

INCEPR Cohort 5: Virginia Tech's Final Report

Participants

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Overview: Participation in INCEPR Cohort V

Three years ago, in 2008, the ePortfolio Initiatives formally began at Virginia Tech, and shortly thereafter our opportunity to participate in the Cohort V of INCEPR came about. Knowing that we needed a strong, data-driven beginning to our efforts, we gathered five of the early adopters of ePortfolios at the institution and banded together to look for ways to approach this technology together. Now, in 2011, Virginia Tech hosts a very different landscape for ePortfolios, with dozens of programs engaging across the campus, and with this original team of five groups now seasoned veterans. We've had successes and struggles along the way, but this research helped to guide many of our earliest forays into ePortfolios in higher education.

This document represents the culminating effort of the research over the past three years. It briefly overviews our central research question, but then gives more space to allow each of the five groups to discuss the background of their project and their findings. Next, we'll cover the basic methodology we used to gather data for the central research of the study. Finally, we'll end with a section that looks at how we plan to disseminate our findings and what questions we feel still remain.

We'll end our overview with a large thank you to the INCEPR organizers – Kathy, Barbara, and Derren – and to the other Cohort V participants. The Virginia Tech group benefited enormously from the discussions and models we saw in places like the University of Cincinnati, the University of Oregon, Kapi'olani, and all the rest. From the beginning, we recognized that we were new to research, new to ePortfolios, and that we had an ambitious agenda with our research. This would require the advice of experts from a variety of fields and would require that we ask a lot of questions. The preparation for the meetings challenged us to meet as a group and to discuss the strategies that we were using similarly and differently in the different disciplines, and we brought that to the meetings to discuss with even more perspectives. INCEPR provided a community of practice that was surely part of why the VT community has been so attracted to the successes of these five programs.

The VT Cohort's Central Research Question

The central research question that guided our research effort was this: "How do ePortfolios encourage student learners to become reflective practitioners?" This question, however, took a long time for our group to come to, and is still being developed every time we meet. We'll discuss more of this in the section at the end on future research questions.

For some context, we realized early on that a key practice that united each of the groups at Virginia Tech was our agreement that reflection was important to each of us as we led the students toward professional practice. The challenge was that each group defined that practice in different ways, and as a result, the reflective activities and the resulting ePortfolios were very different. This made it difficult to study any significant similarities between the groups, which may be the single biggest finding from our research. However, each group was able to define an

individual perspective on this research question, and we were able to unite some of our efforts under some central data collection. Each group's individual perspective will be covered in the next section, and our efforts towards central data collection surrounding reflective practice and the ePortfolio curricula that encourages students to engage in reflection.

What we learned: Background and Results

In this section, each of our five participating academic groups: the English Department, Teaching and Learning, Dietetics, Earth Sustainability, and the Center for Student Engagement and Community Partnerships. Each group was asked to provide a short background overview of their participation and their findings. Three groups in our cohort provided institutional support – the ePortfolio Initiatives based in Learning Technologies, the Office of Academic Assessment, and CIDER – and as such do not have individual sections in this report.

Project: English Department

Author: Teggins Summers & Nancy Metz

Background

The English 2614 course redesign began in fall of 2006 as a response to a growing desire for more rigorous assessment within the English department, as well as a goal to make the current English 2614 course more useful and reflective for English majors. This redesign was originally planned as “book-end” sequence, with the initial course to be taken in the student's first year as an English major. As seniors, students are asked to reflect upon and synthesize their experiences and learning as English majors. Over 80 English faculty worked to develop new learning outcomes for the department, and the ePortfolio was adopted into the English 2614 course in fall of 2007. The ePortfolio was designed to incorporate academic assessment, reflection on learning, multimedia skills, professional development, and student creativity. Goals for this project include the ability to assess and improve upon departmental learning outcomes and to encourage students to take advantage of the full undergraduate experience, including internships, study abroad, intercultural awareness, and engagement as well as their academic pursuits.

Results

In the English 2614 course, both the electronic portfolio matrix and template functions were used throughout the semester in order to carry out reflection on learning, as well as programmatic assessment. Students were also asked to set goals and reflect upon achievements in their major, such as internships, study abroad opportunities, co- and extra-curricular activities, and career planning.

