

**Inter/National Coalition for Electronic Portfolio Research, Cohort VI  
Final Report, Virginia Military Institute<sup>1</sup>**

**ePortfolios and the Study of Civilizations and Cultures**

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**Introduction**

In 2005, as one element of a SACS reaccreditation effort, a committee composed of a broadly representative cross-section of VMI faculty members began to develop a Quality Enhancement Plan for the Institute. The resulting QEP entailed the creation of a new core curriculum, and consensus emerged quickly that it should include a component designed to equip cadets for understanding “culture” which, in turn, led to the development of an altogether new category of core curriculum courses called “Civilizations and Cultures.” The Core Curriculum Committee established numerous learning outcomes for these courses, two of which would serve as the basis for assessment. These were that cadets would be able to 1) “identify cultures of the world and the components and practices that distinguish them from others,” and 2) “appreciate a culture’s distinctiveness either through texts or experiential contact.”

Curriculum planners believed that the Civilizations and Cultures component of the core curriculum should be broadly based among many disciplines, and they wanted it to extend across four years rather than to form a group of courses to be taken during the first

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<sup>1</sup>Members of the VMI Research Team are indebted to R. Wane Schneiter, Deputy Superintendent and Dean of the Faculty, as well as Robert L. McDonald, Associate Dean for Academic Affairs, both for the resources they generously provided to support our participation in I/NCEPR, and for their unwavering confidence in our ability to help shape the national conversation about the use of electronic portfolios as an innovative curricular initiative for enhancing the academic experiences of cadets. We owe an enormous debt of gratitude to our colleague, Howard Sanborn, the VMI ePortfolio Project Director, for designing the quantitative research component of our study, gathering data, and conducting statistical analyses.

few semesters of a cadet's undergraduate experience. Accordingly, they decided that faculty would offer these elective courses from every major on campus, and that each cadet would be required to take two of them. Aware of the growing national interest in using electronic portfolios as a vehicle for assessing student learning, and informed by the practice on college campuses elsewhere,<sup>2</sup> planners advocated the use of ePortfolios to assess this multi-disciplinary component of the core curriculum. VMI chose to use Angel as both a course management system and a platform for the ePortfolio. The assessment plan entailed having cadets in each Civilization and Cultures course build an ePortfolio composed of various course assignments or other self-generated materials, and then write a reflective essay in which they would reference these artifacts as they described and analyzed what they had learned in the course about culture and cultural distinctiveness. The assessment was modeled on Edward M. White's "phase II" scoring of portfolios. That is, the reflective essays would be read and scored rather than the ePortfolio in its entirety. Thus, in this study, unless noted otherwise, "reflection" refers to the reflective essays that students produce as the culminating exercise in a Civilizations and Cultures course, or to the writing of "reflective tags" to accompany an artifact placed into an ePortfolio. Faculty members began to teach these courses in 2009.

We wanted to participate in Cohort VI, in part, to become better informed about best practices relating to ePortfolios and assessment.<sup>3</sup> As well, we wanted to use the assessment data from these courses to study how teaching and learning about culture could be enhanced by the use of ePortfolios and a process-centered pedagogy of reflective learning.

### **Research question**

How can spaces for reflective learning be cultivated by process-centered pedagogy using the ePortfolio?

### **Processes of inquiry**

In order to investigate a variety of questions and issues relating to the role of reflection in the construction and development of ePortfolios in Civilizations and Cultures courses at VMI, we selected a random sample comprising five ePortfolios from each of 38 of those courses taught

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<sup>2</sup>See the American Association of Colleges and Universities (AAC&U) Liberal Education and America's Promise (LEAP) initiative.

<sup>3</sup>See 2007 Conference on College Composition and Communication (CCCC) Position Statement, "Principles and Practices in Electronic Portfolios," specifically Principle 5 on "Reflection and E-portfolio Pedagogy."

during the 2011-2012 academic year. ePortfolios lacking a reflective essay were removed from the sample. Additional ePortfolios were removed from the sample in order to avoid overrepresentation of courses with multiple sections. These procedures resulted in a sample of 162 ePortfolios. Cadets in Humanities classes created almost half (48.2 percent) of the sample ePortfolios. ePortfolios from classes in the natural sciences and mathematics formed the second-largest group (22.8), followed by the social sciences (17.3), and engineering (11.7). These sample proportions correspond closely to the distribution of Civilizations and Cultures courses throughout the VMI curriculum.<sup>4</sup>

To measure the quality of reflection in each reflective essay—a key variable in our investigations—readers employed a five-point rubric (Table 1). Each essay received two independent readings by trained faculty raters. If the ratings differed by more than two points, the essay was given to a third reader. ePortfolios were also catalogued based on the presence or absence of reflective tags to accompany artifacts.

