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Kathleen Harrington
Tian Luo

Old Dominion University, tluo@odu.edu

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Repository Citation
Harrington, Kathleen and Luo, Tian, "Eportfolios: Supporting Reflection and Deep Learning in High-Impact Practices" (2016). STEMPS Faculty Publications. 27.
http://digitalcommons.odu.edu/stemps_fac_pubs/27

Original Publication Citation

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Peer Review

Eportfolios: Supporting Reflection and Deep Learning in High-Impact Practices

By: Kathleen Harring and Tian Luo

Eportfolios are a powerful pedagogical tool that can support deep learning and reflection across various learning contexts. This digital assignment can facilitate integrative learning and make learning visible to students, instructors, and external stakeholders (Chen and Light 2010). Eportfolios provide a space for students to showcase curricular and cocurricular experiences, to reflect on and integrate this work, and to directly assess their learning (Yancey 2004). Like high-impact educational practices, eportfolios require significant and purposeful “time on task” outside the classroom, provide opportunities for meaningful student–faculty interaction, allow for frequent feedback on student work, and show students how their learning progresses over time (Kuh 2009).

Our institution’s eportfolio initiative began in 2010 as a way to support integrative learning across campus and to provide a gathering place for students’ accumulated intellectual, artistic, and cocurricular work. Because we are a small liberal arts college committed to active and experiential learning, our students participate in multiple high-impact experiences over the course of their academic career. Findings from a Teagle Foundation assessment project, however, revealed that students needed more guidance in connecting their work in these activities to future learning experiences and career development. As part of the strategic planning process, the implementation of eportfolios was a means for supporting several functions: (1) as an opportunity for students to reflect on and integrate their academic and cocurricular work; (2) as the focus of advising conversations about a student’s plans, progress, and achievements; (3) as the creative opportunity for an “enhanced resume” for job and graduate school interviews; and (4) as an assessment tool for students, their departments, and the college. Most importantly, eportfolios would allow students to make their work public, to practice integrative and applied learning, and to construct a sophisticated bridge between their educational experiences and future learning and career opportunities.

The use of eportfolios began with student teachers in the education department and resident assistants in student life, and this tool now has become integrated into the business program and in studio art and media and communication culminating undergraduate experiences. In addition, students in select first-year seminars, service learning courses, and cluster courses (two thematically linked courses from different departments) create eportfolios as a tool to develop analytical
writing skills, to foster reflection on community-based learning and social justice issues, and to practice integrative and interdisciplinary learning. Moreover, undergraduate researchers in a neuroscience lab are required to complete an eportfolio to document their research activity and to provide an opportunity to connect their findings to concepts learned in other courses. The integration of eportfolios into high-impact practices such as service learning, undergraduate research, and capstone experiences has served to deepen learning in these contexts and to support students’ ability to articulate skills developed through these practices. In essence, eportfolios serve as an additional high-impact practice, amplifying the effectiveness of these experiences.

Eportfolio Implementation Assessment

Assessment played a key role in informing how we supported faculty as they integrated eportfolios into learning experiences. We conducted large-scale, institution-wide assessments across all contexts of eportfolio integration. Students who created eportfolios as part of curricular or cocurricular experiences in 2013, 2014, and 2015 completed surveys to evaluate their experience with eportfolio development and to assess perceptions of the educational and professional value of their eportfolio. Open-ended questions allowed students to provide the rationale for their ratings and to offer suggestions for more effective integration in courses and programs. In-class workshops and one-on-one consultations with students allowed us to collect participatory observations of the process of students using eportfolios. Consultations and group discussions with faculty members provided insights into the student experience in the context of instructors’ goals.

Although faculty and staff implemented eportfolios in a variety of settings, our initial assessment data indicated that students did not always understand the value of eportfolio development. They particularly failed to see how creating an eportfolio could provide a different and more integrative lens to view their educational experiences. In reflecting on student perceptions, we realized that eportfolios were not always directly aligned with course or department learning goals, and that the type of reflection prompts developed for eportfolio assignments may not have always supported higher-order thinking and metacognition.

Student Assessments

Our findings suggested that the vast majority of students were able to articulate the stated goals and purpose of creating portfolios, but had not always internalized what this meant for their own personal and intellectual development. As we conducted student training and support sessions, faculty and support staff strived to place a critical emphasis on making the goals and purposes explicit and straightforward through repeated exposures across the entire time of implementation. In assisting students, we asked them to identify personal learning goals and to connect course- or program-level outcomes to those personal goals in ways that promoted student investment and agency.

Across the three years of data collection on student perceptions of eportfolios, we saw growth in students’ understanding of the eportfolio as an integrative experience across and beyond the curricular experience. In part, intentional efforts to provide resources to support student work facilitated this...
understanding. Eportfolio templates and on-screen instructions helped students link artifacts from personal experience and relevant cross-curricular activities to course goals. Before such guidance, students often seemed less motivated to modify and develop their eportfolios and, in some cases, viewed the assignment as busywork.