During the course of the three-year pilot, the academic achievement reflection prompts for learning outcomes evolved to become more specific and guided. The general goal and organization of the course also underwent dramatic change over the period of three years. In fall of 2007 a Student Leadership team was appointed in order to provide feedback on future improvements of the ePortfolio as well as to spread information of and training for the ePortfolio. Members of this team speak with faculty, present at conferences, and support their peers in portfolio development. They also spend time revising and polishing their portfolios in order to showcase them in a website gallery. During the summers of 2009 and 2010, teachers of English 2614, along with members of Learning Technologies, created their own portfolios and developed and revised a textbook for the course. During the course of these revisions, assignments for the portfolio activities were scrutinized and revised. All revisions to the course were made to provide better direction, guidance, and rationale to students.

Based on the documents and reflections archived in the ePortfolio, the English department has held three annual assessment days, in the summers of 2008, 2009, and 2010. A faculty review committee scores a sample of roughly 20% of reflections and makes recommendations for programmatic improvement.

Approximately all English majors took a departmental pre/post-survey asking them to describe their program of study, their comfort with multimedia technologies, and their feelings toward their undergraduate experiences and their long-range planning. An analysis of the survey results found statistical significance in three areas: more students seem to be more comfortable or confident with multi-media technologies after the course; more students seem to feel very much in control of the long-range planning of their undergraduate experience after the course; and more students see their undergraduate experiences as highly connected after the course.

Students also participated in another pre/post survey. In this survey, out of a sample of 33 students, about the same number of students answered positively and negatively to the question “Did the process of putting the ePortfolio together assist with learning your subject matter in your discipline?” One student remarked, “It didn't assist my learning, but it definitely helped my reflection process and organization! Having everything in one place is certainly helpful!” This is indicative of some of the slightly conflicting responses received throughout the survey.

More students reported that the ePortfolio assisted with academic planning, perhaps because there were specific assignments targeted to academic planning, such as the course of study planner and the Direction page. One student commented, “Yes. As part of the ePortfolio course we were required to submit an academic course planner in which we planned when and what classes we will take during our time at Virginia Tech. This was very useful and made course request this semester much easier.”

While many students reported positive experiences with the ePortfolio, noting that they understood the portfolio better and had gained assistance with learning and academic planning, there is still room for improvement in terms of making the activities more meaningful for students.

Project: Music Education EPortfolio development

Author: Kelly Parkes

Background

The Music Education Program is a one-year program that takes students with a Bachelor degree in Arts (music concentration) and prepares them professionally for both teaching licensure in their endorsement area (Choral or Instrumental music) and to graduate with a Masters degree in Education. This is done in alignment with state approval and national accreditation. As part of national accreditation, the requirement of an ePortfolio is compulsory across all professional teacher preparation programs. The primary idea is that students are able to collect, select, reflect, and connect across their experiences in the field where they learn to teach, and make sense of their growth over time. Housing a multi-dimensional EPortfolio within our SAKAI (Scholar VT) platform, gives students the same template in which to illustrate their personal growth. In music, this is important as multi-modal artifacts exemplify their growth nicely. Prompts are given with what artifacts students should include so it is quite guided, however, students often choose to include additional artifacts that show growth in particular areas.

Results

In Music Education, an electronic portfolio matrices function was used at the end of each semester in a two-semester so that they could select work from both course work and teaching experiences that would then transfer into the EPortfolio display format. The guidelines for ePortfolio matrices entries asked students to use projects completed each term as evidence documenting what they had learned and to use this evidence to demonstrate how they had grown from semester to semester by writing a summative reflective capstone piece in each category.

At the beginning of the students' first semester and at the close of their second semester, approximately 13 college graduate students completed a pre-/post-survey asking them to describe how ePortfolios have assisted them with their learning and academic planning. Results of these surveys from five randomly selected participants indicate that they are aware that ePortfolios are required, and as such, they are good vehicles to show their learning. As with the ES students, “Most students recognized that an ePortfolio was an excellent tool to organize and archive their work, and provided them with an opportunity to review and reflect upon their accomplishments and their personal and professional growth”.

