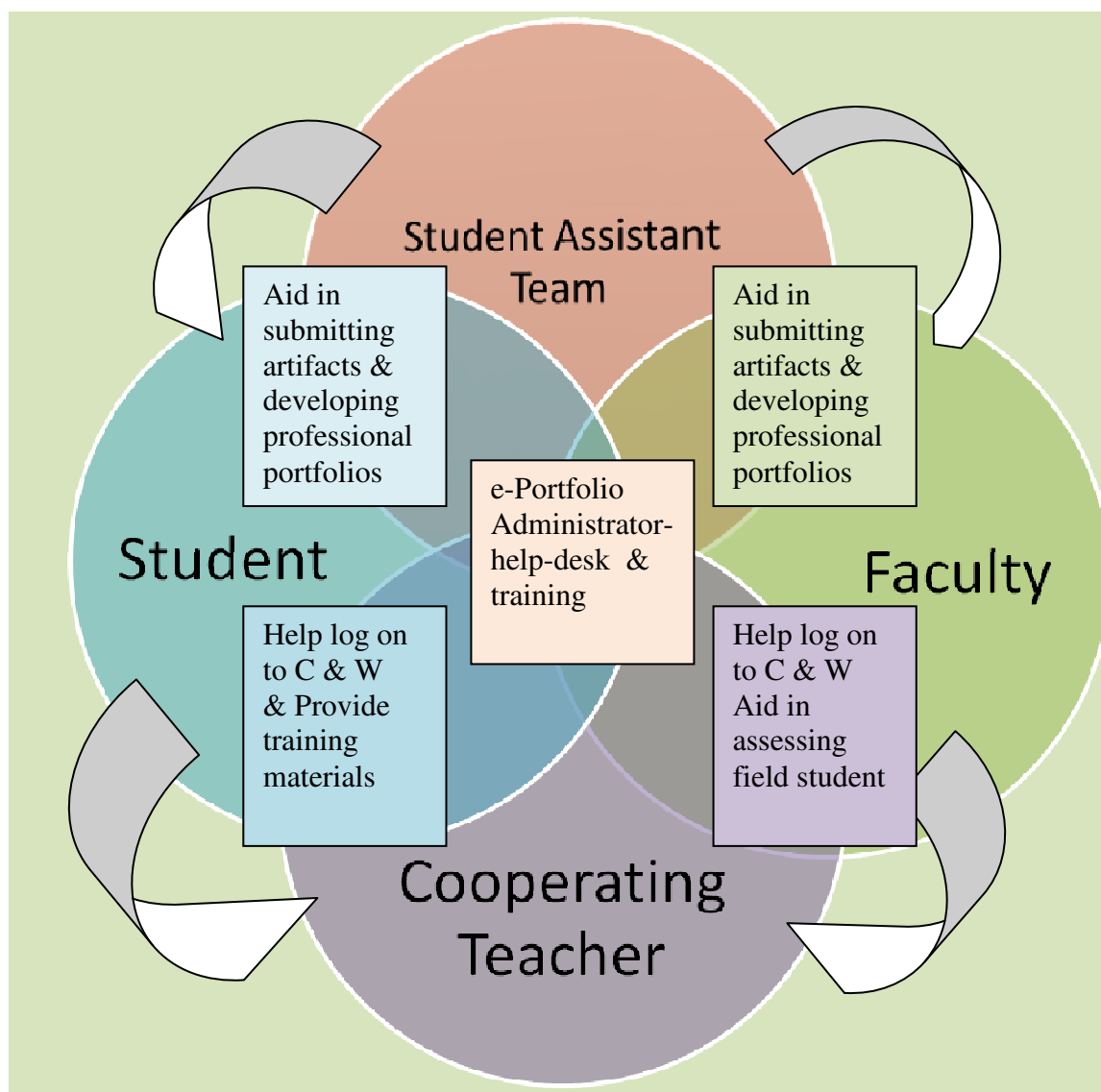


Figure 5.8. Key partnerships in training

Sub-question 6

6) Will there be a strong connection between prior computer comfort and satisfaction during training? If so, will there need to be separate sessions in basic computer literacy for some?

When cross-tabulating the comfort level with computers with how assessors would describe their success on Chalk and Wire in the quantitative survey question, the chi square test for independence showed that the comfort level with computers was independent of how assessors perceived their success in using Chalk and Wire. The small effect size using Cramer's V suggests further research done with more respondents would be useful in corroborating this evidence. Qualitative interviews seemed to back up this find, however. Those who were very inexperienced with computers responded in like manner to those who were very computer savvy.

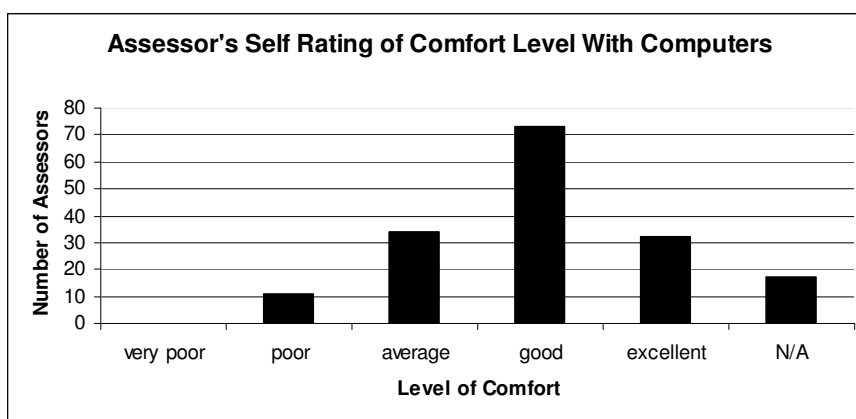


Figure 5.9. Assessor self-rating of comfort level with computers

While there were some who bemoaned the steep learning curve (n=2), many faculty and cooperating teachers in workshops have expressed gratitude for this e-Portfolio program forcing them to gain in computer skill and knowledge. Since all faculty and cooperating teachers had access to instructions that gave step by step screen-

shots, the researcher believes this contributed to the independence between computer skill and feelings of success on the system. Directions were such that a novice could follow the screen-shots to build an e-Portfolio or assess a student. Perhaps, this enabled those who acknowledged difficulty with learning new software nonetheless feel successful with the technology. Also, available one-on-one assistance from student assistants and administrators kept frustration levels low and feelings of success high.

Emerging Themes from Qualitative Data

Qualitative data from the faculty survey question, from the student assistant team survey and from the six interviews revealed a variety of emerging themes.

A Formative Process.

- Comfort increased with experience and time, with faculty growing in knowledge as well as students.

Clear, Available Instructional Materials

- Faculty, cooperating teachers, and students desired clear, easily accessible instructions, conveyed in a simple, user-friendly design, with mapped directions in syllabi for artifact location.
- An appreciation for hardcopy as well as on-line instructions in a variety of multi-media formats was expressed.

Time, a Valued Commodity

- There emerged a perception that e-Portfolios are a time consuming process. Supporting evidence by Bold at Texas Women's University (2006), one of the greatest training challenges was persuading faculty to invest time in training. As was the experience of Oral Roberts University (Eshelman, 2006) writing

and rewriting rubrics to meet particular standards in a meaningful manner

so that both students, faculty, and cooperating teachers can reflect on progress takes time and patience. Implementation of e-Portfolio systems is a process.

- All interviewed expressed a reluctance to utilize trainers' time. Faculty, cooperating teachers, and students all agreed that e-Portfolios take time: time to learn, time to implement, time to reflect on the part of all users. Jafari and Kaufman (2006) regard time factors as one of the chief reasons for faculty resistance of e-Portfolios. Knowing the high demand for time in the university setting, faculty, cooperating teachers, and students expressed hesitancy in asking an already busy faculty, staff member, or student assistant for help.

Benefits in e-Portfolios

- Those interviewed expressed appreciation for the benefits of e-Portfolios because of portability, ease of use, formative and summative reflection, and experience with cutting edge technology. Kimball (2005) urges universities to go beyond e-Portfolio use to gather data for accreditation, but to focus on the pedagogical skills of reflection, connection, activation, and process that help students become in control of their own learning, becoming self-empowered individuals. As with Batson (2002), interviewees appreciated the living, growing style of e-Portfolios as opposed to their static hard-copy counterparts.

Advice

- Users of the system articulated the desire for verification when work has been completed. Mention was made of wishing a little pop-up screen would appear

to verify submission showed how electronic feedback has influenced our expectations. No longer can an assignment simply be turned in to a teacher for grading, assured that the pages were in the instructor's hands. Conditioned by technical difficulties and having experienced user error in the past, faculty, cooperating teachers, and students wanted something to give them assurance electronic submission has occurred properly.

- A value for training surfaced with a desire to accrue educational credit when applicable. While faculty workshops were not well-attended, cooperating teacher workshops showed high attendance. Since both workshops were voluntary, one contributing factor to the well attended cooperating teacher workshops was probably the educational credit offered to participants. Supporting Jafari (2004), the creation of an incentive program for faculty to learn e-portfolio systems could play a key factor in successful adoptions of this assessment tool.
- A desire for intermittent use in every class became evident in order not to forget from semester to semester. Agreeing with the findings of Wilhelm et al. (2006), at Drake University, too much non-use time with e-Portfolios leads to frustration on the part of users. Students and assessors need to revisit the program frequently to feel comfortable with the system. Students and assessors commented during interviews that when they did not use the system for a long length of time, they forgot how to use it.

Surfacing Problems

- An unawareness of available help became apparent. Comments during interviews showed some users of the e-Portfolio system did not know where to find help on-line. Due in part to e-mail deletions, which gave instructions of where to find help on Blackboard and on Chalk and Wire itself, faculty, students, and cooperating teachers were sometimes unaware of options available to them. Changes in what is called the Dashboard Design have been implemented continually in Chalk and Wire to help it to be a user friendly system. From this study, recommendations are for each faculty to give direction locations to each class in on-line syllabi, orally, and in hard copy.
- Consensus agreed that the software changeover was stressful. Mayer and Latham (2008) reported that a visual design and function change in their system fostered distrust in both faculty and students. Although given sufficient warning and much remedial help, MVNU's software changeover from e-P1 to e-P2 proved somewhat stressful to faculty, cooperating teachers, and students. New directions had to be disbursed and implemented quickly, since assessments are on-going, not just at semester's end. By the end of one semester, all lost artifacts had been retrieved and all portfolios intact and operating. Feedback from students and faculty about design changes were positive.

Character Traits Desired in Trainers.