Student survey responses also suggested that it takes practice and intentionality for students to be engaged in higher-level reflection that not only supports deeper learning in educational experiences, but also aids in helping students see the value of eportfolio assignments in fostering this type of learning. In our initial eportfolio development, reflection prompts may not have always supported higher-order thinking and metacognition. As a result, faculty revised prompts to more directly target metacognitive skills.

Results from participatory observations and students’ open-ended survey responses provided a rich narrative to help us understand student experience. Overall, most students held a positive view of eportfolio integration in their course or program. They reported that the use of eportfolios helped them (1) see how to both translate and develop skills for future employment; (2) reflect on their learning experiences and have a deeper grasp of the importance of these activities; (3) value and understand the larger goals of the course; and (4) learn the technological skills of setting up, designing, and managing an eportfolio. The reported areas for improvement consisted of more feedback and opportunities for focused development of their eportfolios; more opportunity and guidance to help personalize the eportfolio; clarified instructions and guidelines for organizing eportfolios; more mindfulness in determining the timeline of eportfolio integration within a course or program integration; and more balance between the workload of eportfolio assignments and other types of assignments in the course or use of the eportfolio as an integrative tool across all assignments in the course.

Faculty Assessments
The informal interviews and group discussions with eportfolio instructors suggested that faculty members sometimes encountered difficulties making the connection between eportfolio assignments and overall course goals visible and understandable for students. They also found it challenging to transform existing course assignments into high-impact practices within eportfolios.

We implemented several strategies to address faculty members’ needs and concerns. To support those instructors who wanted their students to use eportfolios as a career development tool, we partnered with support staff from the Career Center who provided guidance on how students could use the eportfolio as a showcase of accomplishments for prospective employers. Collaborating with individual faculty members, we provided resources so they could create customized prompts tailored to their own course contexts that supported deep reflection and metacognition. We encouraged instructors to focus on the pedagogy of eportfolios, considering the eportfolio a tool for integrative learning and reflection in lieu of a pure technological tool that merely creates a space for students’ online presence. In our work to support faculty efforts, we recruited colleagues to share the challenges they faced when integrating eportfolios into student learning experiences and the successful strategies they developed to strengthen the effectiveness of their
eportfolio assignments. We highlight several case studies in which faculty integrated eportfolios into high-impact practices such as service learning courses, undergraduate research experiences, and culminating undergraduate experiences.

Case Studies

Service Learning in a Sophomore Honors Seminar
As a component of the Dana Sophomore Seminar in Community Partnership, the instructor, a history professor, used eportfolios to support students’ personal growth and development in relationship to their service-learning experiences at an urban high school. In their developmental eportfolios, students compiled a series of reflections in which they explored issues that addressed privilege, race, representation, and community. Their final essay led them to look back at their work and analyze the knowledge gained as a result of writing these reflections. Prompts were designed to advance student agency in constructing their own meaning of the service-learning experience and to help them connect their community work to course readings. Sample prompts included:

- How did the reflection assignments help you construct your understanding of the issues discussed in the readings?
- What impact did the reflection assignments have on your understanding of the real world?
- In what way were your preconceptions of issues challenged through your reflections?

The eportfolios also provided a space for students to describe the work they did with the high school students in weekly blog postings, allowing them to make visible the ways that they applied the conceptual knowledge gained in the course to working with local communities.

Undergraduate Research in Neuroscience
In a neuroscience professor’s research lab, students developed eportfolios as part of their undergraduate research experience. In the lab syllabus, the instructor highlighted the value of the assignment for honing students’ analysis and synthesis skills and for providing a forum for connecting the research experience to other learning opportunities. Reflections were directly connected to the outcomes of this high-impact experience, with students outlining their research goals and questions, analyzing relevant scientific literature on their topic, describing research design and methodology, and connecting their findings to predictions and past literature. Sample prompts, some of which were developed in collaboration with the student researchers, included:

- What questions do you intend to address in your study?
- What specific skills do you hope to learn or refine?
- How did the past literature inform your choice or research design?
- How do your findings fit (or not) with past literature?

Eportfolios in this context provide a record of students’ research activity, develop students’ abilities to critically analyze and synthesize the literature, and support deeper reflection of undergraduate research. Students also gain a valuable tool that can inform applications for future academic and career
opportunities such as summer research experiences, graduate school, or research positions.