The music students, in particular, mentioned the laborious nature of compiling the artifacts but recognized that it helped them see and notice their improvements: “although, it was nice to see how I’ve grown by revisiting and picking the projects to use” and that it was “nice to have a final product that showcases your work”. Students did seem somewhat critical of the time it took: “It detracted ... because I had to spend too much time organizing the portfolio which has taken time away from lesson planning and being a better teacher”. Students did however recognize that prospective employers would examine this ePortfolio and they acknowledged that it would be “an easy way for them to access my work”.

Project: Electronic Portfolio for Dietetic Students

Author: Susan Clark and Ashley Holmes

Background

The Dietetics Program is accredited through an external accrediting body, the Commission on Accreditation for Dietetics Education. To maintain accreditation, academic programs are required to have evidence that demonstrates student-learning outcomes have been met. In the past, students have maintained a hard copy Professional Portfolio during their sophomore year, which exemplifies their academic and professional development. Now students enrolled in the course sophomore level course HNFE 2004 Professional Dietetics design an electronic portfolio (ePortfolio) that is completed fall of their senior year. Students are responsible for adding to the portfolio samples of work that exemplifies their academic, experiential, and professional accomplishments inclusive of reflective thinking over their academic tenure. The Dietetics ePortfolio system was actually developed by a team of dietetic students. The decision was made to implement a peer mentoring team to ensure continuity from year to year, which would also create a sustainable method of teaching the ePortfolio system.

The dietetics ePortfolio research was designed to measure attitudes toward ePortfolios with peer mentoring instruction, as well as, the impact that it had on student learning, specifically reflective practice and competence, using a modified AA&CU VALUE assessment metarubric (Rhodes, 2010) combined integrated with an Awareness-Competence Learning Model (stage I-incompetent, unaware; stage II-incompetent, aware; stage III-competent, aware; state IV-competent, unaware). This research design captures a body of knowledge pivotal to ePortfolio sustainability and its impact on enhancement of student learning, competence, and achievements using a peer mentoring model. The first research Cohort I will graduate in May 2011; it comprises data from sophomores beginning ePortfolio in 2009 to completion (seniors fall 2010).

Results

In the Dietetics Program, an electronic portfolio matrix was constructed around 4 student learning outcomes (SLO) domains and academic coursework. Students uploaded course assignments into respective SLO domains, cataloged their experiential learning activities, and provided reflective responses about the impact these assignments and experiences had on their learning through specific prompts. Cohort I: The majority of student's reflective responses between sophomore and senior year have demonstrated positive changes in the way they perceived their dietetics education. Most sophomore level students began at *stage I*, "incompetent unaware" or "incomplete" and moved to *stage 4* senior year, "competent unaware" or "distinguished" which demonstrates how the knowledge they have gained over this time period influenced their academic and professional development.

Preliminary attitudinal survey data from Cohort I (sophomores; n=46), documented that 96% were successful in creating the initial ePortfolio framework. Perception of their ability to create an ePortfolio improved with mentors: Pre-mentor instruction, 78% rated their level of proficiency as incomplete to partially proficient; post peer mentor instruction 93% reported they were either proficient (78%) to exemplary (15%). All students indicated they valued the guided peer instruction in the development of the ePortfolio.

This first cohort's ePortfolios are now complete. Assessment of proficiency or competence in five randomly sampled ePortfolios demonstrated growth in reflective thinking via a progression from stage I (incompetent, unaware; *sophomore year*) to stage IV (competent, unaware; *senior year*; n=4); one student's progression indicated movement from stage I to III (competent, aware).

Cohort II pre/post surveys data from five sophomore students were definitely aware that ePortfolios have functionality. Students recognized that ePortfolios were a tool to organize and archive their work, and provided them with an opportunity to review and reflect upon their accomplishments and their personal, scholastic, and professional growth. While they saw this as an important benefit, they were also cognizant it was a significant time investment, (21-30 hours) especially regarding adapting to the technological learning curve. Select student comments support the utility of the ePortfolio matrix as an organizational tool, "it helped make us put all the information we're learning into one place." Others indicated "it forces you to apply your knowledge to practical experience...through reflection. Student's reflective comments demonstrated connections between the acquisitions of experiences with knowledge gained from coursework would promote their professional development and future career goals. Convincingly, the use of a Peer Mentoring Team to formalize ePortfolio instructional methodology was deemed viable by students.