- *Trainees Desired Trainers to Have Certain Positive Characteristics.* Learners wanted administrative and student trainers to be confident, knowledgeable, and relaxed. They wanted guides willing to give one-on-one help, who were

available when needed, with disposition which were kind, patient, encouraging, and persistent. Respondents voiced a desire for a trainer who was able to discern when trainees wanted quick answers from a sage on the stage and when they wanted to have a guide on the side model instruction. Thomas et al. (2001) encouraged trainers to take time with those trained, to help them gain a comprehensive picture of the system.

Figure 5.10 and 5.11 were developed after reviewing the results from both the quantitative and qualitative results of this study. Figure 5.10 highlights training materials and opportunities available to each participant in the MVNU e-Portfolio system. Feedback from each of those constituents informs future training. Figure 5.11 shows emerging themes gleaned from qualitative data.

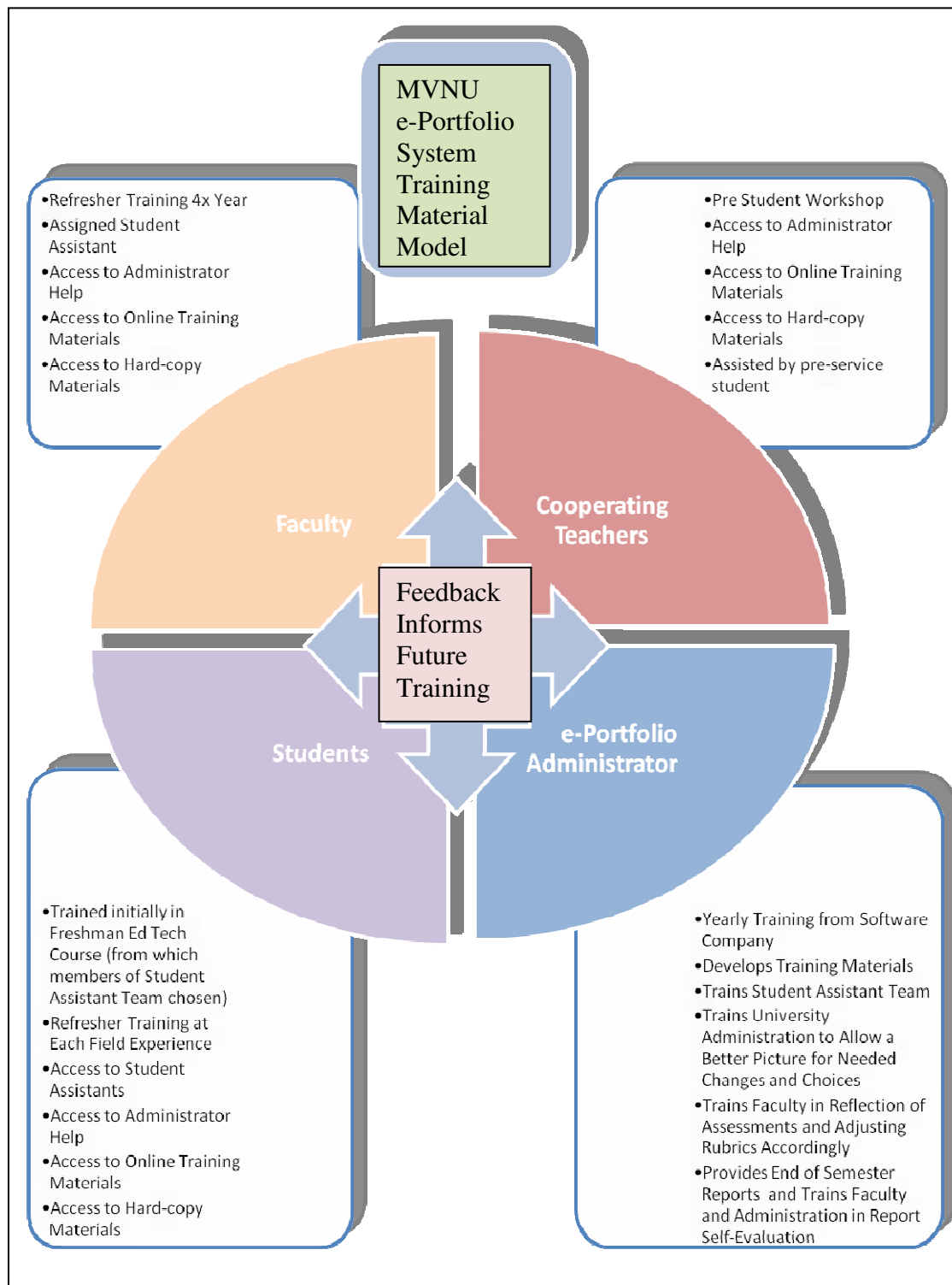


Figure 5.10. MVNU e-Portfolio system training material model

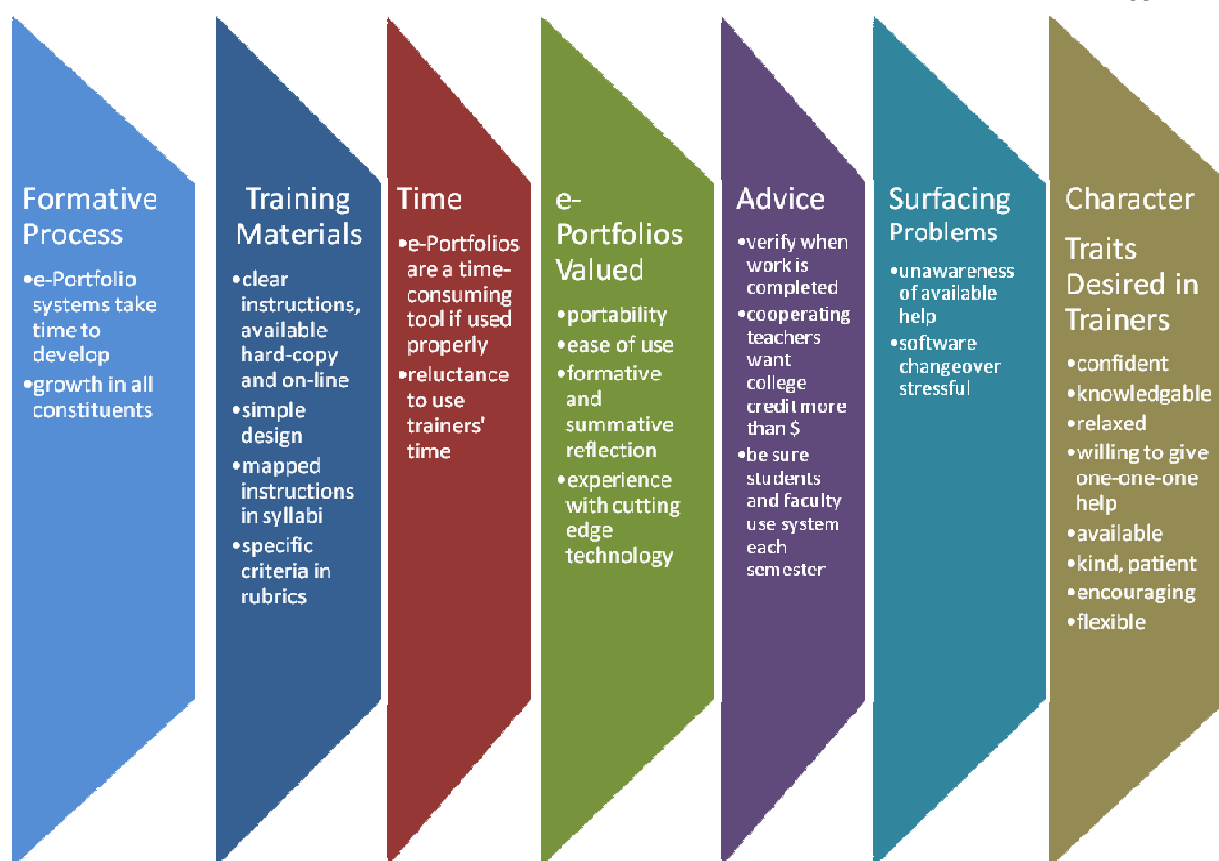


Figure 5.11 Emerging Themes

Summary

This chapter has discussed the findings of data results from the study at Mount Vernon Nazarene University. Faculty and cooperative teacher satisfaction with training was for the most part, very positive. Areas of growth have been defined and areas needing attention have been highlighted. Chapter six will begin with a summary of findings from this study, along with its limitations and conclude with recommendations for future research.

Chapter 6

CONCLUSION AND FUTURE RECOMMENDATIONS**Summary**

Results from this study showed cooperating teachers and faculty predominantly rated their success with Chalk and Wire from average to excellent. Assessors were pleased with student assistant and administrator help, preferring one-on-one instruction to workshop settings. A whole variety of instruction modes were used and appreciated, hard-copy instructions including screen shots were used the most. Better communication of where on-line sources of instruction could be found and methods of communication other than e-mail could help users better locate help. Course syllabi should hold clear direction of the selected e-Portfolio artifact for that class and include an explanation of the location of where that artifact will be placed in the e-Portfolio. Specific rubrics should be available to students clarifying how a particular artifact will be assessed. Time was highly valued among trainers and trainees, and wariness exists, when working in one-on-one scenarios of wasting the trainers' time. Trainees appreciated trainers who were confident, knowledgeable, relaxed, willing to give one-on-one help, available, kind, patient, encouraging, persistent, and flexible.

Limitations

The findings of this study of faculty satisfaction of e-Portfolio training are limited to those of a small Midwestern university. The subjects in this study were faculty and cooperating teachers assessing pre-service teachers in the School of Education. Since effect sizes were small for cross-tabulated data, independence of feelings of success using the Chalk and Wire system to the four comparisons (age, comfort level with computers,

satisfaction with the helpfulness of the student assistant, and satisfaction with the helpfulness of the administrator) need further research to be substantiated. Findings of this study were also confined to training with the Chalk and Wire e-Portfolio assessment system. Other software platforms may have different issues in training challenges. Reliability could only be insured through using a large sample (n-171), rather than using Cronbach's Alpha, because of the changes in faculty and question content between the first and second survey. This study was also conducted after a changeover from e-P1 to e-P2 in the Chalk and Wire system. That factor and the stress accompanying this change may have influenced responses.