**Table 1: Rubric to Measure Reflection in Cadet Reflective Essays**

Quality of Reflection	
“5” rating	Meaningfully reflects on the relationship between what the writer learned about the target culture(s) and how the writer came to learn it through the ePortfolio process
“4” rating	Thoughtfully reflects on the relationship between what the writer learned about the target culture(s) and how the writer came to learn it through the ePortfolio process
“3” rating	Adequately reflects on relationship between what the writer learned about the target culture(s) and how the writer came to learn it through the ePortfolio process
“2” rating	Describes learning experiences
“1” rating	Does not discuss relevant learning experiences

As another vantage point from which to understand better the role of reflection in cadets’ learning about culture, we collected data from the ePortfolios produced in one course, Contemporary Spanish Cinema, for comparison with data pertaining to the main sample. As well, we identified eleven cadets who had completed a traditional (paper) portfolio in First-Year Composition, as well as an electronic portfolio in at least one

<sup>4</sup>Corresponding percentages for the population of all ePortfolios are as follows: Humanities (54.9); Natural Sciences and Mathematics (15.7); Social Sciences (17.6); and Engineering (11.8).

Civilizations and Cultures course. During individual interviews, cadets were asked whether they perceived a difference in reflection when working with an ePortfolio rather than a traditional print portfolio. Cadets who perceived a difference were invited to describe their experiences in detail, especially as they related to composing the final reflective essay, which is required in both First-Year Composition and Civilizations and Cultures courses.

These three elements of the research methodology provide complementary views of the degree to which a process-centered pedagogy of reflection can create spaces within the ePortfolio to facilitate cadets' learning about culture.

### **Main findings**

1. Cadets whose ePortfolios contained reflective tags produced final reflective essays that were rated higher for the quality of reflection. In Humanities courses, the reflective essays in ePortfolios that included reflective tags scored higher for the quality of reflection than those that did not include reflective tags.
2. Cadets' learning about culture was facilitated by their engagement in a process of reflection that entailed posting tags and artifacts throughout the semester. Consequently, they felt better prepared to write the final reflective essay, and they produced reflective essays that were rated higher for the quality of reflection.

The presence of reflective tags within the ePortfolio space correlated strongly with high quality of reflection in the reflective essay (see Table 2).<sup>5</sup> This occurred most effectively when instructors exploited the cataloguing feature of Angel as a pedagogical tool for prompting reflection within the digital space. Before an artifact could be posted, the software prompted the user to enter a brief "description." Some faculty instructed cadets in their courses to use this feature not for description but rather as a "reflective tag." In posting each artifact, these cadets would write a brief paragraph, which answered the following reflective questions as posed by Helen Barrett and Jonathan Richter: *What* is the

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<sup>5</sup>For all statistical analyses reported in Table 2, Kendall's Tau-c, a common measure of association, was used to test the strength of relationships between variables. This measure is designed for cross-tabulations between ordinal variables with a different number of categories, i.e., rectangular tables. The range of values for this measure is from -1 to 1, where -1 is a perfect negative relationship, 1 is a perfect positive relationship, and 0 is perfectly independent. "Rough guidelines" for interpreting Tau-c scores are as follows: less than .1 is "very weak"; between .10 and .19 is "weak"; between .20 and .29 is "moderate"; and .30 or above is "strong." A detailed discussion of Kendall's Tau-c as a measure of association may be found in Le Roy and Corbett, 192-194. Stata software was used to calculate the coefficient and conduct the test of statistical significance. We use "\*\*\*" to signify statistical significance at the .01 level and "n.s." to denote the lack of statistical significance.