The ePortfolio system engenders integrative learning whereby students take ownership of their learning, cultivate reflective thinking, and advance their technology skills. Students eventually move towards purposeful activities that demonstrate evidence of using higher order critical thinking skills and documents learning. Hence, those students engaged in the ePortfolio activity are becoming reflective and lifelong learners. Additionally, the use of a peer mentoring teaching model ensures sustainable ePortfolio practice and already has resulted in changes in the Dietetics ePortfolio system.

References

Rhodes, T.L., (2010). Assessing outcomes and improving achievement: Tips and tools for using rubrics. American Association of Colleges and Universities: Washington DC.

Project: Earth Sustainability Liberal Education Project

Author: Barbara Bekken

Background

The *Earth Sustainability* (ES) two-year course series is an interdisciplinary curriculum designed as an alternative means for meeting general education requirements. Specifically, the series was designed to support students' cognitive epistemological and social development while also stimulating first- and second- year students to develop learning skills aligned with most of the fifteen VALUES Essential Learning Outcomes (Rhodes, 2010). Key to this development is providing a structure in which students can connect and reflect on what they have learned and how it applies to their lives. ePortfolios provide an ideal platform for this process, in part because they can accommodate a wide range of activities and materials as well as a large number of students whose development can be tracked over several semesters.

Results

In the Earth Sustainability series, an electronic portfolio matrices function was used at the end of each semester in a four-semester series for students to reflect upon and document changes in the way they perceive the world. The guidelines for the four highly-guided ePortfolio entries asked students to use projects completed each term as evidence documenting how they have, "discovered new ways of thinking and knowing" and to use this evidence to demonstrate how the knowledge they have gained has influenced their vision for living more sustainably.

At the beginning of ES students' third semester and at the close of their fourth semester, approximately 70 college sophomores completed a pre-/post-survey asking them to describe how ePortfolios have assisted them with their learning and academic planning. Results of these surveys from five randomly selected participants indicate that they were acutely aware that ePortfolios are tools, and as such, they are only as good as the pedagogy that supports them. Most students recognized that an ePortfolio was an excellent tool to organize and archive their work, and provided them with an opportunity to review and reflect upon their accomplishments and their personal and professional growth. While they saw this as an important benefit, they were also sensitive to the cumbersome nature of the Matrices function in Scholar, especially to what they perceived as inefficient technological interfaces and/or repetitive assignment design, "It [ePortfolio matrices] has added by giving me an opportunity to revisit my old work, but it has subtracted by consuming a lot of my time around finals."

Most students alluded to the usefulness of adding evidence to support their learning claims, "I like the fact that we had to add evidence because it helped to reflect on all the projects that we did and which ones really influenced me or not." A few students connected their opportunity to reflect on and assess how they have changed to their future goals, "I think it is a great way to understand where I was and where I am now and how I got there. I also think that it would be cool to look at it in a few years and see where I am and if I accomplished the goals I wanted to accomplish."

Even though the four reflection tasks were highly guided, the time students devoted to the process varied from less than ten hours to more than twenty. As faculty who design projects that each of us may never complete ourselves, we need to be aware that while technology can allow us to make connections in novel ways, it can also steal away time, a critically short commodity at the close of a term.

References

Rhodes, T.L., (2010). Assessing outcomes and improving achievement: Tips and tools for using rubrics. American Association of Colleges and Universities: Washington DC

Project: Center for Student Engagement and Community Partnerships

Author: Jake Grohs & Jim Dubinsky

Background

SERVE (Students Engaging and Responding through Volunteer Experiences) is a living/learning (theme housing) community focused on personal development through service, leadership, and reflection. As part of their experience, students volunteer with local non-profit organizations and learn to “be present in” and “have an impact on” their surroundings. These “in-the-field” ventures are paired with in-class discussions, reflection sessions, and speaker seminars to focus on personal leadership development and civic responsibility.