The Future of e-Portfolio Training

Where will the future of e-Portfolios lead? Learning Innovations Forum d'Innovations d'Apprentissage (LIFIA), which is a non-profit organization in Canadian e-Portfolio system, has a goal "to promote e-Portfolio's for every Canadian citizen by the year 2010" (Hubbard, 2005). They see this inevitable growth resulting from key factors such as (a) the exponential growth of e-Portfolio initiatives for "educational accountability, labor mobility, and the promotion of lifelong learning," (p. 2) (b) e-Portfolio platforms are maturing into more flexible and *robust* platforms, (c) e-Portfolios offer new and better ways to foster and assess learning and teaching, and (d) e-Portfolios enable assessment to be accomplished in formal and informal education, the workplace, the community, and the family. Training will need to keep pace with this burgeoning growth.

An item to consider in future training of e-Portfolio systems is the electronic space e-Portfolios hold. To encourage the use of a variety of artifacts, including various

multi-media, such as video and audio clips, scanned documents and a variety of extensive graphics, measures must be taken to insure adequate storage space is available and users are trained in how to compress the software pieces to fit that storage space.

Because technology is so quickly changing, training for faculty and students must be an on-going, evolving process. Funds, equipment, and staff should be assessed each semester to insure the process flows as smoothly as possible. Incentives for faculty and cooperating teachers involved in assessment should be considered to make training attractive.

Because of the growing idea and broadening definition of e-Portfolio, organizations like LIFIA (Hubbard, 2005) insist that e-Portfolios become more and more portable and interoperable with other technology tools, so that as educators grow as individuals, the portfolio will continue to grow with the creator throughout the lifetime of the owner. As Riggs and Sandlin (2000) point out, the e-Portfolio is a living document. Training opportunities for alumni, faculty, and cooperating teachers should be available to enable those constituents to keep their e-Portfolios living documentation of their growth as educators.

Another issue to be resolved in ongoing phases involves security. For student files to be accessible for future employment possibilities but safe from web predators remains a task to be continually resolved (Batson, 2002). Training should include measures to ensure personal e-Portfolio sites are as secure as possible.

Steps needed to reduce frustration in future training may include (a) an automatic e-mail refresher requirement in order to have the correct e-mail always available in the system, (b) a recommendation to have the “hook” available right on the e-Portfolio

System, (c) a requirement that each education course continue to require an artifact for the portfolio to keep faculty and students refreshed in the use of the system, and (d) consider making some faculty training mandatory.

Future Research to Consider

Training in e-Portfolio systems has much research to be accomplished as technology changes sprint ahead of current pedagogy. Keeping current in the content, design, and best practices of training will be a challenge for e-Portfolio administrators. This study adds only a small portion to that knowledge base and recommends that research in other topics of e-Portfolio training be continued in the following areas:

Methods of Training Communication. Research is needed in best ways to convey training content. This study revealed the problematic nature of depending on e-mail to communicate system changes, alerts, and location of needed resources. What is the best method to communicate with university students, cooperating teachers, and faculty? Further research needs to be done in this age of technology of the most efficient way to communicate on campus to insure important information is actually read.

Cooperating Teachers. More research is needed in the best ways to communicate and train cooperating teachers in e-Portfolio assessment of pre-service teachers. How do cooperating teachers compare with faculty scoring in e-Portfolio assessment? How can university schools of education better serve cooperating teachers in their own academic growth through helping them to develop professional e-Portfolios? What incentives beyond university credit are desirable and beneficial to cooperating teachers to train in assessment through e-Portfolios?

Record of Lifelong Learning. As e-Portfolios become the future housing place to give evidence of formative and summative growth as educators, how can we best serve alumni, faculty, and cooperating teachers as they continue to build their e-Portfolios beyond assessment purposes?

Training Time. Research is needed in optimal training times for large workshop, small group, and one-on-one sessions. How often should training take place per semester to keep faculty and cooperating teachers comfortable? How much training time should be devoted to technology changes as opposed to pedagogical skills such as rubric writing and reflection techniques? What portion of training time should be considered in informing faculty, cooperating teachers, and students of the bigger picture of data aggregation behind the assessment in order for buy-in to take place?

Factors Influencing Satisfaction. Since our effect sizes were small in cross tabulating factors influencing satisfaction with e-Portfolio success, further research is recommended with other universities involved in the training of faculty and cooperating teachers. Are satisfaction with student assistants and administration truly independent of feelings of success using e-Portfolios to assess? Are age and computer comfort also independent of those feelings of success?

Conclusion

This study explored which training methods were most satisfactory to both faculty and cooperating teachers in the assessment of pre-service students. Prior studies of faculty training with e-Portfolio provided background in training content and training procedures.

Even though literature was available to speak to the broad issues of faculty training, this research filled a gap in e-Portfolio training that serviced not only university faculty, but cooperating teachers (For a more complete view of MVNU's training history, see Appendix K).

The main contributions of this study were the emerging factors leading to satisfaction with using an e-Portfolio system for assessment. Findings of this study showed many training dynamics contributed to feelings of satisfaction. Some of those factors included (a) one-one-one training opportunities as well as small group sessions and large group workshops, (b) a variety of modes of instructional materials, the most important of which was hard copy directions with screen shots, but which also included on-line Word and Portable Document Formats (PDF), as well as multi-media options, (c) communication of where artifacts should be located in all manner of instruction, especially available in course syllabi, (d) clearly articulated rubrics with specific criteria for reflection of artifact by both student and assessor, and (e) availability of ongoing training, with regular use of the e-Portfolio system, helping that training to be reinforced.

Implementing an e-Portfolio system for higher education students, faculty, and administration is a challenge. This study hopes to aid those in developing e-Portfolio systems at the university level by providing models for structuring training and materials.

This study also adds to the literature by finding key characteristics valued in student assistant and administrative trainers. Those characteristics include confidence, a firm command of content knowledge, a relaxed manner, willingness to give one-on-one help, availability, a kind and patient attitude, an encouraging spirit, persistence, and flexibility.

In conclusion, this research builds upon a foundation begun by pioneers in e-Portfolio training. It is hoped these findings contribute to the literature and inspire further work to be conducted in the topic of training both faculty and cooperating teachers in the various aspects of e-Portfolio systems.

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Appendix A

E-PORTFOLIO COMPANIES

e-Portfolio Companies				
Product	Integration	Import Utility	Installed Software	Minimum Technology Requirements
OSP www.theospi.org	OSP is collaborating with Open Knowledge Initiative to assure integration.	No utility with SIS and CMS. Single sign-on available via integration with LDAP.	May be hosted onsite or remotely depending on need.	Similar environments using Microsoft OS, Sun or IBM hardware and OS.
Mosaic www.rsmart.com janice.smith@rsmart.com 207-372-8033	Integrates with PeopleSoft and other ERP systems.	Yes – can be configured by institution or by R-Smart Group.	Can be installed by institution or hosted by the R-Smart Group.	H Intel Pentium III 800; Web Server: RedHat Linux, Windows XP, Tomcat 4.1.24, Java 1.4.1, LDAP; Database: MySQL, Oracle 9i, PostgreSQL
Chalk & Wire www.chalkandwire.com info@chalkandwire.com 877-252-2201	Integrates with all current computer platforms. Developed from CGI Scripts written in ANSIC and Visual Basic.	Supports export of data as ASCII text files to ensure universal import/export to and from spreadsheets and databases.	Hosted	N/A
Iwebfolio www.iwebfolio.com www.nuventive.com dcraney@nuventive.com	An initial integration with SCT Banner and Blackboard.	WebCT Vista is planned for 2003. In the process of aligning with partners to offer this functionality.	Hosted by AccessData. An “on campus” solution is planned for 2004.	N/A
Epsilen www.epsilen.com cyberlab@iupui.edu 317-274-4565	In the process of developing integration with CMS software.	Yes – integration of locally developed codes to import/export data among institutional databases.	Currently – installed software solution. A hosted solution is planned for new product release.	Knowledge of Windows Server environment and Microsoft SQL Server.
Folio by ePortaro www.eportaro.com info@eportaro.com 703-220-6902	EPIXSpec standard integrates via Web Services, SOAP and XML.	Yes – many ePortfolio extensions are available.	Available as an installed or hosted solution.	Windows, Linux or Solaris servers running Oracle or SQL Server and Apache or IIS HTML servers.

Blackboard Content System www.blackboard.com info@blackboard.com 202-463-4860	Through the Blackboard platform, integrates with SCT, PeopleSoft and Datatel. Includes a set of java-based APIs.	Yes – Portfolio content can be imported in a variety of formats	Software can be installed locally or hosted via Blackboard ASP services.	Windows (SQL Server database and Windows IIS), Red Hat Linux (Oracle database and Apache) or Sun Solaris (Oracle database and Apache).
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Appendix B
CONCEPTUAL FRAMEWORK SHOWCASE PORTFOLIO ARTIFACT “HOOKS”

UNIT OUTCOMES	ISP (Initial)	ECE (Initial)	MCE (Initial)	AYA/MA (Initial)	PEL (Initial)	C&I (Advanced)
1. Compassion						
A. Candidates demonstrate a desire to build rapport with their students by showing concern and interest. (ParaPro , Initial , Advanced)	ECE3052 (ISP) Observation Survey & Individualized Lesson	ECE3052 Observation Survey & Individualized Lesson	EDU2092 Reflective Teaching Lesson	EDU2092 Reflective Teaching Lesson	PEL6023 Reflective Teaching Lesson	
B. Candidates build an environment of fairness, trust, and positive interaction among all classroom members. (ParaPro , Initial , Advanced)	#195 ISP4022 Philosophy of Behavior Management ISP/ECE3033 Classroom Management Philosophy	ECE3033: Classroom Management Philosophy	MCE3032 Classroom Management Philosophy	EDU3042 Classroom Management Philosophy	PEL6073 Classroom Management Philosophy	
C. Candidates advocate social justice and equity in the community to promote affirmation and respect for all individuals. (ParaPro , Initial , Advanced)	EDU3063 Cultural Diversity Lesson Plan	EDU3063 Cultural Diversity Lesson Plan	EDU3063 Cultural Diversity Lesson Plan	EDU3063 Cultural Diversity Lesson Plan	PEL6082 Case Study Analysis	EDU6003 Case Study Analysis
D. Candidates transform communities consistent with a Christian worldview through service to humanity. (ParaPro , Initial , Advanced)	ISP (ECE)3093 Inclusion and Exceptional Teaching Philosophy of Special Education EDU1022 Philosophy of Education ECE4082 Revisit Philosophy of Education	EDU1022 Philosophy of Education ECE4082 Revisit Philosophy of Education	EDU1022 Philosophy of Education MCE4082 Revisit Philosophy of Education	EDU1022 Philosophy of Education EDU4032 Revisit Philosophy of Education	PEL6003 Philosophy of Education PEL6082 Revisit Philosophy of Education	EDU6053 Philosophy of Education EDU6003 Philosophy of Education Revisited