**Table 2: Tau-c Scores to Measure Association among Tags, Artifacts, and Reflection**

	Total Sample (n=162)		Humanities Classes (n=78)	
	Reflection- Tau-C Scores	Percentage of Sample ePortfolios	Reflection- Tau-C Scores	Percentage of Sample ePortfolios
Tags	0.48**	29	0.50**	51
Movies	0.25**	16	0.35**	28
Journals	n. s.	15	n. s.	21
Blogs	n. s.	5	n. s.	9
PowerPoint Presentations	n. s.	22	n. s.	19
Essays	n. s.	76	n. s.	73
Drawings/Graphics	n. s.	10	n. s.	18
Humanities Classes	0.54**	48		

artifact within the larger context of the course? *So what*, or why was this meaningful demonstration of my learning to date? *Now what*, or how does this prepare me for the learning that lies ahead? In addition, cadets were encouraged to revise previous reflective tags in light of new knowledge and the growing archive of artifacts. When this *process* of reflection transpired within the ePortfolio space, cadets were better positioned to write about their growing understanding of culture in the final reflective essay.

Evidence of the effectiveness of a process-centered pedagogy was particularly noticeable in Humanities courses (Table 2). The data show that cadets who produced ePortfolios in these classes scored higher for the quality of reflection in the final essay. Arguably, cadets in these courses may be accustomed to writing as a demonstration of learning. This finding might also suggest that, by design if not always in practice, Civilizations and Cultures courses in the Humanities promote the use of a process-centered pedagogy, which is foundational to reflective learning and ePortfolios. In any case, it is clear that when cadets were guided in the practice of writing and revising reflective tags in posting artifacts, the working ePortfolio provided a space where they could reconsider artifacts in relation to one another and revise the evolving narrative of their learning experience.

Cadets' participation in this kind of reflection—including reflective writing—serves as a hook that draws them deeply into engagement with course content. Cadets are able to place themselves and their own values and behaviors—and the social conditions and pressures that help shape them—into a larger continuum of experience, providing rich opportunities for reflection as they work to locate their own lived experiences within larger patterns of cultural development over time. Thus, they are exploring aspects of their own lives in light of the contexts they study, using their understanding of cultural conventions to clarify their own values and beliefs regarding contemporary sociocultural issues. In the context of the production of ePortfolios, this process-centered pedagogy of reflective learning promotes cultural understanding.

ePortfolios produced in the Contemporary Spanish Cinema course shed further light on this issue. In the initial sample of ePortfolios, cadets scored an average of 4.63 for the quality of reflection in their reflective essays. For cadets in the Spanish course, the corresponding figure was 6.20. This finding may be attributed to the strong degree to which the instructor worked to ensure cadet adherence to a process-based pedagogy of reflection. Between fifteen and twenty percent of in-class instructional time, in a computer lab under the direct supervision of the instructor, was devoted to the development of the ePortfolio. Also, outside of the normal class schedule, the instructor held two one-on-one conferences with each cadet in order to provide individualized advice regarding the development of the ePortfolio. Finally, production of the ePortfolio was a high-stakes assignment in this course. Instructors of Civilizations and Cultures courses are required to have the reflective essay account for a minimum of ten percent of the course grade. In Contemporary Spanish Cinema, by contrast, the ePortfolio in its entirety, including the artifacts, the reflective essay, and the cohesiveness of the ePortfolio, accounted for thirty-five percent of the course grade. Thus, data pertaining to reflective essays produced by cadets in this course strongly suggests the efficacy of a process-based pedagogy of reflection to facilitate their learning about culture.<sup>6</sup>

The interviews we conducted with cadets to learn more about their experience with reflection deepened our understanding of the importance of process. Generally, cadets commented favorably about their experiences in writing reflective tags as one element of the process-centered pedagogy associated with creating an ePortfolio. Many reported that writing a reflective tag each time they placed an artifact into their ePortfolio helped them to understand how course assignments related to course goals, and that drawing upon those tags in writing the reflective essay at the end of the semester helped them to integrate and synthesize what they had

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<sup>6</sup>Adopting ePortfolios requires a significant commitment of institutional resources to support faculty and students. Institutions might consider modeling an ePortfolio initiative on Writing Across the Curriculum programs by capping class enrollments and establishing ties to academic success services (e.g., a campus writing center).