The program uses theory, service, and reflection as catalysts for personal growth, leadership development, and active citizenship. To create a program with sufficient depth, the program integrates a two-semester course sequence that teaches the theory and practice of transformational leadership, community development, and social change.

As is the case with some of the other programs in the COHORT, our program develops learning skills aligned with the 15 VALUES defined by AAC&U (2010, <http://www.aacu.org/value/rubrics/index.cfm?CFID=31781081&CFTOKEN=10916139>). ePortfolios help students synthesize and articulate the whole of their SERVE experience (service, theory, and reflection) and enable us to bridge semesters in the SERVE program and study student gains more extensively than standard assessment means.

Results

In the two-semester course sequence linked to the experiential learning, students used an electronic portfolio to reflect upon their commitment to civic engagement and their role(s) in the many communities in which they are involved in order to more effectively understand how they might “Invent the Future” for the common good. Each assignment throughout the year populates a new section in the student ePortfolio or digs deeper within an existing work. As a culminating activity at the end of each semester, students systematically reflect on the experience, weave together individual pieces, and strive for concise articulation of growth and learning. One of the most unique aspects of the SERVE portfolios is the intended audience – the student herself/himself. While this informal audience occasionally results in less rigorous professional writing from the student, it carries tremendous opportunity for students to candidly process experiences. The following example from a year-end, comprehensive reflection assignment is just one of many we are beginning to analyze and evaluate using the VALUE Rubrics (e.g. Civic Engagement and Inquiry & Analysis Rubrics):

The terms “community service,” “volunteering,” and “helping,” however, do not always allude to good intentions. In fact, there are many who believe that community service, rather than reconstruct a community, dismantles the good things that have already been formed within that community. The discussion on the various perspectives on community service revealed an issue that I, as a volunteer, will eventually face. How can I help others as needed without causing them to feel inferior or useless? As leaders and servers, we need to develop a way to share our knowledge with others without giving off the impression that we believe their community, culture, opinions, or way of life is flawed and inferior. This is extremely important to consider because a successful community should make every individual feel needed in order for that community to function well. Servers may gain satisfaction from helping others because it makes them feel essential, and those being helped should experience that same feeling of importance. I think the best way to explain a solution for this issue is in the words of Fred Rogers. “The urge to make and build seems to be an almost universal human characteristic. It goes way beyond meeting our need for survival and seems to be the expression of some deep-rooted part of being human.... But we don’t have to understand all of someone else’s creative efforts. What’s important is that we communicate our respect for their attempts to express what’s inside of themselves.”

Since the SERVE community is a newer initiative (launched in Fall 2009), we have considerable work to do in analyzing student portfolios. However, our data are encouraging. As an engagement-focused living-learning community, SERVE blurs the lines of academic, social, and civic realms – a blend in practice that is further

facilitated by the ePortfolio functionality. The student experience is not marked by a pile of reflection printouts covered in red, a memory of friendships made within the residence hall, and a Flickr site of pictures from service projects. Instead, the ePortfolio allows for experiences in the classroom, in the residence hall, and in the broader community to be woven together in ways that are integrative and demonstrate intellectual inquiry.

AAC&U (2010). VALUE: Valid Assessment of Learning in Undergraduate Education. Retrieved January 11, 2011 from <<http://www.aacu.org/value/rubrics/index.cfm?CFID=31781081&CFTOKEN=10916139>>

Methods and Data

In this section, we'll describe the central plan we had to collect data about students' reflections between all of these groups. With the variety of groups involved in this research, there were many different methodologies in play. Coming to an agreement about a central approach to ePortfolios, a central rubric of significant elements and levels, and a list of questions that we wanted all students to answer were difficult challenges. And, many of these will be refined in the next phase of this research. After several INCEPR meetings and corresponding VT Cohort discussions, there were two main elements of data collection decided upon: a survey that would be given to all students involved in the projects participating in the research. This included one graduate and four undergraduate programs, covering approximately 500 students. The undergraduate programs include two three-year programs, one two-year program with participants in the first four semesters of college, and one first-year living community with all first-year students.