2. Competence						
A. Candidates conduct research about students and the learning process. They reflect on this information to create learning experiences adapted to diverse learners. (ParaPro , Initial , Advanced)	EDU4091 Unit Reflection & Teacher Work Sample (Science, Math, SS, LA, PE, Spanish)	EDU4091 Unit Reflection & Teacher Work Sample	EDU4091 Unit Reflection & Teacher Work Sample	EDU4091 Unit Reflection & Teacher Work Sample (Science, , SS, LA, PE, Spanish)	PEL6091 Unit Reflection & Teacher Work Sample (Science, SS, LA, PE, Spanish) PEL6193 Research Paper/Project	EDU6083 Research Proposal EDU6083 Recommendation to Continue Research EDU6081 Practitioner's Project EDU6099 Thesis (both)
B. Candidates create an environment that is safe, organized, and accommodates all students, including those with special needs. (ParaPro , Initial , Advanced)	ECE3093 (ISP) Inclusive Classroom Philosophy	ECE3093 Inclusive Classroom Philosophy	MCE4083 Creating Diverse Learning Environment			
C. Candidates design appropriate standard-based learning goals and effectively communicate them to students. (ParaPro , Initial , Advanced)	ECE3023 Position Paper ECE4012 Science Methods ECE4022 Social Studies Methods	ECE3023 Position Paper ECE4012 Science Methods ECE4022 Social Studies Methods	EDU2092 Unit Plan MCE4032/4042/4052/4062 Unit Plan	EDU2092 Unit Plan EDU4002 Unit Plan (Science, SS, LA, PE, Spanish)	PEL6023 Lesson Plan (Effective Teaching Methods) PEL6042 Interdisciplinary Unit Plan (Science, SS, LA, PE, Span)	EDU6033 Unit Curriculum For 21 st . Century
D. Candidates demonstrate competency in the content areas. (ParaPro , Initial , Advanced)	ECE2063 Mini-Unit ECE4021: Unit Plan Professional Portfolio Rubric Faculty Recommendation for Student Teaching	ECE2063 Mini-Unit ECE4021: Unit Plan Professional Portfolio Faculty Recommendation for Student Teaching	MCE3012 Middle School Philosophy Professional Portfolio Faculty Recommendation for Student Teaching	Professional Portfolio Faculty Recommendation for Student Teaching	Professional Portfolio Faculty Recommendation for Student Teaching	Professional Portfolio Faculty Recommendation for Student Teaching

3. Commitment							
A.	Candidates demonstrate efficacy by actively searching for practical actions to address specific needs of all students. (ParaPro , Initial , Advanced)	ISP/ECE4072 Differentiated Instruction Plan	ECE4072 Instructional Lesson Plan	MCE4072 Instructional Lesson Plan	EDU2052 Creating Diverse Learning Environment	PEL6133 Inclusion and Differentiated Instruction Lesson Plan 2007-8	EDU6023 Final Course Prog. Ref.
B.	Candidates are reflective regarding their dispositions and the impact their teaching has upon their students. (ParaPro , Initial , Advanced)	ISP4014 Behavior Management Project Dispositions	ECE2092 Journal Response Dispositions	Dispositions	Dispositions	Dispositions	EDU6043 Teaching Log Dispositions
C.	Candidates lead in their profession by involvement in professional organizations, publications, presentations, and school/community leadership. (ParaPro , Initial , Advanced)	ECE2092 Professional Membership EDU4091 Professional Membership ISP4051 Professional Practice	ECE2092 Professional Membership EDU4091 Professional Membership	EDU2092 Professional Membership EDU4091 Professional Membership	EDU2092 Professional Membership EDU4091 Professional Membership	PEL6091 Professional Membership	EDU6013 Research Article Review
D.	Candidates build relationships with students, parents, colleagues, and other community stakeholders. (ParaPro , Initial , Advanced)	ISP/ECE2012 Family and Community Collaboration	ECE2012 Family and Community Collaboration	MCE3032 Parent/Guardian Newsletter	EDU3042 Classroom Newsletter		

Appendix C

DEAN'S CONSENT LETTER

Consent from the Dean of Education, Dr. Steve Ragan

I _____ understand that the research done by Cindy Harvel will be used to gain a clearer understanding of education faculty and cooperating teacher satisfaction with their training in the Chalk and Wire e-Portfolio system. The intent of the research is to improve the quality of teacher and faculty training so that technology may be used with greater comfort, and utilize Chalk and Wire resources with greater efficiency.

Responses will be used in an aggregated manner (no names or identifiers) to help the instructors do a better job of training so that faculty and cooperating teachers may more efficiently assess our students using the Chalk and Wire technology.

I understand that this study will begin in December, 2007 and will continue through May, 2008. At the conclusion of the study, only aggregated information will be used to inform for purposes of developing best practices in continued training. Any original documentation from taped interviews will be erased, keeping only aggregated information. Results from the study will be shared in both written and oral presentation available to all participants. Due to the nature of accrediting agencies, aggregated data will be kept indefinitely.

Those faculty and cooperating teachers selected for taped interviews will have the right to stop participation at any time. Even after the interview is complete, participants can ask for all information to be destroyed immediately by simply contacting Cindy Harvel.

740-892-2622 Home

740-392-6868, ext. 3213 Office

charvel@mvnu.edu

Appendix D

MVNU IRB



APPLICATION FOR INITIAL REVIEW OF HUMAN SUBJECTS RESEARCH

OFFICE USE	DATE RECEIVED: 11-27-07	DATE VERIFIED COMPLETE: 12-04-07 by email Written letter received December 14, 2007	MVNU PROTOCOL NUMBER
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1. PROJECT TITLE

Faculty Training in Developing an e-Portfolio System for Formative and
Summative Assessment

2. PRINCIPAL INVESTIGATOR (or Advisor)

Last Name: Harvel		First Name: Cindy	
Dept. or Unit: Education	Phone: 740-392-6868 ext 3213	E-mail: charvel@mvnu.edu	

3. CO- INVESTIGATOR(S)

☐ N/A

Last Name:		First Name:	
Dept. or Unit:	Phone:	E-mail:	
Affiliation:	MVNU Affiliate <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Grad Student <input type="checkbox"/> Undergrad Student <input type="checkbox"/> Visiting Scholar, or Non-MVNU Affiliate <input type="checkbox"/> Affiliate of (Institution):		

Last Name:		First Name:	
Dept. or Unit:	Phone:	E-mail:	
Affiliation:	MVNU Affiliate <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Grad Student <input type="checkbox"/> Undergrad Student <input type="checkbox"/> Visiting Scholar, or Non-MVNU Affiliate <input type="checkbox"/> Affiliate of (Institution):		

Last Name:		First Name:	
Dept. or Unit:	Phone:	E-mail:	

Affiliation:	MVNU Affiliate <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Grad Student <input type="checkbox"/> Undergrad Student <input type="checkbox"/> Visiting Scholar, or Non-MVNU Affiliate <input type="checkbox"/> Affiliate of (Institution):
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4. TIME FRAME

Proposed Start Date: December 3, 2007	Anticipated Completion: May, 2007
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5. EXEMPT/EXPEDITED REVIEW

Are you requesting **Exempt or Expedited Review**? ☒ Yes, Exempt Review ☐ Yes, Expedited Review
☐ No, Full Review

6. FUNDING

Is a proposal for external support (e.g., a grant) being submitted? ☐
 If **yes**, you must submit (as a separate attachment) one complete copy of that proposal as soon as it is available and complete the following: ☒ Yes ☐ No

Is notification of Human Subject approval required?

Sponsor's Name: _____ Project Period - From: ☐
 To: _____ Yes ☐ No

7. CONFLICT OF INTEREST

Does any **investigator** or any other person responsible for the design, conduct, or reporting of this research have any perceived or potential conflicts of interest that may impact the integrity of the data? ☐
☒ Yes ☐ No

If **Yes**, explain:

Even though this project is related to my work, my desire is to find best practices in instructing faculty. Findings will neither help nor harm my position as faculty, to the best of my knowledge.

8. SUMMARY OF THE RESEARCH (Lay Language)

Provide a brief description of the background and purpose of research using **non-technical** language that can be readily understood by someone outside of the discipline. **Use complete sentences (limit 300 words).**

My research will be used to provide methodology for training faculty in the use of electronic portfolios for assessment purposes, for reflection in pedagogy, and in utilizing an efficient portfolio for professional practice. For the past three consecutive years, advances in the department of education at our university have been refined to train students and faculty in the use of the electronic portfolio as a means to display, assess, and reflect upon student work and faculty performance. Training has included a variety of means to gain a

positive result. Questions which my research will address include: Which of those means was the most effective, the most widely used by faculty? How can we make faculty training more efficient and the utilization of e-Portfolios more satisfying for faculty? Through training, questionnaires, feedback and open dialogue, my goal in this research is to learn the most efficient, effective, and satisfying methods of training faculty in order that they may better serve their students in the use of this new technology.

My research to accomplish this task will include both quantitative and qualitative measures. A survey will be given electronically through the Chalk and Wire e-portfolio system to both faculty and cooperating teachers. The survey will be used to inform both the satisfaction level and performance level of university faculty and cooperating teachers. Questions will be asked using a Likert type scale.

In addition, taped interviews will also be made with a variety of faculty and cooperating teachers, with care taken to interview those who have a high comfort level with computer technology and those who have limited experience with computer technology.

9. RESEARCH OBJECTIVES

List the specific aims of the research study, including hypotheses and/or research questions. The aim of this study is to inform those who train faculty and cooperating teachers in the use of electronic portfolios in how to be most effective in pedagogy. The hope is to improve training procedures. Which types of training were most helpful? How can training be made more efficient and satisfying? Which modes of training were most utilized?

10. LOCATION OF THE RESEARCH

Mount Vernon Nazarene University (and branch campuses in Cincinnati, Gahanna, Newark, Polaris, Mansfield, Grove City, Lima, and Marion)
Mount Vernon, OH

List the specific site(s) at which the MVNU research will be conducted.

Location Name	Street Address	City, State or Country
Mount Vernon Nazarene University	800 Martinsburg Road	Mount Vernon, OH 43050

Please attach letters of support/agreement showing that you have permission to conduct research at each location.

11. RESEARCH METHODS AND PROCEDURES

- a. Describe completely the study design/methodology and all the procedures to which human subjects will be subjected. Be sure to estimate the time required from each participant. If more than one visit/session will be required, describe the time commitment in detail. Also outline specifically how data will be collected. Note if audio, video, etc will be used.
 Survey data will be done using the chalk and wire electronic portfolio system, by e-mail and by paper. Data will be aggregated using chalk and wire. Those faculty not currently using chalk and wire may still participate by using a paper survey or through e-mail.
 The survey will automatically be served as faculty and cooperating teachers assess student work.