**Capstone Experience in Media and Communication**

The Digital Media Design Lab was one of the culminating undergraduate experiences for media and communication majors. The course provided a hands-on experience in which seniors integrated the knowledge, abilities, and practices they had encountered across their major course of study. The eportfolio assignment functioned as a showcase for the student’s work and as a space for thoughtful reflection about skills and experiences. Through group and instructor collaboration, students constructed their eportfolios by revisiting past works, reflecting, and sharing in a workshop environment. All forms of work—writing, research, media artifacts—as well as representations of learning in the context of cocurricular activities (community service, student organizations, athletics, etc.), internship profiles, and study abroad reflections were potential artifacts to be included in the cumulative, career-oriented eportfolios. As part of the assignment, students drafted a short self-narrative in which they shared their educational story responding to the following prompt, which encouraged self-analysis and attention to audience:

> This is an opportunity to introduce yourself as an individual in relationship to who you are as a student, a learner, someone preparing for their future. Think about your primary audiences: instructors, scholarship committees, employers, etc. Think carefully about what and how you share your information in this online context.

The instructor provided specific questions to guide students as they reflected on their identity as a learner across contexts. Students made their learning experiences visible in an integrated narrative with attention to present and future audiences and an awareness of the digital media presence they wanted to develop.

**Capstone Experience in Education**

The creation of an eportfolio was a requirement during the student teaching semester, the capstone experience for the education certificate program. This assignment served a variety of purposes. It was a tool the student teachers used to collect both written and video artifacts from their teaching experiences to demonstrate performance in the role of a classroom teacher. By requiring a brief written reflection to accompany the artifacts, the eportfolio became a developmental self-assessment tool through which the student teacher was able to discuss successes and challenges faced in the classroom and to reflect on experiences and teaching philosophy. The director of student teaching evaluated the work, targeting her feedback to artifacts that demonstrated class planning and preparation, classroom environment, instructional delivery, and professionalism. Students were also encouraged to share the eportfolio with prospective employers to provide a powerful statement of their accomplishments across the many facets of the teaching profession. Thus, the eportfolio served as a means for developing students’ teaching skills and their professional identity as an educator, as well as a way to distinguish themselves in job searches.

**Lessons Learned**

Regardless of the specific eportfolio implementation in high-
impact practices, we've found that faculty attention to specific elements of eportfolio assignments is key to their effectiveness in developing student skills and helping students understand the value of eportfolios. First and foremost, eportfolios need to be directly connected to overall student learning goals, and instructors should make clear the ways that this work supports the development of these outcomes. As with many assignments, when professors “connect the dots,” students are more likely to understand the purpose and value of their work. In the case studies from our institution, eportfolios are tied closely to the outcomes of these high-impact experiences. Moreover, instructors outline in their syllabi the role that eportfolio assignments play in supporting student learning.

Reflection plays a critical role in determining the effectiveness of eportfolios in developing integrative learning and metacognitive skills; however, simply instructing students to reflect on their capstone, research, or service-learning experience does not automatically lead to sophisticated analysis. In order to foster deep student reflection, eportfolio assignment prompts need to be direct and succinct. Prompts should be connected to course goals and provide students the opportunity to make learning visible to the instructor, the student, and a more public audience. Furthermore, prompts should require students to reflect on specific aspects of their prior learning, present experience, current course readings, and/or future skill development. For example, students in the sophomore honors seminar wrote directed reflections on concepts addressed in course readings through the lens of their service learning work. Undergraduate researchers in the neuroscience lab reflected several times during the semester on their research goals and skill development, providing a visible pathway for learning. Student teachers posted videos of their classroom practice and outlined how the lesson reflected their teaching philosophy and objectives.

Resources abound to support the development of effective reflections. Dietz-Uhler and Lanter (2009) offer examples of prompts that support deeper learning and engagement. These prompts could be adapted for eportfolio assignments to encourage students to connect concepts and experiences in high-impact activities at both an intellectual and a personal level:

- “Identify one important concept, research finding, theory, or idea … that you learned while completing this activity.”
- “Why do you believe that this concept, research finding, theory, or idea … is important?”
- “Apply what you have learned from this activity to some aspect of your life.”
- “What question(s) has the activity raised for you? What are you still wondering about?”

Prompts such as these allow students to create their own meaning of learning opportunities and foster reflection and curiosity.

**Conclusion**

Our experience shepherding Muhlenberg’s eportfolio initiative—working with faculty and students to integrate eportfolios into high-impact practices—has reinforced several key elements that are vital to successful eportfolio pedagogy. Eportfolios need to
be closely linked to student learning goals. Eportfolios need to
engage students in deep reflections. Eportfolio prompts need to
be carefully constructed to support this type of reflection. As
members of our digital learning team say, “It’s about the
pedagogy, not just about the tool!”

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and Student Success: Effectiveness, Efficiency, and Learning.*
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Kathleen Harring, vice president and dean of institutional
effectiveness and planning, Muhlenberg College; and Tian Luo,
assistant professor of instructional design and technology, Old
Dominion University