Assessment Surveys

The combined cohort designed two assessment surveys that would allow us some comparative data to use in conjunction with the more qualitative examination of the students' created ePortfolios. These surveys were designed to be given first to the students before their participation in the ePortfolio program and then another after their completion. For some of the students, this was a one-semester time frame; for others, it was a year or more. In total, we had around 200 students complete the pre-survey and 150 students complete the post-survey. Though we hope to publish the more specific results in articles in the near future, generally these surveys pointed to technological issues and pedagogical connections that needed to be made, but also more positively the students' general attainment of more perspective on their professional career paths and learning new technological skills. The questions used in the surveys are attached here as supplements Appendices A & B.

Assessment Day

Background

The assessment for our INCEPR data took place over the course of two days during the summer of 2010. The first day we met from 9:00 a.m. until 12:00 p.m. The second day we met from approximately 9:00 a.m. until 4:00 p.m. Researchers met in a computer classroom and used classroom computers or their own laptops. There were 8 researchers assessing 13 student portfolios. Each researcher was randomly assigned 3 or 4 portfolios to assess.

The first day, from 9:00 a.m. until 12:00 p.m., was dedicated to creating and revising the rubric. The final rubric that we used is included as Appendix C. We adapted categories from the AAC&U Value rubrics for our assessment, finally settling on these categories: Reflects upon learning; Connects relevant experience and academic knowledge; Integration of knowledge; Demonstrates growth; Demonstrates ability to collect and select artifacts; and Demonstrates creativity in design/delivery/presentation. We decided to rate these categories based on Novice (1 point); Practitioner (2 points); and Expert (3 points).

We began the second day performing sample evaluations to conduct inter-rater reliability.

Evaluation

We approached our assessment with the understanding that it was very much a learning experience for all involved. While some in the room had certainly conducted research before, none of us had experience with this particular type of ePortfolio research. We see this as a necessary first step in a long-term process of ePortfolio research, and we learned much from the experience.

We ultimately decided that most important to our assessment of the portfolios was the formation of a *typology* for the portfolios. It was extremely difficult to compare a portfolio from a graduating Dietetics student, for example,

with the portfolio of a first-year or sophomore level English major. The goals of two such portfolios were so disparate that we quickly saw that our expectations of a sophomore-level reflection were significantly different from our expectations of a graduating, professionally-minded reflection. Therefore, we spent a great deal of time differentiating different typologies of portfolios, listed below:

Modalities (text, image, video, audio, etc....)

(M1) low expectation: text required, image and other modalities optional

(M2) medium expectation: text and at least one instance of one-two other modality/modalities required. Additional amounts and modalities optional but encouraged.

(M3) high expectation: text, image, video required along with multiple instances of modalities required. Additional modalities optional but encouraged.

Guided vs. Unguided Curricula

(G1) low: students are given instructions on how to complete the portfolio (especially technical instructions) and reflection prompts are provided.

(G2) medium: students are given instructions and asked to supply specific types of evidence but are left the flexibility to choose their own evidence. They are also given reflection prompts.

(G3) high: students are told specifically what to include in their portfolio and are given specific reflection prompts

<u>Academic level</u>	<u>Type of eP (listed for projects in order of priority)</u>	<u>Duration/Timescale</u>
(UG1): First-Year/Sophomore	(L) learning	15wks
(UG2): Junior/Senior	(PD) professional development	1 Yr
(G): Graduate (1 st and 2 nd year)	(A) assessment	2Yrs
		4Yrs

The five programs were then described with the typological descriptions as follows.

<u>Dietetics</u>	<u>Earth Sustainability</u>	<u>Music Education</u>	<u>English</u>	<u>SERVE</u>
M2	M1	M3	M2	M1
G2	G3	G2	G2	G3
UG1 & UG2	UG1 & UG2	G	UG1	UG1
PD, A, L	L, A	A, PD, L	A, L, PD	L, A
2Yr	4Yrs	1Yr	15wks	1Yr

Our categories are not necessarily “set in stone,” but they are what we used for this iteration of our research and our helpful in approaching the analysis of our data.