Qualitative data will be obtained using a taped interview. Dialogue will be coded to inform best practices perceived by faculty and teachers.

- b. The IRB must approve all measures that will be administered to subjects (e.g., interview schedules, surveys, psychological measures). List all measures here and attach copies to this application:

Measure 1	Survey for quantitative data	<input checked="" type="checkbox"/> Attached <input type="checkbox"/> Will Follow
Measure 2	Survey grid to be used to code interview	<input checked="" type="checkbox"/> Attached <input type="checkbox"/> Will Follow
Measure 3	Past data collected in an aggregated survey	<input checked="" type="checkbox"/> Attached <input type="checkbox"/> Will Follow

12. SUBJECT POPULATION

- a. Provide the total number of subjects (e.g., number of subject records, number of specimens) needed to reach the enrollment goal of the study.
 There will be a mix of males and females.
 Males: _____
 Females: _____
 Exact number unknown
- b. Specify the age range of the population(s) to be studied. Mark all that apply.
☐ 0-7 years ☐ 8-17 years ☒ 18-64 years ☒ 65+ years
- c. Specify the population(s) to be studied. Mark all that apply.
☐ Children (<18 years) → complete sections 12 d, e, f, and g ☒ Healthy volunteers
☐ Decisionally impaired → complete sections 12 d, e, ☒ MVNU Students, faculty, or

- | | |
|---|--|
| f, and g | employees |
| <input type="checkbox"/> Non-English speaking → complete sections 12 d, e, f, and g | <input type="checkbox"/> Unknown (e.g. non-targeted surveys) |
| <input type="checkbox"/> Pregnant Women → → complete sections 12 d, e, f, and g | |
| <input type="checkbox"/> Prisoners → → complete sections 12 d, e, f, and g | |

- d. State the rationale for selecting a specific vulnerable population.
- e. Describe the expertise of project personnel for dealing with the specific vulnerable population.
- f. Explain the suitability of the facilities for the special needs of the vulnerable population.
- g. State how the number of subjects is sufficient to generate meaningful results.
 Surveys will be distributed to 29 Education Faculty
 23 Arts and Sciences Faculty
 1134 Possible Cooperating Teachers (The sample size will be much smaller, depending on who responds from students currently in Field Experiences and Student Teaching.)

13. SUBJECT SELECTION, IDENTIFICATION AND RECRUITMENT

- a. Describe the step-by-step method(s) that will be used to recruit subjects (i.e., sampling strategy). Attach copies of proposed recruitment materials (e.g., ads, flyers, website postings, recruitment letters, oral/written scripts), and explain how and from where recruitment will take place.
 The survey will pop up as faculty and teachers assess student work. Paper surveys will be available at faculty meetings. An e-mail survey will be sent to Arts and Sciences faculty who participated in making a professional portfolio.
 An e-mail will be sent to a variety of specific faculty for a taped interview.
- b. State who (investigators and/or key personnel) will recruit subjects and what procedures will be used to determine subject eligibility. Specifically, what are the criteria for inclusion and exclusion?
 Subjects will be limited to faculty and cooperating teachers who have assessed students using Chalk and Wire, or created a professional portfolio using Chalk and Wire.

- c. Explain how you will assure that selection and recruitment of subjects is equitable. Surveys be will distributed to all education faculty, arts and sciences faculty who have created a professional portfolio, and all cooperating teachers who currently are assessing students in field experiences and student teaching.

14. USE OF DECEPTION

Will subjects be deceived about the purpose of the research study or any of the study's elements?

☐

Yes

If Yes, describe how and when deception will occur, as well as your plans for debriefing the subject.

☒

No

15. INCENTIVES TO PARTICIPATE

Will subjects receive compensation or other inducement (e.g., free services, cash payments, gift certificates, parking, classroom credit, travel reimbursement) to participate in the research study?

☐

Yes

If Yes, describe the inducement. *Note that compensation should be pro-rated (e.g., per visit) and not contingent upon study completion.*

☒

No

Personal thank you notes will be written to all participants.

16. INFORMED CONSENT PROCESS

- a. Indicate type(s) of consent processes to be used in the research study. Provide copies of all recruitment materials.

☒

Informed Consent Document
The consent form will be used with all face-to-face contact (when surveys are given through paper format) and for all interviews.

☐ Verbal Assent (script)

☐ Informed Consent - Addendum

☐ Parental Permission Form

☐ Assent Form

☐ Permission Form, Legally Authorized Representative

- b. Explain the steps that will be taken to avoid coercion or undue influence. If any of the researchers have an association with the subjects (e.g., students, employees), what special safeguards are in place?

☒

N/A

17. PRIVACY AND CONFIDENTIALITY

- a. Does the research require access to personally-identifiable private information? ☐ Yes
If Yes, describe the steps you will take to ensure protection of the subjects' privacy. ☒ No
 Include a discussion of how and where the data will be kept, for how long and who will have access to the data.

- b. Will personal or sensitive information (e.g., relating to illegal behaviors, alcohol or drug use, sexual attitudes, mental health) be accessed or collected from subjects? ☐ Yes
☒ No

If Yes, list type(s) of information:

- c. Explain how you will protect the confidentiality of identifiable data. Be sure to outline how and where the data will be kept, for how long, and who will have access to the data.
Data will be aggregated using Chalk and Wire. Data obtained by e-mail and paper surveys, will convert names to numbers and then be aggregated as well.

Interviews will be done using pseudonyms in the dissertation. Data will be aggregated and explored to inform to improve pedagogy.

- d. Will you be obtaining a NIH Certificate of Confidentiality? See <http://grants1.nih.gov/grants/policy/coc/> for details.

☐ Yes → Provide a copy to the IRB *before* you begin the research.
☒ No

- e. Explain any circumstances where it would be necessary to break confidentiality. ☒ N/A

- f. Indicate point at which identifiers will be separated or permanently removed from the data. ☐ N/A
Identifiers will be removed for the dissertation, pseudonyms will be used when writing about the interviews.

- g. Indicate what will happen to the data at the end of the study. Check all that apply:
☐ Documents will be shredded/tapes or files erased
☐ Data will be archived
☒ Other, specify: *_Aggregated data will be kept to inform training. Tapes will be erased at the end of the study. _*

- h. Indicate how study results might be disseminated. Check all that apply:
☒ Classroom Presentation ☐ Sharing with Industry of Agency
☐ Thesis ☒ Conferences/Presentation

☐ Publication/Journal article

☒ Other, specify:

Dissertation

18. HIPAA RESEARCH AUTHORIZATION

Will individually identifiable protected health information (PHI) subject to the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule requirements (45 CFR Parts 160 and 164 see <http://www.hhs.gov/ocr/hipaa/privrulepd.pdf>) be accessed, used, or disclosed in the research study?

☐

Yes

☒

No

If Yes, provide the following:

- a. Describe the PHI involved in the research (e.g., demographic information, health history, diagnosis, test results).
- b. Provide the source(s) of the PHI (e.g., private physician's office, research database).
- c. Indicate how authorization will be obtained for access, use or disclosure of PHI.

19. RISKS, HARMS, AND DISCOMFORTS

☐ N/A

- a. Indicate all risks/harms/discomforts that may apply to the research study:

☐ Breach of confidentiality

☐ Psychological stress

☐ Discovery of previously unknown condition (e.g., disease, suicidal intentions, depression, genetic predisposition)

☐ Risk to reputation

☐ Economic risk

☐ Social or legal risk

☐ Invasion of privacy (subjects or other individuals)

☒ Other, specify: "Time stress"

☐ Physical injury or discomfort

- b. For each category of risk checked above, describe the specific risk and include the frequency/likelihood of occurrence, potential severity of the harm/discomfort and the possible (long-term) consequences.

Mild stress from a very busy faculty.

- c. Will participants in your study be asked to increase their level of physical or psychological performance beyond that ordinarily encountered in daily life or during the performance of routine physical or psychological tests? **If**

☐

Yes

☒

No

Yes, explain:

20. MINIMIZING RISKS☐ N/A

Describe the steps you will take to minimize the risks or harms identified.

The survey will be brief and easy to answer.

The interview will be no longer than 30 minutes.

21. REASONABLY ANTICIPATED BENEFITS

List the potential direct or indirect benefits that subjects and/or society may expect as a result of this research study. *Compensation is not to be considered a benefit.*

Information retrieved during this research will be used to inform future training of faculty and cooperating teachers. Improved instruction gained will help this technology become more user friendly, and service teachers and faculty in a more enjoyable and efficient manner.

22. ASSESSMENT OF RISKS AND BENEFITS

Weigh the potential risks with regard to the potential benefits. Provide evidence that benefits outweigh risks.

A short time invested in the survey and/or interview will reap benefits in:

- Ease of use in the Chalk and Wire system all education faculty are required to use,
- Utilizing assessment data to become reflective instructors, who will in turn become better instructors for our future teachers,
- Becoming more comfortable utilizing Chalk and Wire to update professional portfolios as a holding place for pertinent artifacts such as resumes, professional papers, samples of lesson and unit plans, and other evidence of professional growth for both personal use and institutional assessment purposes.

23. INVESTIGATOR ASSURANCES

The original signature of the Principal Investigator (PI) is required before this protocol can be processed. Co-investigators are also responsible for these assurances and are encouraged to sign. Please read the assurances carefully. Your signature reflects a commitment to compliance.

I agree to comply with all MVNU policies and procedures regarding the protection of human subjects in research.

I understand that I have ultimate responsibility for the protection of human subjects and the ethical performance and conduct of this project.

If there is a co-investigator(s), I agree to meet with him/her on a regular basis to monitor study progress.

I further certify that:

- if there is a co- investigator(s) on this project, he/she is knowledgeable about the regulations and policies governing this research;
- the information included in this protocol, and in the attachments, is complete and correct;
- the project will be performed by qualified personnel according to the MVNU IRB-approved protocol;
- no change will be made to the human subject protocol or consent form(s) until approved by the MVNU IRB;
- legally effective informed consent or assent will be obtained from human subjects as required;
- adverse events and new information that may affect the risk-benefit assessment for this research will be reported to the MVNU IRB; and

<u>Cindy Harvel</u>	<u>11-29-07</u>	
Principal Investigator	Date	Co-Investigator
Date		
<hr/>		
Co-Investigator	Date	Co-Investigator
Date		



January

2, 2008

Cindy Harvel
Education/Physical Sciences
800 Martinsburg Rd
Mount Vernon, OH 43050

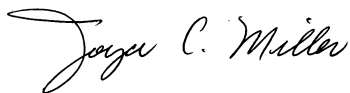
Dear Cindy,

The Institutional Review Board (IRB) has received your application entitled, Faculty Training in Developing an e-Portfolio System for Formative and Summative Assessment, and has deemed it to fall under the Expedited review category. On December 14, 2007, the IRB reviewed, accepted, and endorsed your application with no additional conditions. Should any aspect of your research project be changed, the IRB should be notified to verify if any additional review needs to be conducted. That notification should be directed to Kenny McQuitty, IRB Staff Administrator. Additionally, if the research study extends longer than one year from the beginning date of December 3, 2007, a renewal application should be completed and submitted to the IRB prior to two weeks before the expiration date.