learned in the course. One of the more revealing interviews was with a first-class (senior) Biology major. When asked about his experience, he said that he was convinced that writing a reflective tag for the artifact was “almost more important than the artifact itself” because it prompted him to think about his learning about culture, which facilitated his writing of the reflective essay at the conclusion of the course. In another Civilizations and Cultures course that he took, the teacher did not ask cadets to write reflective tags inside the ePortfolio throughout the semester with the result that he found writing the final reflective essay difficult. In this instance, he said that “I had a lot of ideas [about what I could write] but I hadn’t been writing to make connections about what I had learned about the culture that would help me write the essay.” In the absence of reflective tags, then, this cadet found himself “trying to force artifacts into the idea I had for the reflective essay” rather than discovering what he knew (and how he came to know it) through the process of posting artifacts and accompanying reflective tags in the ePortfolio throughout the semester.

In the context of theories of reflective learning, ePortfolio reflective tags functioned as an invitation for cadets to reflect on their “knowing in practice” by writing about a recently completed assignment posted as an artifact and how it contributed to their learning (Donald A. Schön 61). In writing the final reflective essay, cadets were asked to engage in “constructive reflection” by drawing connections among artifacts and reflective tags (Kathleen Blake Yancey 51). In addition, from that foundation of understanding, cadets ultimately were able to move more confidently to “reflection-in-presentation” by selecting evidence from their ePortfolios to support observations about their learning in the final reflective essay (69). Both qualitative and quantitative evidence suggests, then, that the writing of reflective tags facilitates reflective learning inside the ePortfolio. To fully exploit the affordances of writing reflective tags, instructors might encourage students to engage in recursive reflection—what Schön calls “reciprocal reflection” or the act of reflecting on reflection—to facilitate an ongoing dialogue about students’ understanding of their own processes of learning as it relates to the acquisition of new knowledge (Schön 304).

Cadets we interviewed told us that they view the ePortfolio as they do other digital environments they inhabit—as an inherently social space. They anticipated that the work that occurred within the ePortfolio would be “both individual and social,” that they would engage in dialogue with others about the artifacts they posted, ideas presented in class, and about their own learning (Yancey 72). However, some instructors seemed to treat the ePortfolio as a largely private, personal space for reflecting on learning. Responses to reflections in the ePortfolio often came from the teacher, not other students. One cadet explained that he found it difficult to make observations about his learning in isolation since he typically learned better (and more) by interacting with others. While such social interaction is commonly regarded as one of the greatest affordances of the ePortfolio, we may underestimate the necessity of it in facilitating students’ reflective learning, particularly in light of the expectations they bring to this digital

environment. As Kathleen Blake Yancey reminds us: “[t]o be meaningful, reflection must be *situated*: the writer creates meaning in context, in community” (63). We must continue to explore how to situate the ePortfolio in our courses in ways that cultivate community in both the physical classroom and the electronic space of the ePortfolio.

### **Value of our research for ePortfolio practice at VMI**

Our research project on reflective learning has helped us begin to reframe and reinvigorate conversation among faculty who teach Civilizations and Cultures courses about the value of the ePortfolio in teaching and learning about culture(s), rather than simply its utility in assessing learning outcomes in these multidisciplinary core courses. In addition, our research has begun to foster conversations among other faculty across Post—ones who find the process-centered pedagogy of reflective learning using ePortfolios well-suited to the courses they teach, as well as those who are curious to learn more about the value of the multimodal assignments that can be used in an ePortfolio environment. Finally, our research findings have helped to demonstrate to administrative officials the broad educational value of the ePortfolio as a teaching and learning initiative that fosters reflective, connective, cross-disciplinary learning. With continued momentum and sound resource planning, the VMI ePortfolio Project is poised to grow beyond its use in discrete courses to be embedded in other aspects of cadets’ undergraduate education.

### **The value of our participation in the Coalition for our research and/or practice**

Participation in the coalition has heightened our awareness and understanding of a host of issues relating to the use of ePortfolios and process-centered pedagogies of reflective thinking and learning. Insights gained as a result of our participation will help to shape our continuing use of ePortfolios in a variety of types of courses or academic initiatives, as well as in Civilizations and Cultures courses. In particular, as we continue to develop our assessment program for these multidisciplinary courses, we will explore further the proposition that ePortfolios can be compared without being standardized to measure authentic student learning. More specifically, this proposition might enable us to moderate the current emphasis on a learning outcomes-based model for assessing ePortfolios in favor of a richer, multifaceted portrait of evidence of student learning.