Our rubric is also something that we see evolving over time. There were several instances where we felt that certain categories overlapped or were difficult to distinguish, such as “Connects relevant experience...” “Integration of knowledge,” and “Demonstrates growth,” for example. In order for a student to perform one of these categories, the student would typically need to also touch on the others as well, making it difficult, at times, to assess distinct achievement in each specific category. We probably could have spent an entire day or more discussing and revising the rubric, but for the sake of time and completion of the assessment, we had to settle on and finalize our categories, with the knowledge that we would revise the rubric for future assessment endeavors.

Where we go from here

Dissemination Plans

Dissemination has been one of our primary objectives since we began this research effort. Over the past three years, the groups collected in this effort have made more than a dozen presentations at conferences in their individual disciplines and at ePortfolio-related events, much of it based on work done surrounding our INCEPR research.

One of the intended results of this project was that each of the invested departments would get data that would be usable in publications in the various discipline-specific journals in each of our fields. Dietetics has already begun

writing anecdotal pieces in the major journal in their field, and each of the other groups has plans to use the data collected here in conjunction with data collected in their own individual research to write articles.

As a group, we will be presenting at the 3rd Conference on Higher Education Pedagogy, and then begin composing a longer, more detailed piece that focuses on the typology of ePortfolio reflections that we derived. We hope to pursue a publication in the newly formed *International Journal of ePortfolios*, which would be the obvious choice for this type of research. In addition, several of the groups plan to do presentations on their work at upcoming conferences, including the 2nd AAEEBL World Portfolio Summit in Summer 2011.

Questions still remain

This, of course, is the most significant part of this report. For us, this research was intended to be a stepping-stone into a longer project. Virginia Tech, as an institution, is very committed to ePortfolios: both in their potential for beneficially disruptive pedagogies and in their offering of a technology to ease assessment, both self- and programmatic. As we move forward in exploring the use of ePortfolios across a variety of disciplines and student experiences, we want to continue with a research-driven approach to our design and implementation.

Each of our participating academic groups will go its own way, maturing their use of the ePortfolios within their own programs. One of the biggest issues facing Dietetics and English is the sustainability of the program over the years, as program leaders change and departmental goals evolve. Other programs face similar issues, as well as questions of engaging students more effectively with the technology and the pedagogy of reflection. Though each of these programs is still actively using ePortfolios, they each continue to revise their approach each year as they gather student and faculty feedback.

The three non-academic groups – ePortfolio Initiatives, the Office of Academic Assessment, and CIDER – are still very engaged in ePortfolio research on campus. Together again, they are participating in a FIPSIE grant headed by AAEEBL and La Guardia's Making Connections. They have joined with the Office of First Year experiences to improve the use of ePortfolios and reflection for integration in the first-year.

As we pursued the notion of reflection, we realized most of all that we were interested in many things related to reflection, but not exactly focused on it. Our groups had different levels of engagement with ePortfolio, used it in such different capacities, that of course the reflection was significantly different. However, going through the process that led us to our typology of characteristics gave us a framework for understanding different parameters of what we mean by reflection in different kinds of programs. All of this leads to some central questions that might provide a provocative end to this report:

- How do various multimedia modalities affect students' ability to engage with ePortfolio assignments?
- Should multimedia be encouraged? Required? Does it affect the quality of the reflection that students do?
- How much guidance do students need in terms of their ability to reflect on experiences successfully? How much guidance do they need in terms of their ability to design online spaces successfully?
- Is the amount of guidance required by the curricula affected by the academic level of the student? In other words, do graduate-level ePortfolios require a significantly different pedagogical approach than an undergraduate one? Does a first-year portfolio require different parameters than a senior-level portfolio?
- What types of assignments elicit student responses that demonstrate their ability to integrate their knowledge and experience or to reflect on either knowledge or experience?
- How do different goals of learning, professional development, and assessment within the various disciplines affect the design of ePortfolios?
- As the timescale of ePortfolio projects change, what other variables become significant? In other words, what is required to sustain an ePortfolio project over a 4-year program compared to one that lasts only for a fifteen-week course?

We hope that in the coming years, we are able to continue to work with the colleagues and partners we have found in the INCEPR Cohort 5 group to continue growing the effective use of this exciting technology/pedagogy and to encourage each student's life-long learning in the best ways we can.