This letter is your official notification of the IRB approval and should be kept as part of your research records. The IRB extends its best wishes to your research project.

Should you have any further questions, please direct those to Kenny McQuitty. Thank you.

Sincerely,



Joyce C. Miller, Ph.D., M.T. (ASCP)
IRB Chair
Mount Vernon Nazarene University
740.392.9000

joyce.miller@mvnu.edu

Appendix E

FUTURE SURVEY FOR FACULTY TRAINING (FOR QUANTITATIVE CODING)

Please, circle the number that best represents your opinion.

1-Very Poor 2-Poor 3- Average 4-Good 5- Excellent

- 1) How would you rate your success using the Chalk and Wire system to assess student work?

1 2 3 4 5 N/A

- 2) How would you rate your classroom students this year in their comfort and handling of Chalk and Wire?

1 2 3 4 5 N/A

- 3) How would you rate your Chalk and Wire student assistant this year in their helpfulness in aiding you with your understanding of Chalk and Wire?

1 2 3 4 5 N/A

Did not use my assistant_____

- 4) How would you rate the Chalk and Wire Administrators' helpfulness during workshops?

1 2 3 4 5 N/A

Did not attend workshop_____

- 5) How would you rate your assistant in helping you to develop your Professional Portfolio?

1 2 3 4 5 N/A

Did not use my assistant_____

- 6) How would you rate your comfort level with computer technology in general?

1 2 3 4 5 N/A

Please, designate all answers that apply.

7) Did you leave student work ungraded? Yes No N/A

8) If you answered, “yes,” to number 7, please circle all reasons that applied.

- Not enough time
- I’d already graded on paper and did not feel the need to duplicate.
- I don’t see the “big picture” in why we need to use Chalk and Wire.
- Students accidentally submitted to a wrong rubric.
- Students duplicated submissions and I was unsure of deleting anything.
- Students sent me work that really belonged to another instructor. I felt unsure about resending the work.
- N/A

9) What are the main reasons you find the electronic portfolio valuable?

- Students will be able to send their work to anyone in the world immediately
- Students will be able to reflect on their formative work during their university experience.
- We can collect data for our unit for NCATE.
- Faculty can collect data in order to reflect upon their own teaching and alter instruction.
- Having an electronic portfolio gives our student experience in handling technology.
- Having an electronic portfolio keeps our students and university on the cutting edge of implementing technology development into their educational experience.
- I do not find the electronic portfolio valuable.
- N/A

10) How do you compare hard copy portfolios with the electronic version?

- I prefer hardcopy portfolios that I can handle and view.
- I prefer electronic portfolios that do not waste paper and space.
- I prefer electronic portfolios because of their portability.
- I prefer hardcopy portfolios because handling technology adds a stress factor for me.
- I prefer electronic portfolios because students can access documents quickly from past years to reflect and compare growth, rather than hunting down loose papers that may be lost or stored in some unknown box in the closet.
- N/A
- Other _____

11) Which descriptor(s) best explain(s) your role. (Designate all that apply)

- Cooperating Teacher
- Supervising Teacher
- MVNU Education Faculty
- MVNU Subject Area Specialist Faculty
- PEL Faculty
- Undergraduate Faculty
- Curriculum and Instruction Faculty
- N/A

12) Gender

- Male
- Female
- N/A

13) Age

- 17-20
- 21-30
- 31-40
- 41-50
- 51-60
- >60
- N/A

14) Ethnicity

- African American
- Asian/Pacific

- Caucasian
- Hispanic
- Native American
- Other
- N/A

15) Suggestions: (for Qualitative Coding)

Appendix F

STUDENT PERMISSION

Dear Student,

The survey provided was produced to gain a clearer understanding of your satisfaction and gain from training in the Chalk and Wire e-Portfolio system. Our desire is to learn how to better teach you so that you may use the technology with greater comfort, and utilize Chalk and Wire resources with greater efficiency.

Your responses will be used in an aggregated manner (no names or identifiers) to help us do a better job of training you in how to assess our students using the Chalk and Wire technology.

This study will begin in December, 2007 and continue through May, 2008. At the conclusion of the study, only aggregated information will be used to inform us of best practices in continued training. Any original documentation from taped interviews will be erased, keeping only aggregated information. Results from the study will be shared in both written and oral presentation available to all participants. Due to the nature of accrediting agencies, aggregated data will be kept indefinitely.

Why do we use Chalk and Wire in the first place?

Data obtained from the assessments of our students helps faculty to be more aware as of the kind of job we are doing in our classrooms. Are we training our future teachers with quality instruction? Where can we improve? Where are our areas of strength? Where are our weaknesses? Whenever we assess students, we are also assessing ourselves.

I, _____ agree to participate in this study and give permission to use my answers in an aggregated manner (no names or identifiers) in helping trainers to learn the best methods to improve future training in the Chalk and Wire e-Portfolio system.

If selected for an interview:

☐

I understand that I have the right to not participate.

☐

I understand that I have the option of stopping the interview at any time. Even after the interview is complete, I can ask for all information to be destroyed immediately by simply contacting Cindy Harvel.

740-892-2622 Home

740-392-6868, ext. 3213 Office

charvel@mvnu.edu

Appendix G

COOPERATING TEACHER PERMISSION

Dear Cooperating Teacher:

The survey provided was produced to gain a clearer understanding of your satisfaction and gain from training in the Chalk and Wire e-Portfolio system. Our desire is to learn how to better teach you so that you may use the technology with greater comfort, and utilize Chalk and Wire resources with greater efficiency.

Your responses will be used in an aggregated manner (no names or identifiers) to help us do a better job of training you in how to assess our students using the Chalk and Wire technology.

This study will begin in December, 2007 and continue through May, 2008. At the conclusion of the study, only aggregated information will be used to inform us of best practices in continued training. Any original documentation from taped interviews will be erased, keeping only aggregated information. Results from the study will be shared in both written and oral presentation available to all participants. Due to the nature of accrediting agencies, aggregated data will be kept indefinitely.

Why do we use Chalk and Wire in the first place?

Data obtained from your assessments of our students helps us to be more aware as faculty of the kind of job we are doing in our classrooms. Are we training our future teachers with quality instruction? Where can we improve? Where are our areas of strength? Where are our weaknesses? Whenever you assess students, you are also assessing our faculty.

I, _____ agree to participate in this study and give permission to use my answers in an aggregated manner (no names or identifiers) in helping trainers to learn the best methods to improve future training in the Chalk and Wire e-Portfolio system.

If selected for an interview:

☐

I understand that I have the right to not participate.

☐

I understand that I have the option of stopping the interview at any time. Even after the interview is complete, I can ask for all information to be destroyed immediately by simply contacting Cindy Harvel.

740-892-2622 Home

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Appendix H

FACULTY PERMISSION

Dear Faculty,

The survey provided was produced to gain a clearer understanding of your satisfaction and gain from training in the Chalk and Wire e-Portfolio system. Our desire is to learn how to better teach you so that you may use the technology with greater comfort, and utilize Chalk and Wire resources with greater efficiency.

Your responses will be used in an aggregated manner (no names or identifiers) to help us do a better job of training you in how to assess our students using the Chalk and Wire technology.

This study will begin in December, 2007 and continue through May, 2008. At the conclusion of the study, only aggregated information will be used to inform us of best practices in continued training. Any original documentation from taped interviews will be erased, keeping only aggregated information. Results from the study will be shared in both written and oral presentation available to all participants. Due to the nature of accrediting agencies, aggregated data will be kept indefinitely.

Why do we use Chalk and Wire in the first place?

Data obtained from your assessments of our students helps us to be more aware as faculty of the kind of job we are doing in our classrooms. Are we training our future teachers with quality instruction? Where can we improve? Where are our areas of strength? Where are our weaknesses? Whenever we assess students, we are also assessing ourselves.

I, _____ agree to participate in this study and give permission to use my answers in an aggregated manner (no names or identifiers) in helping trainers to learn the best methods to improve future training in the Chalk and Wire e-Portfolio system.

If selected for an interview:

☐

I understand that I have the right to not participate.

☐

I understand that I have the option of stopping the interview at any time. Even after the interview is complete, I can ask for all information to be destroyed immediately by simply contacting Cindy Harvel.

740-892-2622 Home

740-392-6868, ext. 3213 Office

charvel@mvnu.edu

Appendix I

SURVEY FOR STUDENT ASSISTANT TEAM 2007-8

- When have you helped most students?
Just in the dorm When I helped in my own class When I worked in a
impromptu class, with appointment
- How long does it take you to teach a student to put an artifact on Chalk and Wire?
15 minutes or less ½ hour Over an hour
- How do YOU feel in working with Chalk and Wire at this point?
Confident I have to practice before I have made many
I help someone every mistakes as I have taught
time others
- How can I best help you to be successful in helping others?
More training Learn more new aspects Lead me into developing
Of Chalk and Wire a really great personal
portfolio
Other_____
- Which has been most successful at helping faculty?
One on one in In the library Helping on the phone
an office setting computer lab
during workshops
- Describe your best teaching time this semester.
- Describe your most frustrating experience this semester.
- Tell me anything you'd like...