## **Plans for dissemination and/or application of findings**

The logical starting point for the dissemination and application of findings is within the VMI academic program, beginning with the presentation of results to administrators and members of the Core Curriculum Oversight Committee. Also, presentations will be made to interested faculty members, especially those who teach Civilizations and Cultures courses and those who are interested in using ePortfolios and pedagogies of reflective learning in the teaching of other courses.

Recently, members of the VMI team have presented conference papers relating to their use of ePortfolios and reflective learning at a variety of venues, including the South Atlantic Modern Language Association (SAML A), the Conference on College Composition and Communication (CCCC), and the American Association of Colleges and Universities (AAC&U), and in the near future we will propose presentations at other conferences, including the annual meeting of Southern Association of Colleges and Schools (SACS). Relatedly, team members are working on articles for possible publication in journals that focus on research pertaining to the use of ePortfolios. Finally, we will share our experiences in using ePortfolios with colleagues at other institutions when invited to do so. For example, we have been invited to visit Longwood University, in Farmville, Virginia, in order to participate in their Teaching and Learning Institute, “Navigating the Changing Landscape of the Classroom,” by discussing our use of ePortfolios and process-centered pedagogies of reflective learning.

## **Next question emerging from this inquiry**

The primary consideration in the second phase of this research project is: “How can other ePortfolio spaces provide evidence of reflective learning?” Of the six types of artifacts we catalogued from cadets’ ePortfolios, videos and essays correlated most strongly with high ratings for the quality of reflection in the reflective essay. This finding would support exploration of the relationship between different types of artifacts and reflection.<sup>7</sup> To gather this data, we have already implemented the use of “content logs” in ePortfolios generated in Civilizations and Cultures courses.

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<sup>7</sup>This investigation might build on the research done by Debra Journet, Tabetta Atkins, Chris Alexander, Patrick Corbett, and Ryan Trauman at the University of Louisville, which was published in the Spring 2008 issue of *Computers and Composition*, in an article titled, “Digital Mirrors: Multimodal Reflection in the Composition Classroom,” [http://www.bgsu.edu/departments/english/cconline/Digital\\_Mirrors/](http://www.bgsu.edu/departments/english/cconline/Digital_Mirrors/)

## Conclusion

The Civilizations and Cultures component of the VMI's new core curriculum responds to the call, which many in higher education have made, to strengthen students' "knowledge of human cultures" (AAC&U, LEAP Initiative). Initially, curriculum planners adopted the ePortfolio because it would serve well as an instrument for the assessment of these multicultural courses. However, our research findings support the proposition that it also provides a digital space that facilitates students' learning about culture in innovative ways. Experiencing a culture first-hand is the most effective way to understand cultures other than our own, but when on-site cultural immersion is not possible, the ePortfolio has the potential to replicate experiential learning in a number of significant ways.<sup>8</sup> Our research suggests one key ingredient helpful for realizing this goal: Cadets following a process-centered pedagogy of reflective learning are able to use the ePortfolio to juxtapose and integrate visual, aural, and textual evidence in a way that facilitates their understanding and synthesis of knowledge pertaining to other cultures. Consequently, we will continue to explore ways of maximizing the potential of ePortfolios in service of our institutional mission to prepare cadets to function as what Martha Nussbaum has called "citizens of the world" in the 21<sup>st</sup> century (8).

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<sup>8</sup>The criteria for experiential learning developed by the Association to Advance Collegiate Schools of Business (AACSB) might provide a useful heuristic that could easily be adapted to help guide the development of assignments that would facilitate the study of culture using ePortfolios. According to their definition, experiential learning must be "applied," "participative," and "interactive"; it must provide a "whole-person emphasis," opportunities for "contact with the environment," and feature the qualities of "variability and uncertainty," and it must include "structured exercise," "student evaluation of experience," and "instructor feedback." See R.S. Cheney, "International Business Communication, International Students, and Experiential Learning," *Business Communication Quarterly* 64.4 (2001): 90-104.

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