Appendix A: ePortfolio Pre-Survey

- 1) What might an ePortfolio be used for?
- 2) Do you anticipate the ePortfolio assisting you in specific ways with learning the subject matter in your discipline?
 - 2a) Why or why not? In what specific ways?
- 3) Do you anticipate your ePortfolio assisting you with academic planning?
 - 3a) Why or why not? How or how not?
- 4) In what ways will an ePortfolio add to or detract from your educational experience?
- 5) Who will be an audience for your portfolio? Why?
- 6) How many hours do you anticipate spending on developing your ePortfolio?
- 7) Demographics
 - 7a) Student ID# (e.g., 123456789)
 - 7b) Program
 - 7c) Academic Level
 - 7d) Have you worked with ePortfolios in the past?
If yes, in what capacity?

Appendix B: ePortfolio Post-Survey

- 1) Has your understanding of ePortfolios changed from the beginning of the process until now? If so, how? If not, why? What is your understanding now?
- 2) Did the process of putting the ePortfolio together assist with learning your subject matter in your discipline? Why or why not?
- 3) Did the process of putting the ePortfolio together assist with your academic planning? Why or why not?
- 4) In what ways has the ePortfolio added to or detracted from your educational experience?
- 5) Who will be an audience for your portfolio? Why? (Please list all relevant audiences, if more than one.)
- 6) How many hours did you spend developing your ePortfolio, overall?
- 7) How much time do you anticipate spending in the future?
- 8) Of the overall time spent, how much of that time was spent thinking about, creating, or reflecting on the contents of your portfolio?
- 9) Of the overall time spent, how much of that time was spent thinking about and refining the design/presentation elements of your ePortfolio?
- 10) Demographic Information
 - 10a) Student ID# (e.g., 123456789)
Student ID
 - 10b) Academic Program
 - 10c) Academic level

Appendix C: Rubric used to evaluate student ePortfolios by cohort researchers

	I. Novice	II. Practitioner	III. Expert	Notes	Row score
a. Reflects upon learning.	Describes an awareness of learning, with a limited ability to connect to experiences of success and failure.	Articulates one's own learning strategies to engage in practices that influence one's own success and failure.	Evaluates and adapts one's own learning strategies to engage in practices that influence one's own success and failure.		
b. Connects relevant experience and academic knowledge.	Identifies superficial connections between prior knowledge and curricular and co-curricular pursuits.	Identifies meaningful connections between prior knowledge and curricular and co-curricular pursuits. Compares prior knowledge and curricular and co-curricular pursuits to infer differences, as well as similarities between the two, and acknowledge other perspectives.	Illustrates meaningful connections between prior knowledge and curricular and co-curricular pursuits (contextually relevant experiences). Considers and evaluates differences, as well as similarities between the two. Considers and evaluates perspectives in addition to their own.		
c. Integration of knowledge.	Uses ideas gained in one situation to a new situation.	Uses ideas gained in one situation in a new situation to contribute to understanding of problems or issues.	Adapts and applies ideas gained in one situation to new situations to solve problems or explore issues.		
d. Demonstrates Growth	Reviews prior learning (past experiences inside and outside of the classroom) at a surface level, without revealing clarified meaning or indicating a broader perspective.	Reviews prior learning (past experiences inside and outside of the classroom) with some depth, revealing slightly clarified meanings or indicating a somewhat broader perspective about educational or life events.	Reviews prior learning (past experiences inside and outside of the classroom) in depth, revealing fully clarified meanings or indicating wide perspectives about educational or life events.		
e. Demonstrates ability to collect and select artifacts	Artifacts and/or examples are presented with no clear indication of why they were chosen other than requirements.	Artifacts and/or examples are chosen with a reason that is articulated in the presentation of the material.	Artifacts and/or examples are chosen with a clear, well-defined rationale that is presented in clear terms to a clear, well-defined audience.		
f. Demonstrates creativity in design/delivery/ presentation	Shows minimal effort in presentation, whether in the textual rhetoric or in the multimodal design elements.	Demonstrates effort taken toward presenting the material in a creatively effective manner or modality, as appropriate for a professional.	Employs various techniques to present an engaging, complete design that clearly indicates an understanding of professional norms of the community.		