Survey for Team 2007-8 (5 surveyed)

1. When have you helped most students?
Just in the dorm When I helped in my own class When I worked in a
 impromptu 3 class, with appointment2
2. How long does it take you to teach a student to put an artifact on Chalk and Wire?
15 minutes or less ½ hour Over an hour
all 5
3. How do YOU feel in working with Chalk and Wire at this point?
Confident I have to practice before I have made many
all 5 I help someone every mistakes as I have taught
 time others
4. How can I best help you to be successful in helping others?
More training Learn more new aspects Lead me into developing
 Of chalk and wire 2 a really great personal
 portfolio 3
- Other _____
5. Which has been most successful at helping faculty?
One on one in In the library Helping on the phone
an office setting computer lab
all 5 during workshops
6. Describe your best teaching time this semester.
Helping Mrs. T. get her professional portfolio up to date before NCATE. It
allowed me to feel like I was helping to reduce the stress of prep for NCATE.
Helping with a student in the computer lab. He really caught on and understood
the process.
Dr. S.G.
A variety of times I met one-on-one with students and problems were solved
quickly.
7. Describe your most frustrating experience this semester.
When K. and I went to Newark and the students had already done
everything we were supposed to help them with, I felt bad, as if we were wasting
their time.
Dr R.
Didn't really have any.
I had to work with a student that just refused to listen to what she needed to do
It resulted in multiple meetings and a waste of everyone's time!
None
8. Tell me anything you'd like...
I have really enjoyed working with Chalk and Wire this year.
I loved working with the NCATE visit and being able to present
with J. .!
Thanks for adding me to the team.

Appendix J

FUTURE SURVEY FOR FACULTY TRAINING

(FOR QUALITATIVE CODING)

Modes of receiving training:					
	Student Assistant	Faculty Instructor	Online instructions (Blackboard)	Online instructions (Camtasia)	Hardcopy instructions
Share your feelings of success.					
Share your feelings of frustration.					
Tell me how time factors influenced how you used these "helps."					
Confidence in using ways to find help.					
Help me to anticipate your future needs by giving suggestions.					

Appendix K

MVNU FACULTY TRAINING HISTORY

In the Spring of 2005, pilot educational e-Portfolios were used with four artifacts in four classes at Mount Vernon Nazarene University (MVNU) which were (a) Philosophy of Education for the Professional Educators License (PEL) program, (b) a philosophy paper from the Foundations class that would be placed in the portfolio in the Educational Technology class taken at the same time, (c) the Developmentally Responsive Project for Early Childhood, and (e) a Mini-Unit for Early Childhood. Workshops for faculty were held to give them their log-in codes and teach them the basics of the system. Rubrics were designed, artifacts were assigned, work was completed, assessed, and data was collected. First, faculty would need to become familiar with the e-Portfolio system. Full time faculty received chalk and wire accounts that would allow them to assess student work, but also would give them the capability to make their own portfolios. Part time faculty, cooperating teachers, and adjuncts received a chalk and wire account that simply allowed them to assess students. These less costly accounts could not be used to create portfolios.

Ongoing plans were set in place for the portfolio to be introduced in the Educational Technology class for both undergraduate students (during their freshman year) and graduate students (during their second semester of their first year).

In the Spring of 2005, the e-Portfolio system was expanded to include all undergraduate classes, and a sprinkling of PEL classes. Two workshops for faculty were held. After a survey was given to faculty, consensus proved (see Appendix L) that

faculty preferred one-on-one instruction. Five student assistants were each given a set of faculty to call, e-mail, and encourage to set up an appointment for one-on-one help. Faculty were also given the option of having the student assistant or the administrator come to their class previous to an artifact being placed on Chalk and Wire for assessment. The Administrative assistant took care of assisting with PEL classes and their faculty. Directions were broken down into parts and placed on Blackboard in the Student Education Association (SEA) link for students and under an Education Association link. In addition, directions were developed in hard copy to be given to cooperating teachers and students during selected workshops. Student assistants also worked for two hours a week at a library carol designated for Chalk and Wire use. MVNU also had the Chalk and Wire CEO come to lead a two day workshop for both faculty and student assistants (See Appendix M).

For the fall of 2006, after receiving feedback and suggestions, directions were made with greater detail, with screen shots included. Students were trained in helping their cooperating teachers. Cooperating teachers were also offered college credit for participating in an assessment with Chalk and Wire workshop. This resulted in greater satisfaction and fewer telephone calls and e-mails for help from cooperating teachers. With over one thousand assessors now logged in to the Rubric Marker section of Chalk and Wire, this pre-training with credit proved to be a great boost in compliance. Not only were cooperating teachers less frustrated with the assessment process, but more candidates were assessed successfully online. Also, from feedback, students and faculty initially preferred the directions all together, rather than broken down by parts. So

additional directions such as *Showcase Portfolio from start to finish* and *Field Experience Portfolio from start to finish* were developed and placed as links, as well as given in hard copy to Educational Technology classes. In this fourth year of implementation, both administrators have received requests for shortened versions of the directions.

During the spring of 2007, Camtasia, a screen recorder and presentation software was being utilized to enhance training links. Plans are in process to not only include these links in Blackboard, but to also include them on the university website so that they might be better available to cooperating teachers.

Training the Assessment Committee to Design the Structure. After the 2007-8 year, during the faculty development planning, changes in structure and implementation were discussed. Does the unit need three separate portfolios? Is there a way to simplify? Can rubrics be more specific, yet smaller in size, more concise, and standard specific? Which rubric criteria need changed to give a better picture of reality? Which criteria should stay the same in key rubrics to compare apples to apples maintaining consistency? How to satisfy each Specialized Professional Association (SPA) without making rubrics cumbersome long? Wilhelm et al. (2006) stress the importance of embedding the implementation of the portfolio into the conceptual framework, allowing best practices in pedagogy to influence the shaping and design of implementation. There needs to be a continual reevaluation and refining of the administrative process (see Appendix N) to be sure no part of the assessment system is falling through the cracks and there is a flow to how and when procedures are accomplished.

Training Faculty to Reflect Upon Assessments. From 2005-2006, faculty looked at data only twice a year for reflection and analysis. Major decisions for rubric changes were made by the administration. In 2007-8, faculty participated in a greater way in rubric development. Strudler and Wetzel (2005) attribute faculty governance to greater faculty buy-in and satisfaction. At a departmental meeting one to two times each month, faculty were presented with portions of data from the performance assessment system. Data was sometimes discussed in small groups, sometimes in whole group settings, at other times in groups divided according to graduate or undergraduate faculty, and sometimes individually. Suggestions for improvement were made and given to an assessment committee, which then informed the administrators of Chalk and Wire of changes needed. At the end of the year, in spring semester, two faculty planning days were devoted to reflection and revision. Each faculty member, after reflecting upon their individual class data, revised the rubric attached to each class. Again, the assessment committee reviewed the suggested changes and passed them onto administrators. Wilhelm et al. (2006) in their three university study conclude that there is a balance between having common portfolio goals that must be adhered to and leaving room for academic freedom. Allowing the assessment committee to be a middle manager between faculty suggestions and final structure has proved helpful.

Aggregating and Disaggregating Data. During the Summer of 2007, NCATE representatives encouraged us to move from INTASC standards to Ohio standards, in order to aggregate and disaggregate the data for reflection. Teachers were encouraged during the summer, to code their rubrics with the proper Ohio Standards, making

additions and corrections as necessary. Most chose to keep the INTASC coding and simply added the Ohio Standard Coding to rubrics. In addition changes were made in order to view data by Gates (levels of students in their teacher education journey), by the 3Cs (Compassion, Competence, Commitment), and as viewed through the lens of the Ohio Standards. Barrett (2000) strongly urges faculty to take a long look at this culture of evidence for continuous program improvement.

What Worked Well With Early Training. Students were the best training resource. Student assistants and administrative staff assistants met once a week for training from the Chalk and Wire administrator. Review of training procedures and time for discussion proved quite helpful. Chalk and Wire administrators gathered common questions, revised training online manual materials, and sharpened training techniques. The Chalk and Wire administrator was also given release time both semesters worth four credits each from her teaching schedule to better manage training of both faculty and students.

Students were chosen for the Chalk and Wire team during their freshman year, during the Educational Technology class. Characteristics which proved helpful were (a) a comfort level in using technology, (b) a patient attitude, a respectful demeanor toward adults, and (c) a flexible nature.

At first, training students were placed in the library for two hours each day to help faculty or students on a scheduled basis. Most faculty or students who called in for help were able to get their needs met the same day. After the first year, library hours were limited to Mid-term and Finals week. Student team scheduled appointments on a person-

by-person basis. Less calls and e-mails for help came in as more students became trained in their Educational Technology class.

What Proved Difficult: Faculty Being Trained. Faculty has shown a varied response. Those familiar and comfortable with technology have easily learned and utilized Chalk and Wire. Those who have shown resistance have needed more one-on-one sessions with their student assistants. Meyer and Latham (2008) encourage starting carefully and training everyone. The greatest difficulty was getting faculty to assess students in a reasonable amount of time. Teachers were grading twice, once in hard copy, and once on Chalk and Wire, adding frustration to the end of the semester work.

Training Faculty to Train Students. Fullan (2001) emphasizes that “Meaning must be accomplished at every level of the system, but if it is not done at the level of the student –all is lost” (p. 163). The major difficulty at the onset came from trying to teach upper classmen who no longer had an Education Technology Class how to use Chalk and Wire. Juniors and seniors were resistant to change, from a hard copy portfolio to an electronic e-Portfolio. In contrast, as freshman and sophomores who learned the system in their entry level classes, showed greater training satisfaction and ease of use in developing portfolios. Training faculty to train students not in the introductory Educational Technology class became a real roadblock the first year. Both Chalk and Wire administrators found a more efficient method was to ask the faculty for a small amount of class time, set aside a computer lab, and lead the class in making the portfolio and uploading the required artifacts. Student assistants helped with this process the second semester.

Only a few faculty members rejected implementation in their courses, and students in those particular classes noted the incongruity. Chalk and Wire administrators and student assistants worked more with those faculty members, trying to alleviate discomfort. Because of published findings during faculty meetings for data analysis and reflection, faculty were self-motivated to eventually embrace the technology. Wilhelm et al. (2006) warns of student forgetfulness when an expanse of time exists between the technology course where the platform is taught and the end of program professional portfolio is due. They suggest the entire faculty be trained in slow, methodical increments.

Common Difficulties. The greatest hurdle for all users was the log-on procedure. Initial directions were given on the Blackboard Platform. Students often who had difficulty with technology also were reluctant to find the directions on the Blackboard site. A paper hand-out, given by the classroom faculty was much more successful. The more training a faculty member was willing and able to attend, the less the anxiety.

Training Cooperating Teachers. During field experiences, as well as formal student teaching, both the cooperating teacher and the supervising teacher assessed the student on Chalk and Wire. Initially, the greatest hurdle was getting the supervising teacher to teach the cooperating teacher how to use the system. During the second year, a much more efficient system, with far fewer calls for help came, when the supervising teacher merely gave out the pass code, and the students were trained to help their own cooperating teacher to log-on. Once the cooperating teacher successfully logged on, assessing was relatively easy, and could be done privately. One difficulty in this area

commonly occurred when cooperating teachers forgot their password after having successfully accessed the system. They would click the “forgot password” hot-link that automatically sent their passcode to their provided e-mail. This was problematic. Although faculty and student e-mail accounts are fairly consistent, cooperating teacher e-mail accounts were often personal, changed often, and left the “help” message going into cyberspace. This would cause Chalk and Wire administrators added time in individually setting temporary new pass codes for each of these cooperating assessors. The Chalk and Wire administrator was also available to lead the cooperating teacher through the process by phone or e-mail. Cooperating teachers are now given the incentive of university credit for attending a Chalk and Wire workshop and working with a student teacher.

Change in Design. One of the biggest hurdles to jump came in the fall of 2007 when the company upgraded the system from eP1 to eP2, a significant design change. Meyer and Latham (2008) cite that changes in the function or the visual design without proper warning can cause faculty and students to become distrustful of the technology. Fortunately, sufficient warning was given for the revision to take place before the NCATE review, but of course the preference would have been for the change to occur during the summer, rather than in the fall when students had already been acclimated to the old system. With continual support and very little difficulty, the changeover occurred.

Helps for the Bumps. Faculty was encouraged at a workshop in the spring of 2007 not to consider a Chalk and Wire score equivalent to a grade. In other words, they could score an artifact on Chalk and Wire, with formative assessment from their

freshman to their senior year in mind. A student could score lower on their artifact on Chalk and Wire in their freshman year philosophy paper, showing the student had growth to accomplish in their educational career. Their actual grade on that paper might be higher, showing that for a freshman, that student did the best their maturity level and skills allowed. Also, the Education Department Chair asked all Chalk and Wire reporting be completed before a student received a semester grade. This change of mindset encouraged faculty to score their artifacts in a timelier manner.

To ensure the quality of reflection, a criterion was added to each rubric assessing the strength of the reflection. Marked improvement occurred when this reflection criteria was added.

In addition, student assistants are now chosen, not only for their technology expertise, but for their patience and compassion.

Faculty is periodically briefed on data collected, reflecting during faculty meetings observations of what the data reveal. Several studies show that involving faculty in all aspects of the purposes behind the system helps to prevent resentment and encourages compliance and faculty buy-in (Barrett, 2000, Wetzel & Strudler, 2005, Wilhelm et al., 2006).

In addition to the training workshops at the beginning of the year, individual attention from student assistants, and online helps always available on Blackboard, small workshops right during assessment time at the semester's end are available. In the three college study by Wilhelm et al. (2006), all three colleges reported the need for (a)

training new faculty, (b) continual training for returning faculty, and (c) training in new procedures based on program revision.

Training Faculty in Professional Portfolios. During the fall and J-term (the condensed January term) of 2006-7, Education full time faculty was required to develop a professional portfolio for the NCATE review coming up in 2008. Professional portfolios provide a broad look at the scope of a teacher's qualities and achievements (Riggs & Sandlin, 2000). The professional portfolio can function as a springboard for discussion during faculty review conferences, provided a platform where faculty could reflect on future goals in growth and competency. Professors can use the e-Portfolio construct to provide supportive data for promotion and tenure reviews (Batson, 2002). Many states are creating policies for seasoned and novice teachers to develop e-Portfolios to promote professional development and encourage competent pedagogy in the teaching profession (Riggs & Sandlin, 2000). One workshop highlighted the basic construction. Student assistants worked one-on-one with needed help. This developing of portfolios will not only benefit the School of Education for the review, but further gives confidence and practice in technology for the faculty. Comfort levels are increasing. Faculty is using the portfolios beyond the minimal requirements and is developing portfolios for their particular classes. De Rijdt et al. (2006) reported faculty improvements such as (a) stimulation to be reflective concerning their own teaching, (b) actualizing the learning content, (c) improving course materials, and (d) searching for alternative educational methods.

In addition to watching these materialize in faculty, peer review, both formal and informal, produced an appreciation of each other's professionalism as teachers and colleagues. The e-Portfolios became a healthy catalyst to professional dialogue.

Because of the NCATE review, other faculty in the Specialty Professional Association (SPA) was cordially asked to develop portfolios using a separate template (not quite as involved as the Education Professors template). Those who have completed their portfolio (25%) have responded and those websites are held by the education secretary and the Chalk and Wire administrator.

Some faculty needed special assistance scanning materials, learning how to save a variety of multi-media, and confidence in working with technology in general. Chalk and Wire student teams were assigned to each faculty member to be on call either in person, by e-mail, or by phone. These students were available as well as student office aids to help with scanning and other technology skills.

In the study by De Rijdt et al. (2006), 60.9% of the 129 faculty responding from three institutions of higher education reported that they began their professional portfolio on their own, without administrative prompting, while 13% began their portfolio because of administrative mandate. In this same study, 28% of faculty responding were negative in terms of developing their professional portfolios. Increasing bureaucracy, time factors, patronizing training were comments associated with barriers to developing a portfolio.

MVNU saw these factors materialize in the development of professional portfolios. Those with computer anxiety tended to put off making their portfolio until the

time of the document deadline. One-on-one student tutoring helped a great deal, with small workshops assisting others. (See Appendix M)

Faculty Training Students to Develop Professional Portfolios. In addition to the Showcase and Field Experience Portfolios, whose hooks become filled as a student progresses from freshman to senior, students also make professional portfolios, where they choose the artifacts to place as examples. Students make professional portfolios during their freshman year (a technology portfolio in Educational Technology), their junior year (portfolio with an exact template using Ohio Standards), and their senior year (a portfolio where students develop their own table of contents as well as their artifacts they wish to showcase). Thomas et al. (2001) encourage that at each stage of assessment, the education student's portfolio should become weightier, more mature, more reflective and complex. Students may, in addition to required portfolio, may make portfolios for their own use.

Faculty use four ratings to score all portfolios: Unacceptable, Acceptable, Competent, and Exemplary. Very specific describers accompany these ratings for each individual rubric.

Modifications to Training. The Chalk and Wire administrator presented a modified plan for updating, training, faculty reflection and modification to Education Administration in a meeting April 25th, 2007. The plans in Appendix N were adopted and dates scheduled to implement. In addition, future plans to receive faculty feedback were discussed during a one-on-one session with the administrator between the end of

spring and the beginning of fall 2007. Responses will be evaluated using a questionnaire with a Likart type scale and plotted using the tool Appendix E to track data.

Appendix L

CHALK AND WIRE SURVEY GIVEN AT THE END OF FALL SEMESTER 2005

Please circle all answers that apply:

1. Circle all the methods you used for help with chalk and wire. Put a star in front of the method of instruction which worked best for you.
 - a. Workshop demonstration
 - b. Workshop in lab with hands-on training
 - c. Worked with student assistant in the library
 - d. Worked with student assistant in my office
 - e. Worked with Cindy in my office
 - f. Telephone call to Cindy to "lead me through the steps"
 - g. Received help from Cindy through e-mail
 - h. Asked another faculty member for help
2. Did you...
 - a. Use the Blackboard step by step instructions
 - b. Use a hard paper copy of the instructions
3. Which best described how you handled chalk and wire with your cooperating teacher...
 - a. helped my cooperating teacher(s) by sitting side by side as they learned how to use chalk and wire
 - b. assisted my cooperating teacher(s) onto chalk and wire with a telephone conference
 - c. assisted my cooperating teacher(s) through e-mail
 - d. referred my cooperating teacher to Cindy
 - e. allowed my cooperating teacher to use discovery learning
 - f. I did not have a cooperating teacher this semester
4. When you were ready to assess your students...
 - a. asked my students for a hard copy first, then entered scores and comments on chalk and wire
 - b. used the longer version of chalk and wire
 - c. used the express version of chalk and wire
 - d. used cw assess offline and then uploaded my results online
 - e. did not successfully assess with chalk and wire
 - f. did not have a student to assess this semester
5. When your cooperating teacher was ready to assess...
 - a. they positively refused to use chalk and wire
 - b. they gave me a hard copy and I entered the results for them on chalk and wire

- c. they gave me a hard copy and there is no record of their scoring on chalk and wire
 - d. they were successful entering onto chalk and wire
6. What do you want to learn most on chalk and wire? How can I better help you?

Appendix M

TRAINING PROGRESS

	Fall 2005	Spring 2006	Fall 2006	Spring 2007
Faculty Training in Assessment	Handouts, one on one help from C & W administrator	Blackboard directions, workshops, student assistants available in library	Blackboard directions with screen shots, workshops, student assistants assigned	Developing Camtasia Video to help with other campuses to save travel expense and time
Faculty Portfolio Development	Five full time faculty develop practice portfolios	Workshop for a Professional Portfolio	All Educational Faculty Develop Professional Portfolios	Faculty affiliated with education students develop Arts and Sciences Professional Portfolio
C & W Administrator		C & W Administrator received help from a second staff person	After workshop at University of Southern Florida, returns with better reporting strategy	Developing Camtasia online video instructions
Student Assistant Team	A team of 5 chosen from Ed Tech	Team of 5 teaches in classrooms and has office hours in library	Team of 4 helps with faculty portfolios, troubleshoots with students	Team of 4 helps Arts and Sciences Faculty, troubleshoots with students

Appendix N

SUGGESTIONS FOR FLOW OF ADMINISTRATION AND TRAINING

Fall Workshop For Faculty Before School Begins	January/February Report	Spring Reflection & Reevaluation
Short session: new information given to faculty	All assessments completed by end of January	Faculty complete assessments one week after the completion of exams
Follow up small group sessions with student assistants	Mid year report given to Dean and Department Head (and perhaps assessment committee)	Administrator and Assistant run the data the 2nd week after exam completion and give respective reports to Administration
New Faculty in special orientation workshop for C & W.	Administrator reports for undergraduate/assistant reports for graduate.	Administration choose appropriate reports for faculty reflection for the end of May.
Faculty with extra needs given extra one-on-one tutorials	Faculty evaluate/update specific criteria in rubrics to be linked to INTASC standards in department meeting.	Faculty use reflection to reevaluate rubrics during after school workshop. Work in pairs to peer review during workshop. Turn in new rubrics to Administration before they leave.
A strong recommendation is given that if the C & I program continues to grow, a third major chalk and wire staff person be hired to assist in workshops and managing data. Option #2 would be to hire someone to solely manage chalk and wire. Option#3 Assistant do all secretarial work for C & W .	Begin to work on Camtasia site for online tutorials from MVNU link. Work with technology staff to design peer review and technical help.	Administration checks rubrics for appropriate changes and sends to undergraduate rubrics to Administrator and graduate rubrics to Assistant to insert into C & W beginning of June.